

Transitions to employment of young people in Indonesia

Reiko Okumura
(Reiko Okumura-Rougeaux)

September 2019

A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University

© Copyright by Reiko Okumura 2019
All Rights Reserved

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of the author's knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.

A handwritten signature in black ink, appearing to read 'Reiko Okumura', followed by a period.

Reiko Okumura

September 2019

Acknowledgements

This PhD journey was a long and enormous challenge but also a rewarding experience for me. I was able to complete this thesis because of the massive support received from my family and friends, particularly my husband who has been helping and encouraging me tremendously throughout this endless-feeling journey. I am indebted to my daughter and son, both of whom were born during my PhD candidature, due to my prolonged absences for day and night writing at home and office.

I would like to thank my supervisors and panel members. My panel chair was Professor James Raymer who tirelessly provided me with valuable comments and advice. I have learned a lot from his research commitments and generous support to my research and other students.

My sincere gratitude to Dr Ariane Utomo with whom I started this long journey. She always provided so much useful advice from different perspectives. Without her warm support professionally and personally, sharing how to manage this challenging journey as a researcher, wife and mother, I would not have been able to complete.

I am also thankful to Professor Peter McDonald, who served as my chair in the first stage of my candidature and welcomed me back to my PhD after several years completing my MA in Australian Demography and Social Research Institute (ADSRI) in 2003 and working at UNICEF. Without his support, I would not have been able to commence this journey.

Special thanks go to Dr Bernard Baffour who shared his expertise on data and provided kind support for my continuous questions. I thank Associate Professor Edith Gray who gave me guidance to continue my journey.

I would like to thank the Australian National University (ANU) for a research scholarship that enabled me to carry out this research.

My sincere gratitude to many colleagues from School of Demography, former ADSRI, and other Colleges in ANU, including Emeritus Professor Terry Hull, Professor Zhongwei Zhao, Dr Maria

Maley, Dr Iwu Utomo, Professor Bruce Smyth, Anna Reimondos, Dr Jasmine Ha, Professor Budy P. Resosudarmo, Dr Diahhadi Setyonaluri, Dr Firman Kartaadipoetra and Ruth Nikijuluw.

I deeply thank our administrative and IT staff, Susan Cowan, Louise Sims, Christie Cools, Jenny White, Rachel Heal, Jill Taylor, Minh Phan, Darryl Cram and Candida Spence for their helpful support to undertake my candidature smoothly.

I would also like to thank to my editors, Dr John Monfries and Dr Auriol Weigold for their suggestions as well as those who helped with proofread including Jeofrey Abalos, Jo Tamang and my husband.

My PhD life has been like a never-ending tunnel. However, my research and intellectual capacity have definitely grown. It was also a great opportunity to learn about myself, my strengths and weaknesses. Through this tough but fruitful experience, I would like to thank my precious friends who were always there for me. We have shared so much fun and laughter. Our invaluable friendships changed even a few occasional tears into smiles and courage: Jo, Jeof, Qing, Kim, Mahin, Ha, Haruka, Kiki, Tarn, Tomoko, Etsuko, Nami, Eri, Manami, Cindy, Allen, Meimanat, Hiro, Yuka, Ryoko, Yoshiko, Nozomi, and my UNICEF and ADB colleagues Sakiko, Holly, Mitsue and especially Chris for endless encouragement. Without your support, I could not have completed this thesis.

Special thanks go to many of my friends who helped us to look after our kids, especially Fei and Connor for your warm-hearted generosity. Also many of my Japanese friends who always offered me kind support and spared time for lots of girl talk in Japanese for stress relief. Finally, but most importantly, I express my deepest appreciation to my family back home in Japan, especially my parents お父さん and お母さん who believe that education is their best gift to their children, and have always respected and supported my decisions from my childhood.

Abstract

The aim of this research is to examine transition pathways to employment of young Indonesian men and women between 1997 and 2014. Longitudinal Indonesian Family Life Survey (IFLS) data are used to investigate these pathways among cohorts of young people aged 15-29 years as at 1997 in the context of demographic changes. Although Indonesia has the largest economy and youth population in the Southeast Asian region, the country exhibits high youth unemployment. This research provides important insights into youth employment for both men and women, examining their transition patterns and life course experiences.

The results of this research show that educated men with high school or higher qualifications steadily moved into service sector jobs, while men with junior high school and lower educational attainment faced more fluctuations. Women experienced a range of transition pathways but mainly fall into four transition patterns. Women with tertiary education continued to work without much interruption due to marriage, while those with less than tertiary education usually stopped working. The results of estimating women's working life expectancy show that tertiary educated women had the longest lifetime working durations. Working women with junior high school and less educational attainment had the shortest working life expectancies despite their early entry into the labour force. These findings support the human capital theory that education has a stronger influence on work expectancy than previous work experience. Life course theory provides a useful framework to cover many factors involved in the young people's pathways.

This research contributes to understanding the employment pathways for men and women. Providing more support in occupational skill development for women with less than high school is recommended so that they can become more productive workers for the benefit of the country.

Table of Contents

Acknowledgements.....	v
Abstract	vii
List of Abbreviations	xix
Table of Contents.....	ix
List of Tables	xiii
List of Figures	xv
List of Appendixes	xvii
Chapter 1. Introduction.....	1
1.1 Research focus.....	1
1.2 Research setting.....	4
1.3 Significance of research.....	4
1.4 Research contribution	5
1.5 Research approach.....	6
1.6 Research structure.....	7
Chapter 2. A review of literature, and theoretical and analytical frameworks	9
2.1 Introduction.....	9
2.2 Country overview.....	9
2.2.1 Socio-demographic and economic trends	9
2.2.2 Demographic dividend.....	12
2.3 Youth population and employment in Indonesia	18
2.3.1 Trends in youth unemployment in Indonesia	18
2.3.2 Transition pathways to employment.....	21
2.4 Research gaps	23
2.5 Theories on youth employment and school-to-work transitions	25
2.5.1 Human capital and education of young people.....	25
2.5.2 Life course transitions of young people	27
2.6 Analytical framework.....	33
2.7 Conclusion	35

Chapter 3. Data and methods	37
3.1 Introduction.....	37
3.2 Research on transition pathways to employment by types of data sources	37
3.2.1 Cross-sectional data.....	38
3.2.2 Censuses.....	43
3.2.3 Longitudinal data	44
3.2.4 Registration-based data	47
3.3 Data used in this research.....	49
3.3.1 Indonesian Life Family Survey (IFLS).....	49
3.3.2 Analytic samples.....	50
3.3.3 Coping with missingness in analytic samples.....	56
3.4 Variables	58
3.4.1 Economic activity	59
3.4.2 Industry sector.....	61
3.4.3 Age, cohort and groups	61
3.4.4 Educational attainment.....	63
3.4.5 Types of residence (urban/rural).....	65
3.4.6 Marital status.....	65
3.5 Data limitations	66
3.6 Methods of analysis	67
3.6.1 Cross-tabulation analysis with examples	68
3.6.2 Multistate life table.....	70
3.7 Conclusion	83
Chapter 4. Pathways to employment of young men in service sector	85
4.1 Introduction.....	85
4.2 Background.....	87
4.2.1 Pathways to employment of young men.....	87
4.2.2 Service sector and education.....	94
4.3 Data and methods.....	96
4.3.1 Data and sample.....	96
4.3.2 Variables.....	98
4.3.3 Method	102

4.4	Results.....	102
4.4.1	Working in service sector in 2014.....	102
4.4.2	Working in the non-service sector in 2014.....	105
4.4.3	Not working in 2014.....	107
4.5	Conclusion.....	109
Chapter 5. Pathways to employment of young women by marital and educational status		119
5.1	Introduction.....	119
5.2	Pathways to employment of young women.....	122
5.3	Data and methods.....	125
5.3.1	Data and sample.....	125
5.3.2	Variables.....	129
5.3.3	Method.....	133
5.4	Results.....	133
5.4.1	Junior high and less educated women	134
5.4.2	High school educated women 15-17 years in 1997	138
5.4.3	Tertiary educated women	141
5.5	Conclusion.....	145
Chapter 6. Estimating duration of employment of young women		155
6.1	Introduction.....	155
6.2	Women’s employment pathways across the life course	156
6.3	Data.....	160
6.3.1	Data and sample.....	160
6.3.2	Variables.....	162
6.3.3	Method.....	164
6.4	Results.....	171
6.5	Conclusion.....	175
Chapter 7. Conclusion		183
7.1	Summary of findings	184
7.1.1	Pathways of young men in service sector.....	184
7.1.2	Pathways of young women.....	185
7.1.3	Working life expectancy for young women	186

7.2	Theoretical implications.....	186
7.3	Policy implications.....	188
7.4	Research contribution.....	190
7.5	Future research.....	192
	References:.....	195

List of Tables

Table 2-1.	Gross enrolment ratios (%) by level of education and sex, 2009-2017.....	14
Table 2-2.	Number and percentage of respondents aged 15-29 years by economic activity and sex, 2010.....	17
Table 2-3.	Theories of school-to-work transitions.....	29
Table 3-1.	Overview of the three analytical samples used in this research.....	51
Table 3-2.	Number and percentage of men aged 15-29 years in 1997 by IFLS wave for Chapter 4.....	54
Table 3-3.	Number and percentage of women aged 15-20 years in 1997 by IFLS wave for Chapter 5.....	55
Table 3-4.	Number and percentage of women aged 20-24 years in 2007 by IFLS wave for Chapter 6.....	55
Table 3-5.	Number of respondents with IFLS longitudinal weights in 2014.....	57
Table 3-6.	Description of samples, variables, variable categories and IFLS waves used in this research.....	59
Table 3-7.	Age group, cohort age and age in each IFLS wave.....	62
Table 3-8.	Variables and IFLS wave used for each chapter in this research.....	63
Table 3-9.	Example of cross-tabulation results in percentage of economic activity for men age group 15-17 years in 1997 and who were <i>working</i> in <i>service</i> sector in 2014.....	69
Table 3-10.	Example of cross-tabulation results in percentage for <i>never-married</i> women aged 15-17 years in 1997 by economic activity and marital status.....	70
Table 3-11.	Abridged life table of women aged 15 years and over, 2005-2010.....	75
Table 3-12.	Number, proportion and standard error of respondents by employment status by women aged 15-65+ years in 2007, 2007 and 2014.....	76
Table 3-13.	Transition probabilities of employment status p_{ij} for females aged 15-65+ years by age group, 2007 and 2014.....	78
Table 3-14.	Transition probabilities of employment status $p(ij)$ in matrix form for females aged 15-65+ years, 2007 and 2014.....	80
Table 3-15.	Multistate life table for females aged 15-65+ years in status i in 2007 and employment and education statuses j in 2014.....	82
Table 4-1.	Percentage of men aged 15-29 years by age and job search period (months) in various years.....	90
Table 4-2.	Descriptive statistics by age group and IFLS wave (%).....	97
Table 4-3.	Age of cohorts of men between 15 and 29 years in 1997 by IFLS wave and age group.....	98
Table 4-4.	Percentage and standard error of industry sector by <i>working</i> men aged 15-29 years by IFLS wave.....	100
Table 4-5.	Number of men aged 15-29 years in 1997 by educational attainment in 2014.....	102

Table 4-6.	Number of 2014 <i>not working</i> group aged 15–29 years in 1997 by status in 2014	107
Table 5-1.	Descriptive statistics of women aged 15-20 years in 1997 by IFLS wave (%).....	126
Table 5-2.	Number, percentage and standard error of a cohort of women aged 15-20 years by economic activity in 1997 and age, marital status and educational attainment....	128
Table 5-3.	Variable and categories used in Chapter 5.....	130
Table 5-4.	Age of the cohort of women by IFLS wave	131
Table 5-5.	Educational attainment (%) in 2014 of women aged 15-20 years in 1997	133
Table 6-1.	Percentage of women aged 15-29 years who answered either <i>available for work</i> or <i>looking for work</i> by educational attainment, 2010	158
Table 6-2.	Percentage of educational attainment for persons aged 25-29 years by sex, 2010 ...	159
Table 6-3.	Percentage of working persons aged 25-29 years by educational attainment and sex, 2010	159
Table 6-4.	Number of women aged 20-24 years in 2007 with economic activity and educational attainment status in 2014	161
Table 6-5.	Percentage of women aged 15-29 who were attending school, 2010.....	162
Table 6-6.	Educational attainment by women aged 20-24 years between 2007 and 2014.....	164
Table 6-7.	Combinations of employment and educational attainment status, P_{ij} by status in 2007 (i) and status in 2014 (j).....	166
Table 6-8.	Multistate life table of employment status and educational attainment, 2007 and 2014.....	168
Table 6-9.	Estimated average years of remaining in employment for women aged 20 years in 2007	171

List of Figures

Figure 2-1.	Population pyramids of Indonesia, 1950-2050	11
Figure 2-2.	Trends (1950-2015) and projections (2020-2095) of total fertility rate (TFR) and dependency ratio.....	13
Figure 2-3.	Labour force participation rate by age group, sex and marital status, 2010	16
Figure 2-4.	Percentage of respondents aged 15-29 years answered <i>looking for work</i> or <i>available for work</i> by age group, sex and marital status, 2010.....	17
Figure 2-5.	Youth unemployment rates of persons aged 15-24 years in Southeast Asian Countries, 1991-2018.....	19
Figure 2-6.	Four key elements of the Life Course	33
Figure 2-7.	Analytical framework of pathways to employment.....	35
Figure 3-1.	Youth unemployment rates by education level, 1990-2015	41
Figure 3-2.	Youth unemployment rates by age group, 1990-2015	42
Figure 4-1.	Percentage of men aged 15–29 years by economic activity, 2010.....	88
Figure 4-2.	Average length of job search period (months) for men aged 15-29 years by age group in various years	90
Figure 4-3.	Percentage of men aged 15–29 years who were job searching more than six months by educational attainment in various years.....	92
Figure 4-4.	Percentage of respondents aged 15-29 years job searching within each educational attainment.....	93
Figure 4-5.	Percentage of respondents aged 15-29 years job searching by educational attainment.....	93
Figure 4-6.	Number and percentage of a cohort between 15 and 29 years in 1997 by economic activity.....	99
Figure 4-7.	Percentage of economic activity by 2014 <i>working in service sector</i> men aged 15–29 years in 1997 by age group, educational attainment in 2014, and types of residence, in 2007, 2000 and 1997	104
Figure 4-8.	Percentage of economic activity by 2014 <i>working in non-service sector</i> men aged 15–29 years in 1997 by age group, educational attainment in 2014, and types of residence, 2007, 2000 and 1997.....	106
Figure 4-9.	Percentage of economic activity by 2014 <i>not working</i> men aged 15–29 years in 1997 by age group, educational attainment in 2014, and types of residence, 2007, 2000 and 1997	108
Figure 5-1.	Number of respondents aged 15-29 years who answered <i>Available for work</i> and <i>Looking for work</i> by sex and educational attainment, 2010	124
Figure 5-2.	Number and percentage of a cohort of women aged 15–20 years by economic activity and marital status in 1997.....	129
Figure 5-3.	Percentage of women aged 15-17 years old in 1997 with <i>junior high school and less</i> education in 2014, by economic activity and marital status in IFLS wave.....	135

Figure 5-4.	Percentage of women aged 18-20 years in 1997 with <i>junior high school and less</i> educational attainment in 2014 by economic activity and marital status in IFLS wave.....	137
Figure 5-5.	Percentage of women <i>never-married</i> and <i>schooling</i> aged 15-17 years in 1997 with <i>high school</i> education in 2014, by economic activity and marital status in IFLS wave.....	138
Figure 5-6.	Percentage of <i>never-married</i> women aged 18-20 years old in 1997 with <i>high school</i> education in 2014, by economic activity and marital status in IFLS wave.....	140
Figure 5-7.	Percentage of <i>never-married</i> and <i>schooling</i> women aged 15-17 years in 1997 with <i>tertiary</i> education by 2014, by economic activity in IFLS wave.....	142
Figure 5-8.	Percentage of <i>never-married</i> women aged 18-20 years in 1997 with <i>tertiary</i> education by 2014, by their economic activity and marital status in IFLS wave.....	144
Figure 6-1.	Percentage of respondents aged 15-29 years who answered either <i>available for work</i> or <i>looking for work</i> by sex, Indonesia, 2010.....	157
Figure 6-2.	Female labour force participation rates by age group, Indonesia, 2010.....	170
Figure 6-3.	Average years remaining in employment by educational attainment for women aged 20 years in 2007	174

List of Appendixes

Appendix 4-1. Percentage of economic activity by men aged 15–29 years in 1997 based on their 2014 economic activity status by age group, educational attainment in 2014 and types of residence (urban/rural), 2007, 2000 and 1997	115
Appendix 5-1. Percentage of women aged 15-20 years in 1997 with <i>junior high school and less</i> education in 2014 by age, economic activity and marital status in IFLS wave...	152
Appendix 5-2. Percentage of women aged 15-20 years in 1997 with <i>high school</i> education in 2014 by age, economic activity and marital status in IFLS wave	153
Appendix 5-3. Percentage of women aged 15-20 years in 1997 with <i>tertiary</i> education in 2014 by age, economic activity and marital status in IFLS wave	154
Appendix 6-1. Multistate life table for women aged between 15 and 65+ years in employment and educational attainment status in 2007 (<i>i</i>) and in 2004 (<i>j</i>) in Indonesia	180

List of Abbreviations

ADA	Australian Data Archive
ADB	Asian Development Bank
ANU	Australian National University
Bappenas	Indonesian Ministry of National Development Planning
BEKERJA	Better Employment Knowledge and Entrepreneurship to Revitalise Job Access
BPS	Statistics Indonesia
CRVS	Civil Registration and Vital statistics
DHS	Demographic and Health Surveys
ELFS	European Labour Force Survey
GDP	Gross Domestic Products
GNI	Gross National Income
HIV/AIDS	Human Immunodeficiency Virus Infection and Acquired Immunodeficiency Syndrome
IFLS	Indonesia Family Life Survey
ILO	International Labour Organization
IYEN	Indonesian Youth Employment Network
MOMT	Ministry of Manpower and Transmigration
MONE	Ministry of National Education
OECD	Organisation for Economic Co-operation and Development
RPJMN	National Medium-Term Development Planning
SAKERNAS	Indonesian National Labor Survey
SUPAS	Intercensal Population Survey
SUSENAS	National Socioeconomic Survey
TFR	Total Fertility Rate
UN	United Nations
UIS	UNESCO Institute of Statistics
UNECE	United Nations Economic Commission for Europe
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter 1. Introduction

1.1 Research focus

Indonesia is a young and populous country. If we follow the definition of “youth” given by Statistics Indonesia (BPS), it has the largest number and proportion of young people aged between 15 and 29 years, – respectively 65.6 million and 40.2% – in the Southeast Asian region in 2015 (United Nations 2019a). Rapid growth levels among the young is occurring in many developing countries, including Indonesia. The change in demographic structure creates different impacts economically and socially both at national and individual levels (National Research Council and Institute of Medicine 2005). From the economic point of view, the growing number of young people results in a larger proportion of the working-age population aged between 15 and 64 years, which provides an opportunity to experience a demographic dividend or “demographic bonus” between 2015 and 2025. This is the time when the dependency ratio between the working and non-working population will become the lowest (Adioetomo 2016; Hayes & Setyonaluri 2015). Having a large productive and consuming population is an opportunity for an economic boost (Mason 2005; Birdsall et al. 2001). However, such economic opportunities do not happen automatically but require the right environment in relevant areas including productive labour supplies, human capital, available jobs, national savings and policy support (Hayes & Setyonaluri 2015; Gribble & Bremner 2012; Bloom et al. 2003).

Indonesia experienced rapid socio-demographic development after independence in 1945. School enrolment in Indonesia has improved dramatically since that time. Universal primary education was achieved in the mid-1980s (Hull and Jones 1994) and enrolment in tertiary education increased by more than ten times between 1972 and 2012. However, youth unemployment had become an issue in the mid-1990s (Manning and Junankar 1998). The main features of youth unemployment in Indonesia are a long school-to-work transition, and most unemployed youth have more than high school education (Aldobrandini 2012; Suryadarma et al. 2007; Manning & Junankar 1998). Juárez and Gayet (2014) argue that the assumptions and social settings of school-to-work transitions in developing countries are different from developed countries where higher human capital or education are important elements in achieving better jobs with higher wages, though social inequality and poverty have more impact than human capital in developing countries.

Past research on youth employment in Indonesia has focused on the unemployment rate using cross-sectional data (Aldobrandini 2012; Manning & Junankar 1998; Clark 1983). Most studies on school-to-work transitions have been conducted in OECD countries at national levels (OECD 2012; Breen 2005). Despite long school-to-work transition periods and on-going youth unemployment issues in Indonesia, little is known about detailed transition pathways patterns for individuals.

The objective of this research is to examine the complex transition pathways to employment among a cohort of young people aged 15-29 years during the period 1997 to 2014, in the context of demographic changes in Indonesia. It focuses on young people's life course from the labour supply side. Understanding the nature and complexity of young people's transitions to employment in this particular cohort is important because the number of young people of this age is the largest in Indonesia's history and is a critical actor in the labour force market.

This research provides deeper insights for Indonesia to navigate the challenges and opportunities pertaining to their pathways to employment. Despite rapid economic development and socio-demographic transformation, young Indonesian people still struggle to find jobs in a timely manner or are constrained to remain out of the labour market despite willingness to work. In order to meet the research objective, this research examines economic activity status changes over time according to educational attainment and the main demographic variables by addressing the following three main questions:

1. How do education and early employment contribute towards working in the service sector for men in Indonesia?
2. How do the school-to-work transition pathways differ for women in Indonesia by educational attainment and marital status?
3. How do educational attainment and previous employment history affect the duration of employment status for young women in Indonesia?

The first two research questions are the important first step in understanding the detailed patterns of transition to employment of men and women separately according to their sociodemographic backgrounds. The questions highlight gender specific features that young Indonesian men have a preference of finding work in the service sector, while most young Indonesian women make life course decisions around the timing of their marriage. The third research question investigates further on women based on the outcomes of the first two research questions, bearing in mind that women experience more complicated and various life course

choices than men but are potentially productive workers and could – given the chance - contribute to the national economy at a crucial time if the benefits of the demographic dividend are to be fully realised.

Although real improvements in school enrolment and labour force participation have occurred for women, a strong gender role culture exists in Indonesia where women are expected to be the primary caregivers while men are responsible for providing income (UNFPA 2015a). Women therefore often experience different life course pathways including employment. In order to better understand young people's pathways to employment, the research examines men and women separately.

The first question investigates young men's economic activity movements by industrial sector because many educated young men try to find jobs in the service sector (Aldobrandini 2012). However, such preferences actually increase the male youth unemployment rate (Suryadarma et al. 2007; Arndt & Sundrum 1980). Four waves of the longitudinal Indonesian Family Life Survey (IFLS) are used by following changes in their economic activity to disentangle their dynamic and multiple transition movements.

The second question focuses on women, taking their marital and educational attainment into account. The mean age at first marriage is 22 years old in Indonesia (United Nations 2017a), which is much younger than the average of the OECD countries at 30.3 years old (OECD 2016). Marriage significantly affects their labour participation due to their strong stereotypical gender role as the primary caregivers in Indonesia (Cameron & Suarez 2017; Setyonaluri 2013). This research identifies patterns and differences in their economic activity levels by group according to their marital and educational status.

The third question continues to focus on women and estimates their average working life expectancy based on the latest two waves of IFLS data in 2007 and 2014. It reveals the different employment durations in their lifetime according to their economic activity and educational attainment. This question aims at identifying areas where increased support is needed for those women who seek longer or better employment opportunities.

1.2 Research setting

Indonesia is situated in Southeast Asia between the Indian and Pacific Oceans. It consists of seventeen thousand islands with 34 provinces where over 258 million people live according to 2015 statistics from the United Nations (UN) (2019a) and is therefore the fourth most populous country in the world. There are more than 300 ethnic groups and 87.2% of the population is Muslim, making it the largest Muslim country in the world. The population is growing at a rate of 1.1% which is a moderate level among the eleven Southeast Asian countries¹ which have growth rates between 0.1 and 2.2 per cent (World Bank 2019a). It is a young country with an average age of 30.5 years and a growing number of youth aged between 15 and 24 years, as defined by the United Nations (CIA 2018; United Nations 2013a). The growing proportion of working-age population aged between 15 and 64 years is expected to peak between 2015 and 2025 which will be a time of so-called demographic dividend, a window of opportunity for an economic boost.

Indonesia has been going through rapid socio-demographic and economic transformation including a fast demographic transition. The economy is the largest in the region, more than double the nation in second place, Thailand. Indonesia's economy has experienced rapid growth, especially during the 1990s by shifting from the agriculture sector to manufacturing, trade and service sectors (UNFPA 2015b; ILO 2007; Manning & Junankar 1998). Gross Domestic Product (GDP) was increased by an average of around 7% until the Asian Financial Crisis hit the country in mid-1997 when GDP was reduced and unemployment increased sharply (World Bank 2019b). Gross National Income (GNI) per capita reached US\$3,877 in 2018, and Indonesia will move to upper-middle-income country status when passing the threshold of US\$3,896 (World Bank 2019c). Therefore, the demographic dividend is an important opportunity for the country to increase its economic development.

1.3 Significance of research

Investigating young people's transition pathways to employment by using individual data is critical to provide detailed insights into the employment situation faced by this cohort in Indonesia. They are the key productive labour supply that benefits if the opportunity for a demographic dividend for national economic development is maximised. While the demographic dividend is not a central part of the analytical elements in this research, it provides a backdrop. High youth unemployment among educated youth is a concern because of the loss of productive

¹ Brunei, Cambodia, East Timor, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam

workers in the labour force market. Having long employment transition periods is a tendency of educated youth which increases unemployment levels. There are many studies of youth employment in Indonesia because of long-standing youth unemployment issues, however, past research has often focused on unemployment rates or the relationship between school and employment outcomes such as wages (Purnastuti et al. 2013; Newhouse & Suryadarma 2011; Chen 2009; Fahmi 2009; Bedi & Garg 2000). Little detail is known about young people's employment transition pathways and patterns through the use of individual-based longitudinal data.

Young people's transitions to employment are getting more complex, varied and prolonged due to longer school times for obtaining higher educational attainment in a society which is rapidly transforming demographically, economically and culturally (Walther 2006). In order to capture their various and changing employment environments and to identify the areas where they may be assisted, this research aims to provide more detailed transition-pathway patterns and differences. It provides a wider time coverage by following smaller groups according to their socio-demographic backgrounds. Practical and responsive support by policies and programs based on detailed analysis and information would assist in reducing the duration of long unemployment periods for young men and supporting staying-at-home women with better opportunities to (re-)enter the labour force.

For men, finding work in the service sector is their preference but this actually tends to increase their transition periods (Chapter 4). For women, family formation (marriage/childbirth) affects their life course significantly (Chapter 5). Based on the results on these chapters, this research investigates more about women (Chapter 6) with more focus on their overall life course by estimating their working life expectancy if the current situation continues.

1.4 Research contribution

This research contributes to the growing scholarship on employment transition pathways in middle-income economies in the following four main areas. First, the research provides transition patterns based on the young people's different socio-demographic backgrounds against economic activity status which enables us to disentangle the complex transition pathways of young people's life courses for men in Chapter 4 and for women in Chapter 5.

Second, the research contributes to better understanding young people's dynamic transition pathways by linking and following the same individuals over time with a wide period of 17 years across the different IFLS waves in Chapters 4 and 5, rather than limiting the coverage from school graduation to their first jobs which most past studies often focused on. It is important because their career development processes start before and after these periods.

Third, the research is able to provide the results of estimates of the average working duration of women remaining in their lifetime (working life expectancy) in Chapter 6. Women live longer than men, and they represent potentially highly productive workers though the gender gap in education levels is limited, Indonesia is missing promising opportunities to enhance its labour performance despite their willingness to work. The results enable us to identify the gaps and areas requiring support with the aim of improving their economic activities and opportunities.

Fourth, this research draws upon human capital theory and life course theory as the two main theories to reframe and simplify the complex employment transition environment using various factors and theories involved in youth employment.

1.5 Research approach

The purpose of this research is to understand young people's transition pathways by looking at their transition patterns. They are important contributors to the economy increasing the supply of labour. This means that this research's focus is on the supply side of the labour force market. In Chapter 2, the analytical frameworks are discussed in Section 2.6 where many factors are associated in the transition pathways. The main demographic and education factors are used to follow groups. Other factors, such as policy, market demand including available positions and social capital factors are discussed in the background and conclusion sections in each chapter.

This research uses two analytical methods of cross-tabulation and multistate life table techniques. These methods allow us to analyse the IFLS data by using the main demographic variables (age, sex, types of residence for men, and marital status for women) and educational attainment to understand young people's transitions by examining changes in their economic activity in the context of demographic changes. However, it also means that only a selected number of variables and variable categories can be used for the analysis. As a result, this research uses marital status as a proxy of childbirth and urban/rural as location. In order to understand the subjects' transition pathways with different perspectives, other variables such as childbirth, region or province,

occupation, wages, work hours, contract types, interstate or daily migrations, educational attainment level for each wave or more subjective variables including job satisfaction and areas of interests would provide some valuable aspects to investigate further.

The main variable used in this research is an economic activity from IFLS which is recoded according to the answers provided for the original variable of their primary activity. Although there are separate questions about their additional activities including if the respondents work while schooling, this research uses the primary activity information to keep it simple. Separate research by using variables about additional activities would be beneficial to understand young people's activities because many young people in developing countries work, or have to work when they are schooling due to their family environment (Aldobrandini 2012).

Informal employment is relatively common in Indonesia (Kristiansen & Ramli 2006), accounting for about two-thirds of the Indonesian labour market (Suryahadi et al. 2012). This research uses industry information from the IFLS data to identify subjects' working industries for the analysis in Chapter 4 on young men's pathways but does not specify their types of employment. Given the high levels of informal employment, as against the countervailing popularity of jobs in the service sector due to perceived greater stability (meaning more formal sector jobs), further useful areas of investigation might be the examination of the types of work contracts obtained by young people, and a qualitative survey to compare and contrast their experiences in the formal and informal sectors.

1.6 Research structure

This research consists of seven chapters examining young people's transition pathways to employment by following their economic activity levels according to their educational attainment and the main demographic variables in the context of the demographic dividend.

After this introduction (Chapter 1), Chapter 2 reviews the general concepts and theories in relation to youth employment under the socio-demographic transitions in Indonesia since 1950. The outcomes of the reviews identify research gaps and the importance of young people's employment transition pathways.

Chapter 3 explains data and methodologies in three parts. First, it reviews data sources used in the past employment transition pathway research and identifies strengths and weaknesses for

each type of data. It then describes the data and samples used in the research, followed by the methodologies applied with some examples.

Chapter 4 is the first of the three analytical chapters. It analyses four waves of the latest IFLS from 1997 to 2014 to understand the pathways for Indonesia's young men. It focuses on their economic activity movements within service and non-service sectors, according to their age, types of residence (urban/rural) and educational attainment as noted above. The service sector is very attractive to educated men and many remained unemployed until they enter it (Aldobrandini 2012).

Chapter 5 examines women's transition pathways focusing on their marital and educational attainment. Despite the marked improvement in women's school enrolments, a strong gender role culture still exists in Indonesia as also noted (UNFPA 2015a). However, there are a large number of women who answered 'available for work' but are not in the labour force market according to the latest Indonesian Census 2010. There are various transition pathways depending on their backgrounds, and it identifies the different transition patterns.

Chapter 6 continues to investigate women. It uses the latest two waves of IFLS in 2007 and 2014, using a multistate life table technique to estimate the average years of remaining in employment (working life expectancy). It evaluates the benefits of education and employment history applied to their working life expectancy and points out those categories of women who would benefit from more support in their efforts to participate in the labour force.

Chapter 7 summarises the main research findings, theoretical and policy implications followed by the research contribution in relation to the main results. In conclusion, it suggests future research needed to improve youth employment in Indonesia.

Chapter 2. A review of literature, and theoretical and analytical frameworks

2.1 Introduction

The aim of this chapter is to understand the backgrounds and trends of youth employment in Indonesia and to identify research gaps in studies of transition pathways to employment for young Indonesian people. Such transition pathways are becoming complex, various and prolonged globally as school time becomes longer as young people increasingly strive to obtain higher educational attainment. This trend delays their entry into the labour market and their family formation (Eliason et al. 2015). More choices and different options exist now for young people in terms of lifestyles, individualisation and an unpredictable labour market affected by the global economy, as well as the wider spread of information sharing including the popularity of social media, which can also affect life choices (Cuervo & Wyn 2011; Walther 2006; National Research Council and Institute of Medicine 2005).

This chapter explains how young people's socio-demographic and economic environment have changed since 1950 by looking at the trends in population size, fertility, school enrolment and employment. The first section examines the country's overall changes and opportunities with demographic and economic perspectives to understand the research settings. Special attention is paid to the timing of the "demographic dividend", a window of opportunity for an economic boost which is expected in the current period 2015 and 2025. In this period a large proportion of the working-age population relative to the non-working population is emerging, contributed to by the growing youth population in Indonesia. The second section reviews the literature on youth employment and young people's transition pathways to employment. The remaining four sections discuss research gaps, theories, the analytical frameworks applied in this research, followed by conclusion.

2.2 Country overview

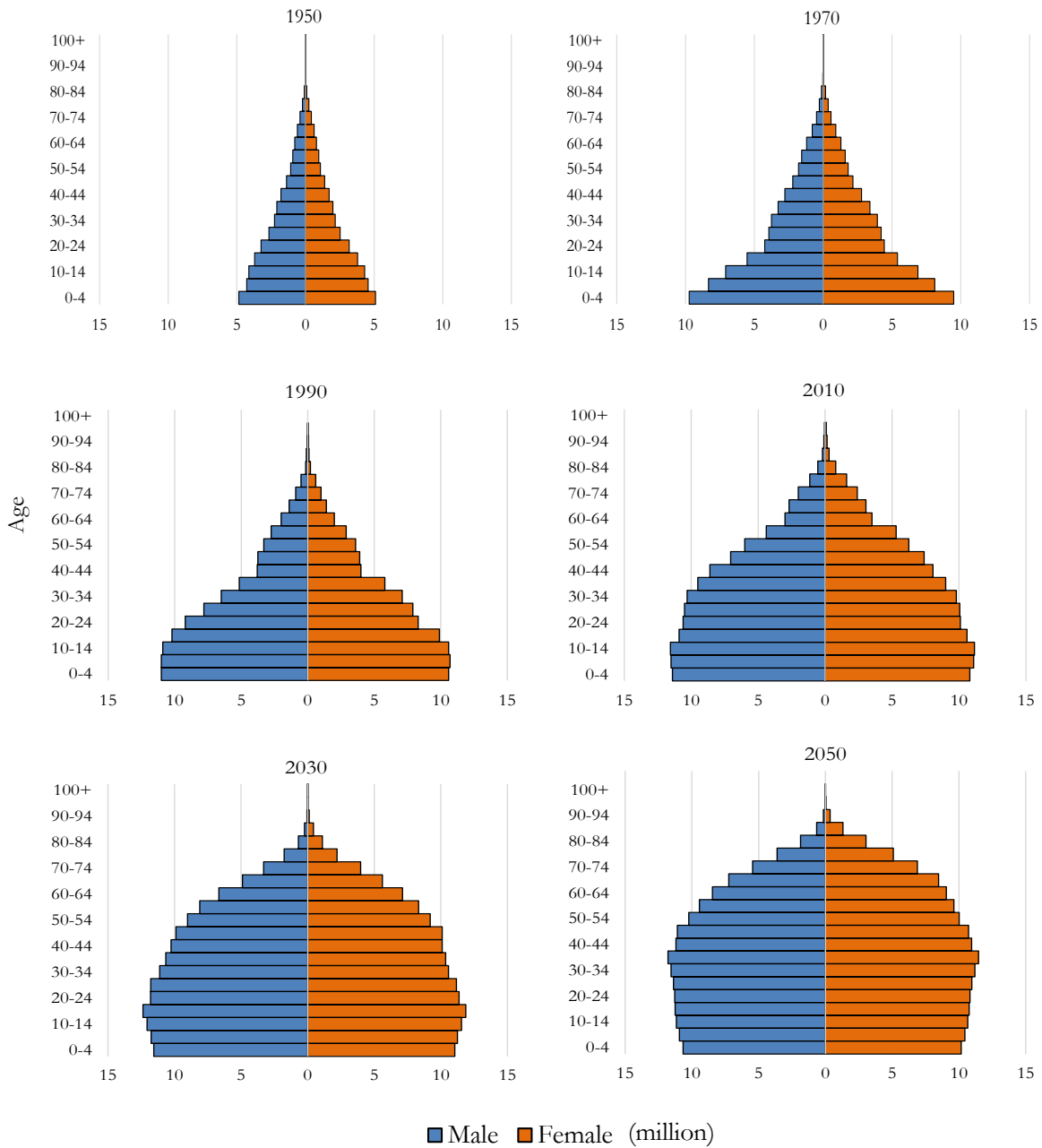
2.2.1 Socio-demographic and economic trends

Indonesia is the fourth most populous country in the world at 258 million people in 2015 (United Nations 2019a). Its economy is more than double that of Thailand, the second largest size of an economy in the Southeast Asian region. The impact of Indonesia's socio-

demographic and economy is immense in the region. Indonesia, together with other Asian countries, has experienced a fast demographic transition that started in the late 1960s. The pace of the transition was much faster than initially predicted (UNFPA 2014a; Zhao 2013; Hirschman & Guest 1990). When a country develops, mortality rates, especially child mortality rates, on the one hand, first decline rapidly because of improvement in health. Lowering fertility rates, on the other hand, takes longer because of the time required to change cultural preferences to have fewer children (Kinugasa 2013). If mortality and fertility rates become lower, more resources can be invested in health and education on fewer children, who could then become healthier and more skilful workers thus fostering better economic activity (UNFPA 2014a; Gribble & Bremner 2012). In Indonesia, the total fertility rate (TFR) was reduced from 5.66 births in 1960 to 2.34 births per woman in 2017 (World Bank 2019d).

The improvements in reduced mortality and increased life expectancy have affected the age composition of the population in Indonesia. Population pyramids between 1950 and 2050 every 20 years are presented in Figure 2-1, based on United Nations data (United Nations 2019a). The shapes of the pyramids change by increasing the number of young people until 2010. Then, age groups with the larger numbers start to become older after 2030. With the latest statistics, the number of young people 15-29 years old was 65.6 million in 2015, which is the largest number in its history, accounting for 40.2% of regional youth (United Nations 2019a).

Figure 2-1. Population pyramids of Indonesia, 1950-2050

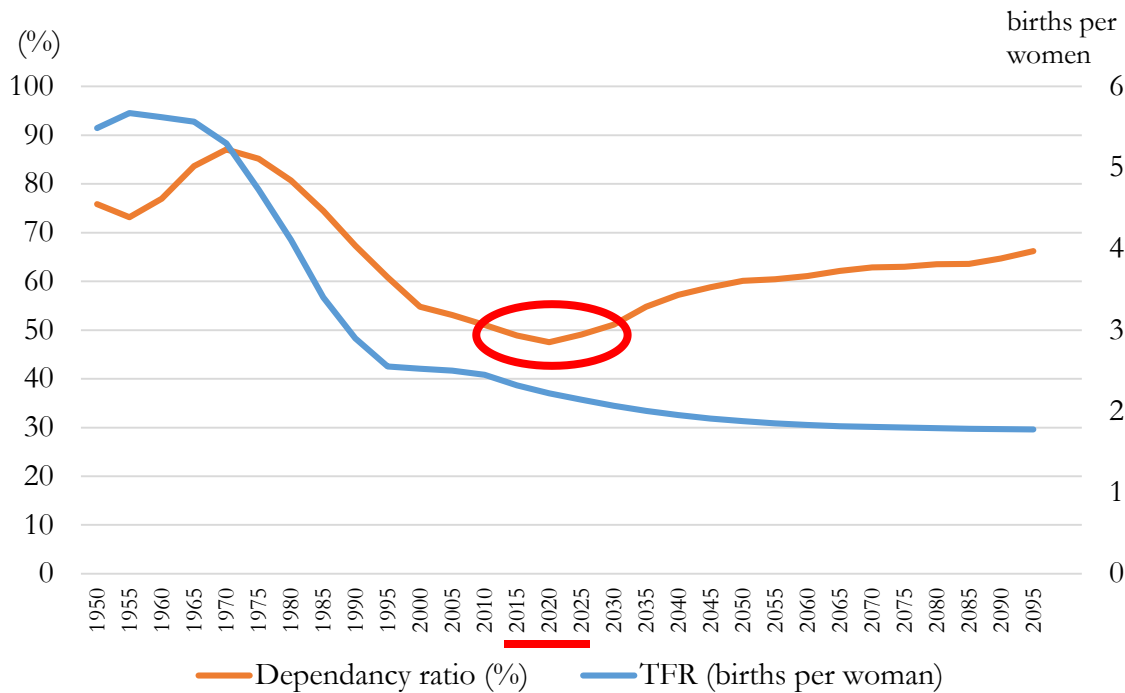


Source: United Nations (2019a)

2.2.2 Demographic dividend

Indonesia is expected to have the lowest dependency ratio – the number of the working-age population (15-64 years) against the number of non-working population (0-14 and 65+ years) – between 2015 and 2025. Lower fertility typically occurs after declining infant and child mortality rates during the demographic transition period (Bloom & Williamson 1998). Such a correlation is seen clearly in Indonesia, as presented in Figure 2-2. The lowest point of the dependency ratio is the timing of a so-called a demographic dividend, a window of an opportunity for an economic boost which contains a large proportion of the working-age population, typified by a temporarily large proportion of young people in Indonesia. Countries such as Japan, Singapore and Korea had their demographic dividend between 1965 and 1990 when the dependency ratios were low and experienced rapid economic development during that time (UNFPA 2014a; Bloom & Williamson 1998). When the demographic transition is complete, both fertility and mortality rates become very low, and countries start aging (Kinugasa 2013). As shown in Figure 2-1, the number of young dependent age groups 0-14 years starts to decrease from 2030, and the older age groups increase as mortality rates decline. Bloom and Williamson (1998) state that the changes of age compositions of a population with a growing proportion of the working-age population represent the main driving force for the window of economic opportunity. This is because a larger working-age population creates more production and consumption in a country (Bongaarts 2009; Mason 2005). In Indonesia, the labour supply is expected to contribute to increasing economic activity in the next two decades.

Figure 2-2. Trends (1950-2015) and projections (2020-2095) of total fertility rate (TFR) and dependency ratio



Notes: The fertility rates cover five-year periods. For example, the fertility rate in 1960 in this figure represents the rates between 1960 and 1965.
 Sources: Dependency ratio-United Nations (2019a), and Fertility rates-United Nations (2019b)

While many developing countries including Indonesia have a chance of experiencing the demographic dividend, the duration of this dividend is limited (Kinugasa 2013; Bloom et al. 2003). Researchers warn that the demographic dividend does not occur automatically by simply having an increase in the proportion of the working-age population. It needs an appropriate environment supported by policy and investment in human capital such as education to increase the availability of skilful workers (Hayes & Setyonaluri 2015; Gribble & Bremner 2012; Ortiz 2008; Bloom et al. 2003; Clignet 1980). Cuaresma et al. (2014) argue the importance of labour productivity improvement through human capital accumulation. Education is a key element in increasing worker productivity for economic growth (United Nations 2015; Arif & Chaudhry 2008). Hayes and Setyonaluri (2015) have a similar view to Cuaresma et al. (2014) that the demographic dividend will not benefit Indonesia unless its youth are well educated, skilled and employed.

In Indonesia, school enrolment rates have increased steadily since the late 1970s, and universal primary education was achieved in the mid-1980s (Hull & Jones 1994). This is mainly due to government school construction programs started in 1973 (World Bank 2010; Duflo 2001). A compulsory six years of primary schooling has been implemented since 1984, which was then extended to nine years in 1994. The government introduced the Law on National Education (No.20/2003) that all Indonesian citizens have the right to education using the government's mandatory financial allocation on free education. In recent years, compulsory and free education have been further expanded to twelve years by including senior secondary schooling, which has made significant impacts on the improvement of educational attainment for young people in Indonesia (OECD & ADB 2015; UNESCO Bangkok 2000).

Gross school enrolment ratios² for each education level are presented in Table 2-1 (UIS 2019a). Gender differences in education were observed until the late 1990s but they no longer exist. Women actually have higher school enrolment in secondary and tertiary education institutions.

Table 2-1. Gross enrolment ratios (%) by level of education and sex, 2009-2017

Level		2009	2010	2011	2012	2013	2014	2015	2016	2017
Primary	Male	110.1	108.0	107.8	109.2	106.2	106.0	105.8	105.4	105.6
	Female	108.2	112.2	112.4	109.4	106.1	103.4	102.4	101.4	101.2
Secondary	Male	72.8	74.1	77.2	78.7	83.9	83.6	86.9	84.5	86.5
	Female	72.8	75.0	78.1	81.3	81.9	83.5	87.8	87.7	89.1
Tertiary	Male	22.8	24.2	26.0	27.8	27.7	27.8	..	..	34.2
	Female	22.0	21.8	23.2	29.7	31.4	31.4	..	..	38.5

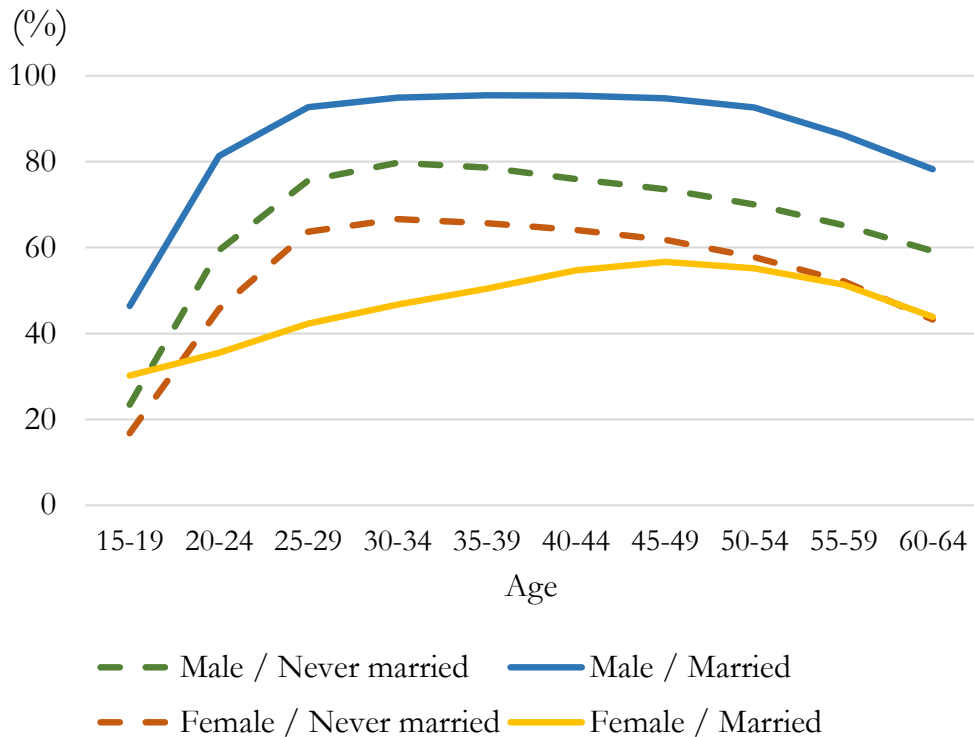
Source: UIS (2019a)

Hirschman and Guest (1990) examined the demographic transitions in Indonesia, Malaysia, the Philippines and Thailand and concluded that increased female enrolment in secondary and tertiary education was the main contributing factor to the fertility declines in Indonesia and the Philippines.

² Gross enrolment ratio is calculated by “dividing the number of students enrolled in a given level of education regardless of age by the population of the age group which officially corresponds to the given level of education, and multiply the result by 100”. (UIS 2019a). Gross enrolment ratio includes a number of students who are outside the official school ages, and can exceed 100% (Suharti 2012).

Women's education is a critical factor in fertility decline. If women are raised in a smaller family, they are more likely to be educated well and become productive workers (UNFPA 2014a; Gribble & Bremner 2012). Women can make significant contributions to the demographic dividend (Bloom et al. 2003). Cremin and Nakabugo (2012) emphasise the importance of social and human development for economic development, especially women's education which encourages better health, infant survival, lower fertility and higher labour productivity. In Indonesia, the female labour force participation rates by those aged 15-64 years have increased from 37.0% in 1971 to 44.6% by 1990. However, since then, the rate has remained around 50%. The average female labour force participation rate between 1996 and 2017 was 52.4% whereas the male labour force participation rate was 83.1% during the same period, remaining at a similar level since the 1990s (World Bank 2019e, 2019f).

Such low female labour force participation rates are partly due to the strong gender role culture in Indonesia where men are the primary breadwinners bringing incomes to the families, and women are the primary caregivers for the families (UNFPA 2015a). According to the Indonesian 2010 Census (BPS 2010), married Indonesian men had a very high labour force participation rate from their late 20s, higher than that of never-married men, as presented in Figure 2-3. On the other hand, never-married women had a higher labour force participation rate at more than 60% from their late 20s. Married women had a different labour force participation rate trajectory by having a higher rate before their 20s. This pattern shows clear differences not only by gender but also by women's marital status. In order to understand the gender differences and marital status, this research conducts analysis separately for men and women and takes marital status into account for women's transition pathways to employment.

Figure 2-3. Labour force participation rate by age group, sex and marital status, 2010

Source: Indonesian 2010 Census, BPS (2010)

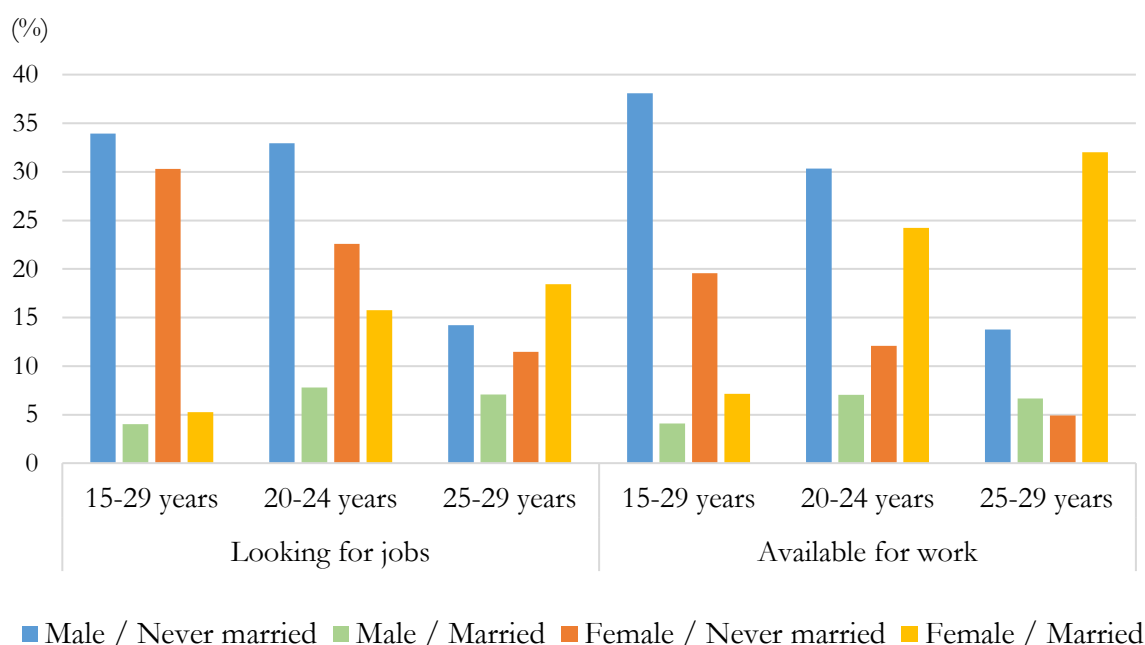
According to the Indonesian 2010 Census (BPS 2010), the number of young people aged between 15 and 29 years who answered *available for work* was more than *looking for work* for both men and women (see Table 2-2). The differences between the two answers were more than three times larger for women. There are also differences by marital status (see Figure 2-4). Never-married men had a larger percentage than married men for both answers, however, married women increased the percentage and exceeded the unmarried women by age. The differences were especially large for *available for work*. It shows that a high proportion of women who were not working were actually interested in working especially if they were married.

Table 2-2. Number and percentage of respondents aged 15-29 years by economic activity and sex, 2010

Economic activity	Male		Female	
	(n)	(%)	(n)	(%)
Working	18,215,626	58.1	10,770,517	34.6
Temporary not working	272,543	0.9	231,937	0.7
Schooling	7,143,908	22.8	6,806,739	21.9
Looking for work	1,108,952	3.5	966,321	3.1
Available for work	2,186,575	7.0	3,520,861	11.3
No answer	7,503,648	23.9	8,852,236	28.4
Total	31,334,806	100.0	31,148,611	100.0

Source: Indonesian 2010 Census, BPS (2010)

Figure 2-4. Percentage of respondents aged 15-29 years answered *looking for work* or *available for work* by age group, sex and marital status, 2010



Source: Indonesian 2010 Census, BPS (2010)

Policy is also an important factor for the demographic dividend (UNFPA 2014a; Gribble & Bremner 2012; Bloom et al. 2003; Rogers & Creed 2000). Some important areas to be supported by policies are education, economics, health and governance which affect population structure and economic outcomes and can create new economic opportunities (Gribble & Bremner 2012). With good supporting policy interventions, human capital, or the education and skills of individuals increase, and the outcomes can transform the national economy (UNFPA 2014a). As discussed, this is because women are mostly the primary caregivers for families and if they provide better care and investment in health and education for their children, they in turn will become productive workers for the country in the future. Lower fertility also leads to higher women's labour force participation and earnings (Bloom et al. 2009).

Economic policies also have a critical influence on young people because policy can assist in encouraging formal sector employment, for example, in encouraging employers to hire young people and creating more jobs (UNFPA 2014a). The formal sector is often slow to change regulations to meet current needs in the labour force market. As for the informal sector, which represents about two-thirds of the workforce in Indonesia (Suryahadi et al. 2012), better policies for micro-enterprise could help a large proportion of these workers, especially those in urban areas (UNFPA 2014a). The increased educational attainment in Indonesia has resulted in high returns to education and economic growth (Di Gropello et al. 2011). Aldobrandini (2012) argues there are already many policies and programs in place by government ministries and international or local organisations as a response to high youth unemployment rates, however, national coordination, implementation, and monitoring for policies and programs are issues in Indonesia.

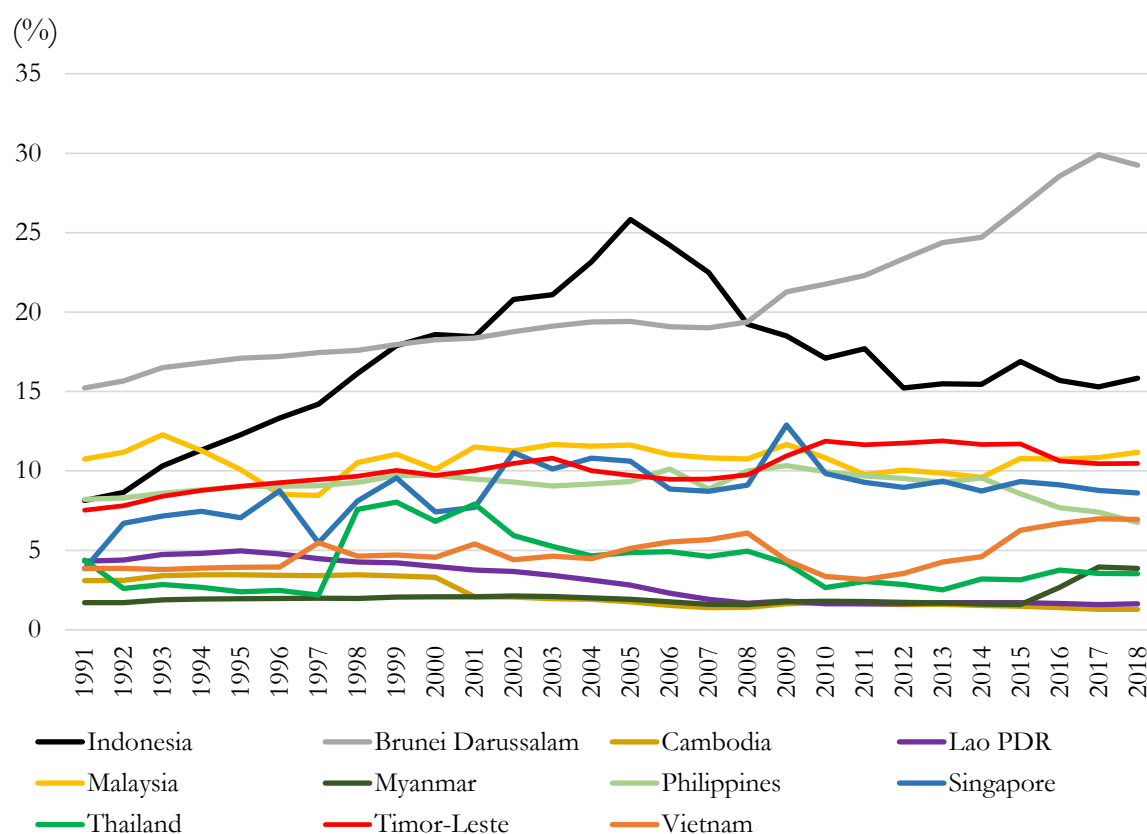
2.3 Youth population and employment in Indonesia

2.3.1 Trends in youth unemployment in Indonesia

Indonesia has high youth unemployment rates. Kinugasa (2013) argues that economic growth slows down if many of the working-age population are unemployed due to lower production and consumption activities (Bongaarts 2009; Mason 2005). Indonesia's youth unemployment rates were the highest in the region between 2000 and 2007, as presented in Figure 2-5. The latest youth unemployment rate in Indonesia was at 15.7% in 2018 (World Bank 2019g), while

the highest rate after 2000 was at 23.1% in 2005, but this then declined, and the levels have remained around 15% since 2014. The prospect of youth employment in Indonesia is still not promising, and ILO projections of youth employment show that the Southeast Asia and Pacific region is expected to have the second-largest increase in youth unemployment rates in the world, with an average of 12.0% in 2017 while Indonesia's rates would remain especially high (ILO 2017a).

Figure 2-5. Youth unemployment rates of persons aged 15-24 years in Southeast Asian Countries, 1991-2018



Source: World Bank (2019f)

Youth unemployment rates have been high in Indonesia since the 1970s and were so even before the Asian Financial Crisis of 1997-1998 (Manning & Junankar 1998). During this time, the main issues related to youth unemployment were labour market problems such as under-employment, low wages and low productivity. Unemployed youth before the crisis were viewed rather as a choice for better-off families, and they could afford to be unemployed until they found better jobs. However, Suryadarma et al. (2007) argue that unemployed youth after the crisis were inexperienced but mostly quite well-educated with at least high school education backgrounds but were more likely to wait for better-paid jobs regardless of their families' economic backgrounds. The concept of the demographic dividend is based on the idea of having an increasing proportion of educated young people entering the labour market (United Nations 2015). However, Freeman and Wise (1982), and O'Higgins (2001) argue that the size of the youth population affects youth employment as they compete for limited vacancies unless the labour market expands (OECD 2000). Despite reasonable economic growth after 2004, the demand and new positions for youth employment have changed little in Indonesia (Allen 2016; Sziraczki & Reerink 2004). This is often referred as "jobless growth" caused mainly by technology improvements and an increase in low-cost imports. As a result, few jobs have been created in the labour market to absorb new graduates (Naafs 2013; Nilan et al. 2011; Manning 2010). Another issue in youth unemployment in Indonesia is low-quality education and skill gaps, and slow responses to changing labour market demands (Allen 2016; Di Gropello et al. 2011; Sziraczki & Reerink 2004).

Skill mismatches in Indonesia derive from a weak link between skills learned at school and skill demands in the labour market (USAID 2013). This factor can demotivate employers to recruit young people and can lead to longer job searches. In order to fill the gaps in skill mismatches, the Indonesian government has introduced vocational school initiatives since 2015 in order to improve skills as a means of reducing youth unemployment. Some studies in Australia and the United Kingdom show that expanding vocational schools and apprenticeships have improved youth employment by meeting demand in the labour market (Adams 2007). However, Marks et al. (2003) and Newhouse and Suryadarma (2011) claim that there is little evidence from various countries that vocational schools improve full-time work opportunities, and there is no guarantee for Indonesia. On the one hand, Chen (2009) and Manning and Junankar (1998) have similar views that the expansion of vocational schools does not secure better employment opportunities or higher wages. This is because the graduates of these schools in Indonesia have

a lack of general academic achievement, and they often face a much more challenging situation to find work than the general school graduates. On the other hand, Agung et al. (2018) argue for the considerable potential of technology-based businesses including agriculture-based ones, by utilising vocational schools while there is lack of training programs, networking and communications with industry. They further suggest that the government and private companies should coordinate more. This means that the expansion of conventional vocational schools in quantity does not give any clear advantage for school graduates in the labour market but illustrates the need to provide the quality of education and the right skills by responding to the rapidly changing market's demands. Collaboration and information sharing between school and industry are often identified as a weak area in Indonesia also (Aldobrandini 2012). Successful programs in developed countries do not always apply to developing countries but should be examined and if necessary adapted to the right balance of skills and culture suitable for Indonesia (Mahirda & Wahyuni 2016).

2.3.2 Transition pathways to employment

Young people often face challenges in entering the labour market after completing schooling. O'Higgins (2001) found that youth unemployment rates are higher than adult unemployment rates in every country where data are available, regardless of the country's overall unemployment size and development levels. Young people are more vulnerable than adults due to their lack of skills, work experience or access to financial resources as well as often facing a less protected environment without union or government regulatory backing (ILO 2010; Gangl 2002; O'Higgins 2001). The average unemployment rate in Indonesia between 2009 and 2018 was 4.7%, whereas the youth unemployment rate in the same period was 16.3% (World Bank 2019g, 2019h). This difference peaked at 17.9 percentage point in 2005, with 7.9% for the total unemployment rate and at 25.8% for the youth unemployment rate, demonstrating that it is more difficult for young people to find a job than adults in Indonesia.

Several researchers, however, argue that high youth unemployment is a natural phenomenon. Freeman and Wise (1982) claim that youth unemployment rates are higher than those of adult rates in the United States because young people tend to change jobs more frequently as they seek congenial work, not because they are at more risk of unemployment. They also point out that youth unemployment is a transitional process and little long-term consequences are found

for most male teenagers because they eventually find a job. Those who have severe problems in finding jobs are only concentrated among black youths or those who left school early.

Jones (1997) reached a similar view after examining some Asian countries including Indonesia and concluding that the high youth unemployment simply happens. This is because a job search takes time, but for Indonesian young people, most searches end by their mid-20s. Clark (1983) found that there is little or no effect of experiencing unemployment if young men find jobs in their early 20s. This was the case in the 1980s. According to the Indonesian 2010 Census too, more than 90% of Indonesian men were working from the age of 29 years (BPS 2010).

By looking at the level of wages based on studies in the United Kingdom and the United States, some researchers, argue however that unemployment experience has a lasting negative effect as a 'scarring effect of unemployment' and may reduce the probability of future employment (Bell & Blanchflower 2010; Mroz & Savage 2006; Bradley & Nguyen 2004; Arulampalam 2001; Becker & Hills 1980). Arulampalam (2001) also states that the best predictor of future risk of unemployment is a past history of unemployment. One of the unique features of Indonesia's youth unemployment is a long-term unemployment period among youth with at least high school qualifications. High school graduates have the highest unemployment rate, higher than those with junior high or less educational qualifications. Young Indonesian people aged 15-24 years who are in urban areas with secondary education, mostly high school diplomas, compose almost half of the Indonesian youth unemployment cohort (Manning 2010). Such a situation in Indonesia is different from developed countries including Australia, Italy, the United Kingdom and Germany where educated youth have fewer issues in finding jobs (Scherer 2005; McClelland & MacDonald 1999). Naidoo et al. (2015) argue that unemployed youth in Indonesia are not necessarily poor but are supported by their parents and that youth unemployment is an urban phenomenon. They are more likely to find a job eventually in their late 20s. But if educated young men and women who are willing to work in the labour market have no opportunity to do so, a potential loss is incurred for individual incomes and the whole country's economic development (Cameron & Suarez 2017; UNFPA 2014a; Bloom 2011). This research investigates young men's and women's employment transition pathways because the outcomes enable us to identify patterns and differences by group according to their socio-demographic backgrounds. It helps to identify areas and specific groups of young people to assist in participating better in economic activities.

2.4 Research gaps

Research on youth employment that examines transition pathways to employment in Indonesia is still limited. This is also due to the influence of a rapidly changing employment environment for young people. Past studies on transition pathways to employment have mainly focused on the school-to-work periods to find their first job after completing education (Salas-Velasco 2007; Warner et al. 1980). According to the ILO's school-to-work-transition methodological guide report, most studies define school-to-work transitions as "the length of time between the exits from education (either upon graduation or early exit without completion) to the first entry into regular employment" (Elder 2009a). At the same time, it also points out that "the definition of the term and the subsequent measurement of the transition vary from study to study and from country to country. Some studies take as the endpoint the first moment of employment in any jobs and others apply qualitative elements such as first regular job" (Elder 2009a). However, it is not always easy for young people in developing countries, especially those from low-income families, to obtain regular or stable employment (National Research Council and Institute of Medicine 2005). Stable employment is defined as contracted employment (written or oral) with more than a twelve-month contract (National Institute of Statistics 2015). This excludes those who are self-employed including in family businesses. Temporary employment is often of limited duration even with contracts. However, such employment is common in developing countries.

Cross-sectional data from labour force surveys are commonly used for job search periods as a measurement of school-to-work transition periods. In Indonesia, the National Labor Force Survey (SAKERNAS) collects data on job search periods and notes some improvements in job search periods since 1990. The average duration of job search periods by men aged 15-29 years, for example, was high in 2000 for 8.1 months but dropped to 1.1 months by 2015. However, the duration of those who spent more than six months or more by ages 20-24 years remained around 12%, and the percentages of men with high school and tertiary education continuously increased, which is discussed more in Chapter 4. Allen (2016) states that the duration of job search is longer among educated youth in Indonesia, which is not common in developed countries where youth unemployment is usually correlated with the level of educational attainment (Scherer 2005; McClelland & MacDonald 1999). Salas-Velasco (2007) argues that young people's pathways to employment are getting more complex. This is because they are not only in a changing society, but also because of the unstable labour market globally with

different types of contracts, but also they have different interests, options, pressure and risks (Cuervo & Wyn 2011).

Young people change jobs frequently for the first few years after finishing education or take a long job search period to find a satisfactory job, which causes high youth unemployment (Suryadarma et al. 2007; Arndt & Sundrum 1980). Swanson and Fouad (1999) argue the importance of treating the transition pathways to employment as a process rather than an event. To understand their transitional history comprehensively includes covering general or vocational education pathways, training history, the field of study, employment status including hours of work (OECD 2000). This means that individual youths could have various pathways, and it is important to disentangle the complexity of the transitions in pace and timing of the process by looking at their individual pathways (Hannan et al. 1996). While cross-sectional data are able to provide essential information on youth employment including job search periods at a point of a survey, target respondents change every time data are collected. As a result, cross-sectional data are limited in providing changes over time of the same cohorts or at the individual level with socioeconomic backgrounds (Gangl 2002). Longitudinal data, on the other hand, collect data from the same respondents by following them over time. In order to understand the transition pathways to employment, longitudinal data have an advantage in understanding young people's experience and behaviour with life course perspectives (Breen 2005; Blanchflower & Freeman 2000; Becker & Hills 1980).

The Indonesian Family Life Survey (IFLS) has collected longitudinal data since 1993 and the latest, fifth wave, was conducted in 2014. It has rich socio-demographic and economic information (Dong 2018). The IFLS sample is collected from 13³ out of the 26 largest provinces representing roughly 83% of the Indonesian population (Strauss et al. 2016a). The background of IFLS is discussed in the next chapter. In relation to youth employment, some researchers used IFLS on education and/or employment. Their focus was mostly on educational quality by comparing the relationships between school types of junior or senior high school levels and future income (Purnastuti et al. 2013; Newhouse & Suryadarma 2011; Fahmi 2009; Bedi & Garg 2000). Naidoo et al. (2015) claim that there is a lack of research with

³ North Sumatra, West Sumatra, South Sumatra, Lampung, DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java, Bali, West Nusa Tenggara, South Kalimantan and South Sulawesi (Strauss et al., 2016a).

long term perspectives on employment transition pathways in Indonesia. They used the first four waves of IFLS by focusing on self-employed young people who are often trapped in low-quality and low-paid jobs and examined negative effects of unemployment history on their later employment.

Only a limited number of studies focus on the overall transition pathways to employment for young people over time. Two studies use multiple waves of IFLS data on women's labour force participation changes by Cameron and Suarez (2017) and Setyonaluri (2013). Both focus on the effects of marriage and childbearing on women's labour market transitions and found that these events have a significant impact on women's labour force participation. Cameron and Suarez (2017) used female respondents' information between 1988 and 2014 by using all five waves of IFLS and retrospective information while Setyonaluri (2013) covers the transition pathways between 1996 and 2007 using IFLS 2000 and IFLS 2007. Both studies provide valuable information on females' life course transition at the aggregate level. This research extends these studies by providing more detailed transition pathways separately for men and women. Revealing overall but detailed transition pathway movements enables us to understand patterns and differences among smaller groups within a cohort based on their main demographic characteristic and survey years. This research then continues to focus on women's transition pathways by estimating their working life expectancy, the average years of remaining in employment.

2.5 Theories on youth employment and school-to-work transitions

This section reviews theories related to youth employment and transition pathways to employment. Two main approaches of human capital and life course are employed for the theoretical framework in this research. The following sections outline both approaches together with other related theories.

2.5.1 Human capital and education of young people

From an economic development point of view, education is often recognised by human capital theory as the primary means for national economic growth (Côté 1996; Fitzsimons 1990). This is because education and skills help to improve future returns of incomes and the productivity of individuals (Becker 1962). The accumulation of these individuals' skills-oriented knowledge

creates more economic activity and leads to better national economic growth (De Grip 2006; Bynner & Parsons 2002; Dowrick 2002; Krumboltz & Worthington 1999; Rosenbaum et al. 1990; Becker 1962). Investing in human capital of young people is taken as an important element to maximise the demographic dividend too (UNFPA 2014a). The recent trends in transition pathways to employment studies are more focused on jobs or economic aspects including skill attainment and matching among the rapidly changing demands of the labour market. These are regarded as solutions to tackling high youth unemployment (Rogers & Creed 2000).

Indonesia successfully improved school enrolment rates after independence in 1945, and universal primary education was achieved in the mid-1980s (Hull & Jones 1994). However, the human capital outcomes are complex. Aldobrandini (2012) found that wage levels increase by education level, but the amount of the increase falls for those cohorts with greater than senior high school qualifications. Similar findings were reached by Patrinos et al. (2009) and Deolalikar (1993) by using the National Socioeconomic Survey (SUSENAS) in 2003 and 1987 respectively. Deolalikar (1993) explains that the reasons for the decrease in the returns of higher education are the rapid increase in numbers of secondary and tertiary educated youth. Purnastuti et al. (2013) used the longitudinal data of IFLS in 1993, 1997, 2000 and 2007 to examine the correlation between education and wages over time and found that while the returns to schooling grow by educational attainment, the amounts of the growth are lower in Indonesia than other Asian and developing countries. Cuevas et al. (2009) estimated income returns to schooling between 2007 and 2008 and found that the return was much lower than that of the 1998 graduates except for university graduates. These show that the return of investment in education is declining in Indonesia and that also intensifies the attraction of young people to better-paid service jobs despite the time spent in securing them.

While human capital theory is applicable to the relationships between education and employment outcomes such as wages in Indonesia, it does not explain higher youth unemployment rates or long employment transition periods. High school graduates have higher unemployment rates than junior high school graduates, primary school graduates and youth with no schooling. Several studies in Indonesia found that educated youth with high school and above education tend to wait longer to find a better job and tend to stay unemployed in Indonesia (Allen 2016; Naidoo et al. 2015), and this actually pushes youth unemployment rates

higher (Suryadarma et al. 2007; Arndt & Sundrum 1980). In contrast, young people in developed countries with disadvantaged family backgrounds or low human capital are the main predictors of a long school-to-work transition, or of remaining unemployed (Malo & Muñoz-Bullón 2003; McVicar & Anyadike- Danes 2002). They tend to have longer periods of unemployment in the United Kingdom and the United States (Bynner & Parsons 2002). This further indicates that patterns in developed countries do not automatically apply to developing countries.

2.5.2 Life course transitions of young people

Young people's transitions to employment are generally complicated because each young individual experiences different life events at different times and many factors are involved, including socioeconomic differences such as gender, race and family income or social status levels (Eliason et al. 2015; Shanahan 2000). Many different approaches and theories relate to youth employment and transition pathways to employment as presented in Table 2-3. Hansen (1999) argues that it is hard to conceptualise the school-to-work transition because it involves at least three main actors, namely, youth, schools and employers. It is also important to expand youth support to counsellors, teachers, parents and communities. When young people are about to complete education and looking for work, various interactions occur including information sharing on job vacancies, career guidance or required skills. Rosenbaum et al. (1990) argue that both personal and institutional networks are important elements for finding jobs during the school-to-work transition periods by comparing different cases in Japan, the United Kingdom, Germany and the United States, and each country uses these elements differently. They claim that other theories such as segmented labour market theory (Fields 2009; Reich et al. 1973), human capital theory and signalling theory (Arrow 1973; Stigler 1961) are not able to explain complicated school-to-work transition pathways. Segmented labour theory is similar to social reproductive theory (Bourdieu 1977) and social stratification theory (Roksa & Velez 2010; Ainsworth & Roscigno 2005) arguing that the labour market is stratified and employers hire those who have similar backgrounds to them or based on their personal preference. But this does not explain the reasons for employers' choice of selection criteria clearly including that employers are indifference to the skills of the young candidates who apply to them. Moreover, several theories focus on career processes such as career development theory, social cognitive career theory or job searching theory. These theories look

at young people's skill development or decision-making processes during job search periods (Salas-Velasco 2007; Rogers & Creed 2000; Côté 1996; Bandura & McClelland 1977).

Human capital theory focuses on the job seekers' perspective by assuming that young people are lacking skills and need to invest in their education for better employment or future outcomes through their own efforts, but this does not explain job hiring decisions by employers. Signalling theory discusses the importance of information sharing but does not clarify which information employers use and how to collect and manage or deal with it when information is lacking or incomplete. Network and person-environment fit theories describe the importance of a relationship between both young people and employers and information sharing to meet both sides' interests (Rogers & Creed 2000; Swanson & Fouad 1999; Rosenbaum et al. 1990). While different theories and elements explain transition pathways to employment with different perspectives, the life course approach helps best to formulate these into one framework for better understanding of interacting events and changing behaviours of young people.

Table 2-3. Theories of school-to-work transitions

Main actor	Theory	Main factor(s) influence on employment process	Mechanism	Effect of school	Time of effect on employment process	References
Youth	Human capital	Education	Investment in education or training increases productivity and chance of employment	Direct	Before and during	Backer (1962), Rosenbaum et al., (1990)
	Life course	Individual events	Different sets of opportunities, unplanned events and expectations which affect career decision making	None	Before and during	Giele and Elder (2013), Bynner and Parsons (2000)
	Social reproductive Segmented labour market Social stratification Social capital	Socioeconomic background such as social class	Family's socioeconomic backgrounds affect employment by using their networks or learning from social environment	Indirect	Before and during	Bourdieu (2000), Ainsworth and Roscigno (2005), Roksa and Velvez (2010, Silvey and Elmhirst (2003), Reich et al. (1973)
	Career development Social cognitive career Job searching Identity capital Social learning	Comprising educational, social and psychological resources of youth including self-efficacy, choice and personal characters	Developing curiosity and skills, and making decisions for work and to manage planned or unplanned events	Direct/ indirect	Before, during and after	Cote (1996), Bandura (1977), Roger and Creed (2000), Salas-Velasco (2007)
Employers	Screening Signalling	Education	Employers assess workers' human capital	Direct /Indirect	During	Salas-Velasco (2007), Arrow (1973), Stigler (1961), Rosenbaum et al. (1990)
Youth and employers	Network	Networks of personal and institutional relationships	Networks of personal and institutional relationships affect employment by increasing information and trust (School and social class are not involved.)	None	During	Rosenbaum et al. (1990)
	Person-environment fit	Interest and satisfaction	Matching workers' interest and satisfaction with job environment reduce chance of turn-over and waste of investment of employers	Indirect	Before, during and after	Swanson and Fouad (1999), Rogers and Creed (2000)

According to Giele and Elder (1998), four key elements are encompassed in an individual's life course, namely: 1) individual/group goals and decision making as *human agency*, 2) social and cultural expectations or relations as *linked lives*, 3) cultural backgrounds and time as *location in time* and 4) Life events as *timing*. The interactions of these elements are presented in Figure 2-6.

Human agency refers to personal or group goals which motivate individuals or groups to meet their needs by making decisions and organising their lives, such as being economically secure or seeking satisfaction (Elder 1994). This relates to the known preference of young people for jobs in the service sector for better income security, though that preference may actually involve longer transition periods to employment. The pursuit of higher education or human capital can also be seen as a means of meeting personal or family goals for satisfaction or prestige or obtaining better employment as well. Most other theories presented in Table 2-3 have strong linkage with *human agency*, even if the *actors* are not youth, but employers, as identified in screening and signalling theories (Salas-Velasco 2007) because they assess the human capital of potential workers to meet their companies' or organisations' goals.

Linked lives means social, cultural and institutional norms or expectations which affect people's behaviour or values (Elder 1994). Indonesia's rapid socio-demographic and economic transformation has influenced their culture and values including working values. Mangundjaya (2013) and Heuer et al. (1999) tested the cultural changes in Indonesia by using Hofstede's defined cultural dimensions or values. They found that the Indonesian society has moved more to individualist and masculine values (assertive, tough and focused on material success) while the general perception of Hofstede's position of the Indonesian society was collectivist and feminine (modest, tender and concerned with the quality of life) (Hofstede 1997). However, not much change has been observed in gender roles as reflected the large gender differences persisting in labour force participation rates as discussed in Section 2.2.2. Another example is that the mean age of female first marriage is 22 years old which has changed little since the early 1990s (Qibthiyah & Utomo 2016). It is a much younger age than the average of OECD countries at 30.3 years in 2014 (OECD 2016), despite female educational attainment being as high as men's. Nilan (2008) argues that traditional marriage values to be faithful and family-focused still exist even for young urban tertiary-educated middle-class Indonesian people. Some changes are seen including couples' financial relationships through using joint financial resources, but Utomo (2008) found that in Indonesia women's income is considered as

additional to their husbands' income, or as a safety net. This research pays attention to gender differences in transition pathways to employment by conducting separate analyses for men and women.

Another characteristic of Indonesian culture is the existence of strong social networks among family and friends. Sukarno (1999) found that the parents' occupations and educational backgrounds, as well as informal networks affect job searches and decision-making processes in young people's employment in three urban cities in Indonesia. Bourdieu (2000) argues that social origins such as the family's social class determine future employment and the reproduction of cultural capital among a class. Other theories such as social capital theory (Silvey & Elmhirst 2003; Durlauf 2002; Woolcock & Narayan 2000; Portes 1998; Coleman 1988), social stratification theory (Roksa & Velez 2010) and segmented labour market theory also explain that the labour market is often stratified and controlled by those who have power and do not welcome those from different socio-economic backgrounds into their milieux. Parents often assist their children in finding better employment opportunities by contacting their networks. Such strong social network culture is also revealed by an ILO survey on school-to-work processes in Indonesia which showed that the majority of job search was done through informal networks (47%) followed by advertisements (20%) (Sziraczki & Reerink 2004). Likewise, employers also fill vacancies by using private networks (80%), followed by employee recommendations (50%) and advertisements (30%). These personal networks help to improve impressions to potential employers making hiring decisions (signalling theory).

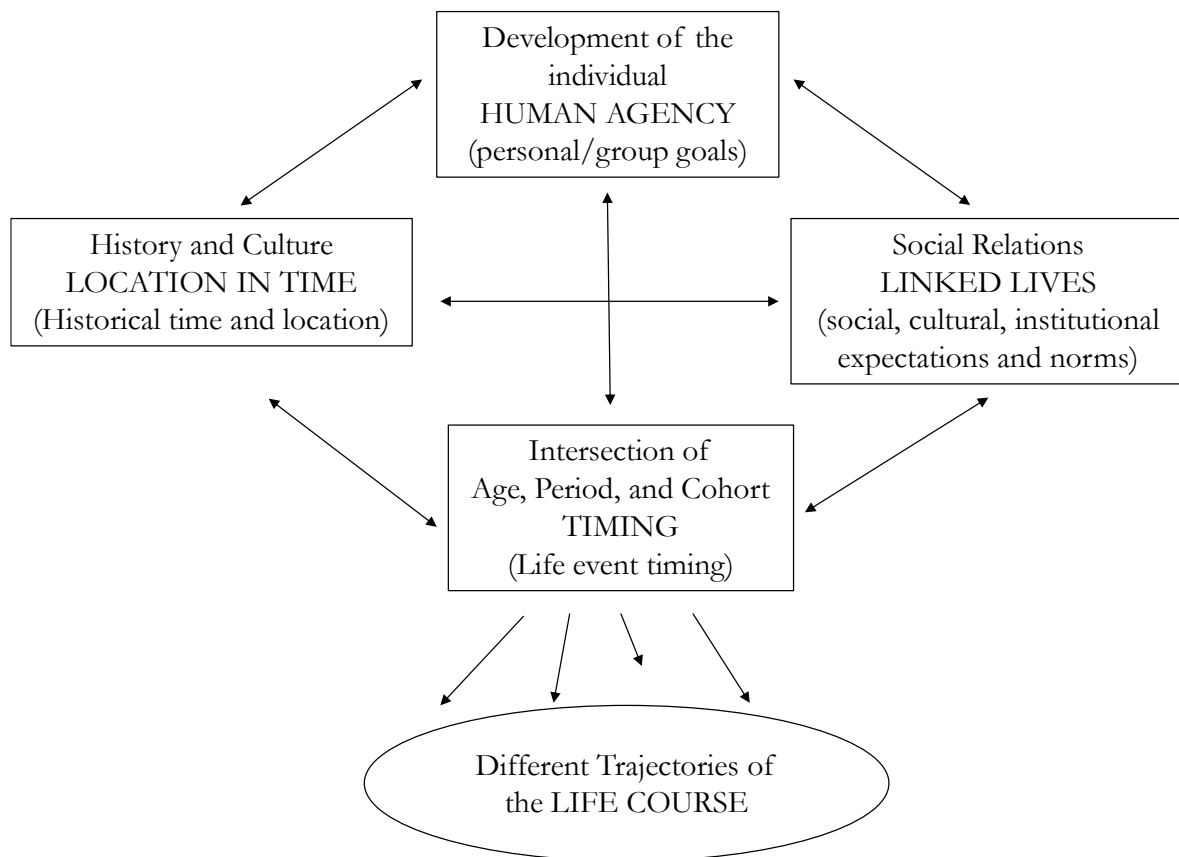
Granovetter (1973), on the other hand, argues that using 'weak' interpersonal networks actually provides more opportunities to find jobs or get more information by connecting members from other groups. This is because strongly connected groups can limit the number of people contacted as a result (Silvey & Elmhirst 2003). Manning and Junankar (1998) find that the recruitment process, especially for public positions, needs to be more transparent for better job access regardless of young people's backgrounds in Indonesia. Educated youth are often looking for work in the government or service sectors which require higher skills than the industry or agriculture sectors (Cuevas et al. 2009). Finding a job in the formal sector in Indonesia requires more than personal networks to collect employment information (Sziraczki & Reerink 2004). Zucker (1987) argues that weak institutional linkages or networks become

important to increase efficiency for job searching by collecting information as well as building trust through exchanging information.

Location in time describes the influence of time and geography on people's lives. This is relevant to Indonesia because the country has experienced rapid socio-demographic and economic transformation. For example, during the Asian Financial Crisis starting from mid-1997, many Indonesian people suffered from income reduction and unemployment (Suryahadi et al. 2012). However, the economy has recovered since then, and the economic environment has improved. The different average duration of job searching found by SAKERNAS, as discussed before, support such an impression. The levels of unemployment rates are affected by the timing of economic crises. In terms of location, Indonesia also has been experiencing rapid urbanisation and internal migration (UNFPA 2015b). Young people and their families usually move from rural to urban areas for better education or employment opportunities (McDonald et al. 2013)

Timing refers to a timing of life events. According to Rindfuss (1991), young people experience critical demographic life events, such as completion of education, starting employment, family formation and residential establishment in a very limited time, or in a "demographically dense period" that he describes as different from older age groups. While men mostly remain in employment after completing their education, women experience more dynamic and various life events than men including, of course, marriage and childbearing (Gaudet et al. 2011). Johnson et al. (2007) identify five important transition roles to adulthood: leaving school, full-time work, independent residence, marriage/cohabitation and parenthood. Shanahan (2000) argues that the transition pathways to adulthood are becoming more prolonged, individualised and uncertain than the previous generations in the United States. In Indonesia, young women often face pressure to make decisions on whether or not to give up their work and to look after their family and children (Naafs 2013). Some decide to stay in employment while others quit or return to employment later. This research examines women's life course pathways in more detail by conducting analysis both on pathway processes and estimating their working life expectancy.

Figure 2-6. Four key elements of the Life Course



Source: Adapted from Giele and Elder (1998)

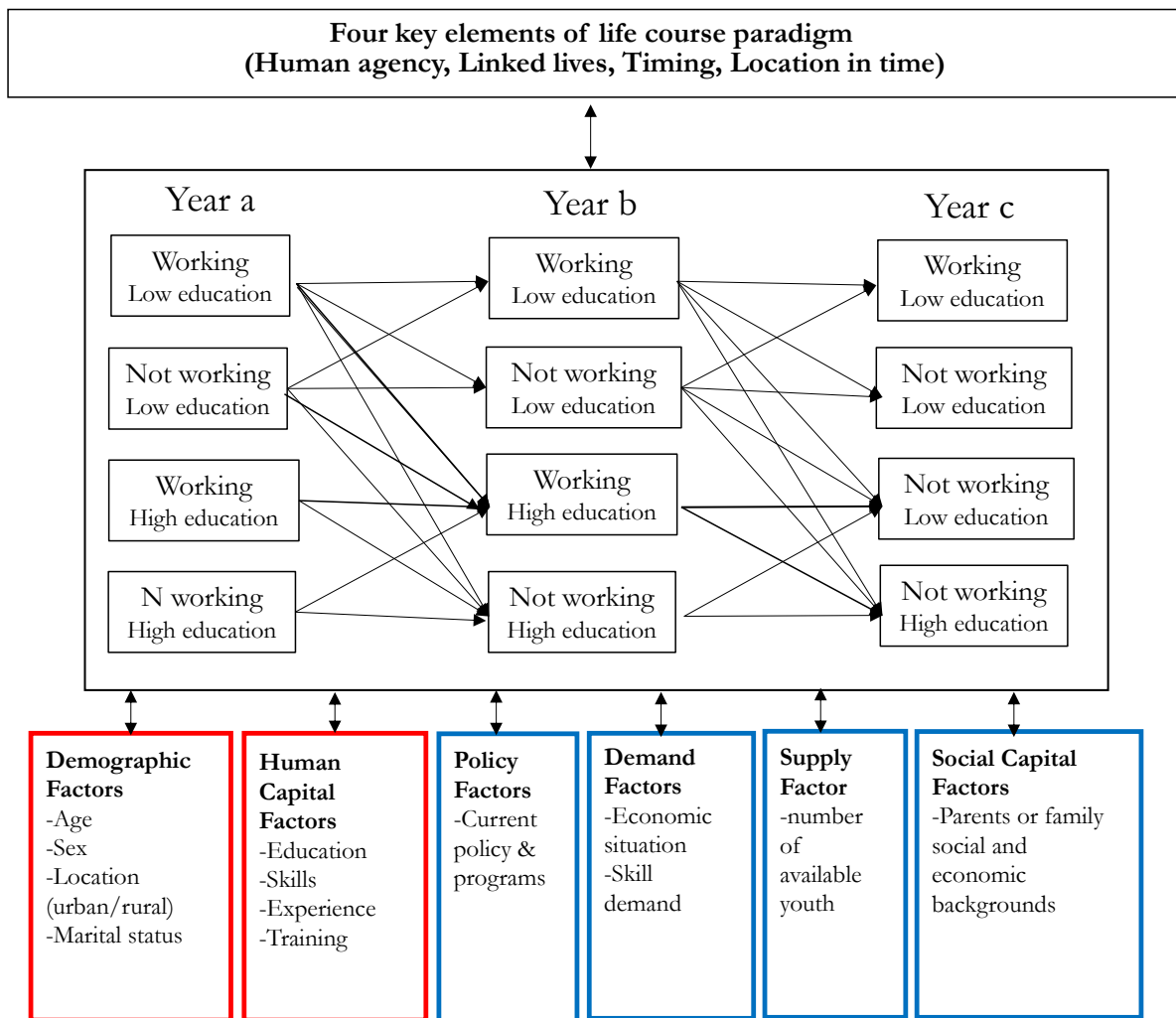
2.6 Analytical framework

In this research, an analytical framework is developed to understand young people's transition pathways to employment with the main variables affected as presented in Figure 2-7. Young people's work status is simplified by using two categories of the two main variables of economic activity (*working/not working*) and educational attainment (*low education/high education*) situated in the middle of the diagram with possible transition movements by year. The overall process is influenced by the four main life course elements at the top, as explained in the previous section. The other variables from different areas are shown at the bottom. The transition pathways are influenced by these different variables interactively. Two main factors of the demographic variables and education as human capital are encircled in red. The

demographic variables are based on the main influential factors explained by Aldobrandini (2012) including age, sex, location as types of residence (urban/rural) for men, and marital status for women. This research uses these variables as the central variables to formulate cohorts and follow young people's economic activity movements over time.

Other factors that include policy, demand, supply and social capital, outlined in blue in Figure 2-7, are presented to represent the backgrounds of the environment encountered by young Indonesians in their transition pathways to employment. Policy and programs are important factors for interventions by the government and other supporting organisations including international organisations, communities and schools to assist disadvantaged young people or to enhance improvement in specific areas. These are mainly discussed in the background and conclusion sections in each chapter. Demand factors including skill demands in the labour market are a concern in Indonesia. This is because the gaps in skill mismatches between young people and the labour market's demand represent one of the reasons for causing long employment transition pathways and high youth unemployment for educated youth (Aldobrandini 2012). There are limited new positions available for young graduates (Allen 2016). Indonesia is facing rapid economic structural changes from the low- to middle-skilled agriculture and industry sector jobs to high skilled service sector jobs, a process developed countries have also experienced. Although the analysis in this research does not include demand side data, the demand side issues are covered in the conclusion sections. Supply factors including a number of available young people are illustrated as part of the growing proportion of youth population. It is a key element of the demographic dividend arising from the emergence of a greater working-age population. The supply side of the labour market is the focus of the analysis in this research. It is important to create an appropriate environment including policy and utilisation of productive workers to maximise opportunities for young people. Social capital factors are important in Indonesia because of the influence of rigid gender roles and of strong social networks between families and their associated social networks. This is mainly covered in the conclusion sections as part of life course theory.

Figure 2-7. Analytical framework of pathways to employment



2.7 Conclusion

This chapter describes the research settings underpinning this thesis, including the trends in demographic changes and youth employment and literature reviews of transition pathways to employment of Indonesian youth. From a demographic point of view, Indonesia has the potential to achieve an economic boost, a so-called demographic dividend contributed to by an increasing number of young people. The improvement of school enrolments in the past few decades is an encouraging factor for the emergence of more productive workers, but the limited expansion of labour markets to absorb educated young workers, as well as high youth unemployment rates, are obstacles for Indonesia, especially in the current crisis. One of the

unique features of Indonesia's youth unemployment is most of the unemployed are educated (Aldobrandini 2012; Suryadarma et al. 2007; Manning & Junankar 1998) which could be a significant loss if productive workers are not utilised for economic growth (Allen 2016). Past research often focuses on youth unemployment rates or job search periods by using cross-sectional data while little is known from a life course perspective, despite the fact that transition pathways to employment have become more complex and can involve long career development processes.

The many theories related to youth employment are inter-related because transitions to employment are complicated by the occurrence of various life events over time for each individual. This research uses two main theories of human capital and life-course approaches. Human capital is an important factor for development and Indonesia has succeeded in improving school enrolment rates, while the quality of education is an issue which forms part of the cause of high youth unemployment rates. Life course theory provides a useful framework for putting different theories together by using the four main elements to understand the complicated life course events young people experience. This research focuses on the dynamic movements in economic activity status by groups within a cohort using the main demographic variables and survey years. The analytical frameworks visualise the interactions of different factors based on these theories, and they help to identify factors to discuss in this research.

The next chapter reviews different data sources with past literature on school-to-work transition research with advantages and limitations by data types. Having such a review helps to identify research gaps from data perspectives and helps to identify suitable methods to be applied in this research.

Chapter 3. Data and methods

3.1 Introduction

This chapter describes the data and methodologies applied in this research. The first section reviews types of data sources used in past research on pathways to employment including the longitudinal Indonesian Family Life Survey (IFLS), which provides the main data used for this research. The second section explains the selection of the IFLS samples followed by variables and a description of thesis limitations. The last section illustrates the cross-tabulation and multistate life table methods applied in this research with some examples.

3.2 Research on transition pathways to employment by types of data sources

Past research on transition pathways to employment, including school-to-work transitions, has used a variety of data sources including cross-sectional data and longitudinal data. It started mostly in the OECD countries, especially in the United States and the United Kingdom, when youth unemployment became a serious issue in the early 1980s, followed by other OECD countries in the mid-1990s including France, Germany and Japan (Centre for Longitudinal Studies 2016; US Bureau of Labor Statistics 2014; Bell & Blanchflower 2010; Blanchflower & Freeman 2000; Becker & Hills 1980). The European Labour Force Survey (ELFS) facilitated the emergence of cross-national comparative studies of school-to-work transitions (Raffe 2008). The ELFS collects large household data, has been conducted quarterly since 1983 and covers 1.5 million individuals in all industries and occupations in 33 European countries (European Commission 2016).

International organisations have paid more attention to the topic of young people's transition pathways to employment as an important process for taking full advantage of the opportunities provided by the demographic dividend. At the same time, they have identified many challenges including unemployment, poverty, gender gaps, early marriage, HIV/AIDS, a vulnerable global economic environment and rapid socio-economic changes (UNFPA 2014a, 2014b). They take it as a way to benefit youth and developing countries with more economic opportunities. For example, the main topic of the UNFPA's State of Population World Report in 2014 was youth,

and it also discussed the potential for the demographic dividend to improve economic development and job-creation (UNFPA 2014a). ILO too has conducted its own school-to-work transition surveys in more than 30 developing countries since 2003 (ILO 2019a). A school-to-work transition summary report found that increases in the numbers of young people result in higher educational attainment at the secondary or higher educational levels, and that gender gaps in educational attainment are narrowing. However, access to stable and regular jobs, especially for young women, is challenging, both in rural and urban areas, despite rapid urbanisation in most surveyed countries (Elder et al. 2015). The 2007 World Bank's annual report focussed on youth and two out of its nine chapters were dedicated to transition pathways to employment (World Bank 2006). These reports mainly used cross-sectional data to examine circumstances in a variety of countries, including national labour surveys, the Demographic and Health Surveys (DHS) or specific surveys including the ILO's school-to-work transition surveys.

3.2.1 Cross-sectional data

Cross-sectional data are the main source for research on youth employment, especially national labour force surveys because these are often conducted on an annual or more frequent basis. In Indonesia, National Labor Surveys (SAKERNAS), National Household Socio-economic surveys (SUSENAS) and Intercensal Population Surveys (SUPAS) are used as the main data to analyse youth employment. Hannan et al. (1996) summarised the past school-to-work transition studies between the late 1980s and the mid-1990s and found a tendency to compare two or three countries among the core five OECD countries, namely the United States, the United Kingdom, France, Germany and Japan. These countries relied on secondary data, either household surveys including labour force surveys or surveys of school leavers. The coverage of countries then expanded. Breen (2005) analysed institutional and economic cross-national differences in youth unemployment rates, skills matching, wages and labour market conditions in 27 OECD countries, using youth unemployment data and other employment-related cross-sectional data from various years between 1995 and 1999, drawn from the OECD Employment Outlook reports. He argues the importance of improving the aggregate economy because of the possibilities of creating more jobs for young people. The focus of past studies was more on the labour market environment including the influences of market regulations on youth unemployment, the correlations between employment outcomes including wages and educational levels, or comparison of the educational attainment differences between those who

obtained jobs and those who were unemployed or otherwise excluded from the labour market (Pastore 2019; Barbieri et al. 2016; Honda 2004; Ryan 2001; Hannan et al. 1996).

These past researches describe youth employment situations at the national level, though Gangl (2002) argues that cross-sectional data take individual demographic and socioeconomic characteristics into account, such as sex, ethnicity or location, but fail at it. The processes of transition pathways to employment of young people are becoming increasingly complex, various and prolonged. This is because young people devote more time to obtaining higher educational levels, they face more and different choices, not only for their education but also for lifestyles, as well as wider individual preference on life decisions after completing education, employment, family formation and an unpredictable labour market (Walther 2006). The sole use of cross-sectional data suffers from limitations in disentangling age and cohort effects in employment outcomes when attempting to understand individuals' life course experiences (Lippmann 2008).

Previous research on transition pathways to employment is often limited to the use of cross-sectional data focusing on school-to-work transition during the time period from school graduation to the first job. Swanson and Fouad (1999) argue that career development processes start before the transition and continue well after first entry to the work force. Quintini et al. (2007) examined changes in the circumstances of youth in the labour market in 30 OECD countries and stress the importance of providing support, such as job-search assistance, counselling for young people not to drop out from school or apprenticeship systems during their job search periods, in order to minimise the possibility that they may become unemployed. Raffe (2008) and Hannan et al. (1996) claim that the past school-to-work transition research lacks inclusion of social background, education levels, skills, previous work history in which longitudinal data have an advantage. Such data help to understand young people's life history better. To understand young people's various and prolonged transition processes, longitudinal data help to provide more insights in specific life course choices (Cuervo & Wyn 2011). Surveys of school leavers or youth cohort surveys have a better potential for school-to-work transitions (Hannan et al. 1996).

Although most past research into transition pathways to employment has been conducted in developed countries, research in developing countries has been often initiated or supported by

international organisations. ILO started funding pilot school-to-work transition surveys in 2002 in three countries – Indonesia, Sri Lanka and Viet Nam – and developed school-to-work transition frameworks in 2004 and updated methodologies in 2009 (ILO 2019b). These frameworks and methodologies assist in conducting and comparing the survey outcomes more systematically. The ILO's school-to-work transition questionnaires are composed of two basic questionnaires for young people aged 15-29 years and their employers. These can be customised slightly to meet each country's context (Matsumoto & Elder 2010). ILO has published a total of 56 national reports by 2019, including follow-up survey reports, on school-to-work transitions by covering more than 30 developing countries and five regions of the world which provide rich information on the situations in developing countries (ILO 2019a). However, these are based on a one-time survey by using retrospective questions to understand respondents' life course history rather than tracking the same respondents over time. A summary report of ILO school-to-work-transition surveys points out that this is a significant limitation of the analysis (Elder et al. 2015).

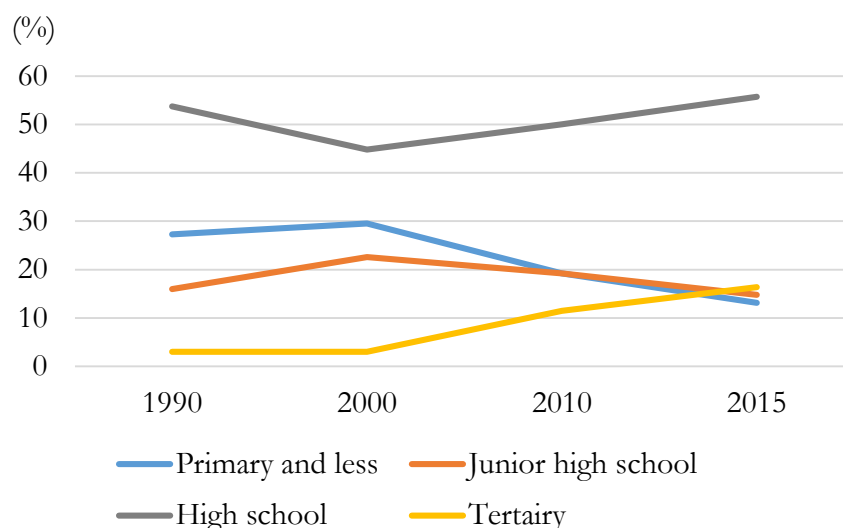
In Indonesia, many youth employment studies have been conducted due to high youth unemployment, especially after the Asian Financial Crisis in 1998. These mainly used labour related cross-sectional data from SAKERNAS or SUSENAS. SAKERNAS has been conducted since 1976, started irregularly, then on an annual basis after 1986. The data provide cross-sectional trends of employment for sampled households, including all members more than ten years old (ILO 2017b). It also provides information about wage changes and trends on a national scale by major sectors in various regions of Indonesia (RAND 2014a; Manning 1996). Another main source is SUSENAS which appeared every one or two years since 1963. It has had nationally representative coverage since 1993 and collects information such as sex, marital status and education attainment of all household members (RAND 2014b).

Past studies often used SAKERNAS on youth employment in Indonesia. Clark (1983), for example, used SAKERNAS to understand high youth unemployment rates and found that high youth unemployment does not necessarily mean an oversupply of young people. He argued that cross-sectional data like SAKERNAS have a deficiency in understanding youth unemployment because it examines a single dimension and tends to label employment as a success and unemployment as a failure. Some young workers have jobs but struggle with low wages, others are interested in continuing school or other activities. He also found that national

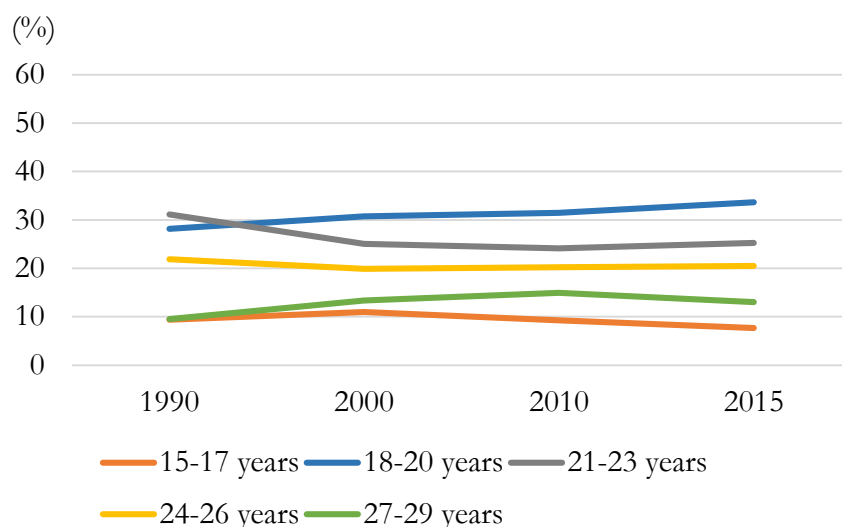
unemployment rates decreased by age in Indonesia but youth unemployment rates remain high for those aged between 15 and 24 years. Manning and Junankar (1998) also analysed SAKERNAS to examine high youth unemployment in urban areas between 1970 and 1996. They concluded that high youth unemployment was involved long search periods for finding satisfactory jobs.

More recent research conducted by Aldobrandini (2012) used SAKERNAS 2010 for job search periods and found that half of unemployed youth spent at least 12 months job searching and two-thirds of them were aged 20–24 years. These researches constantly indicate that Indonesian youth unemployment rates are especially high for high school graduates. The official graduation age of the senior high school in Indonesia is 18 years old (UIS 2019b). The unemployment rates of those whose educational attainment is high school and are between 18 and 20 years have constantly high unemployment rates since 1990 (see Figure 3-1 and Figure 3-2). Aldobrandini (2012) warns about the consequences of remaining unemployed through looking for preferred jobs because jobseekers could lose their employability by having longer unemployment periods.

Figure 3-1. Youth unemployment rates by education level, 1990-2015



Source: SAKERNAS (various years), BPS

Figure 3-2. Youth unemployment rates by age group, 1990-2015

Source: SAKERNAS (various years), BPS

As mentioned, the ILO's school-to-work transition questionnaire has several retrospective questions on activity history. It is an important element to capture young people's employment transition pathways efficiently by using retrospective questions (Elder 2009a). In order to minimise missing information from retrospective questions, the design of the questionnaire asked about the first activity after schooling then moved on to the next activity rather than seeking all the dates of activity history first (Elder 2009b). On the other hand, neither SAKERNAS nor SUSENAS present any specific retrospective questions. SAKERNAS asks some questions on past employment history but these are limited to income one month ago or current work status last year, while SUSENAS seeks data on work status in the last three months. However, these data have a limitation in analysing pathways of work history. While SAKERNAS provides an overall picture of youth employment in the country, it is limited to understanding individual transition pathways to employment because it does not follow the same respondents either forwards or backwards in time. Longitudinal data, on the other hand, collects information from the same respondents and provides their status or behavioural changes over time (Breen 2005; Blanchflower & Freeman 2000; Becker & Hills 1980). They enable us to compare the differences and similarities by cohort according to their socio-demographic and economic backgrounds.

3.2.2 Censuses

Censuses are a different type of cross-sectional data and most countries undertake them. The main differences between censuses and surveys are sample sizes and timings. Censuses cover the entire or a large proportion of the population of a country by asking questions to the heads of households about family members. Past studies used censuses to analyse young people's transition pathways to employment and used other surveys to overcome ten-year survey gaps. Jekielek et al. (2005) used the 2000 Census of the United States on the transitions to adulthood and found variations among states. However, they recognised that the census was a weak monitoring tool because of the ten-year survey gaps. In order to overcome such a limitation, they used other cross-sectional survey information to update and compare the information. Warren and Lee (2003) used both the 1990 Census of the United States and the four waves of the Educational Longitudinal Survey which was conducted every two years since 1988. They used the Census to understand the overall labour market, especially job availabilities at the respondents' residential areas and compared it with individuals' employment behaviours from the longitudinal data. They found a high association between youth employment in school time and drop outs (Warren & Lee 2003).

The Indonesian census was conducted initially in 1920 and 1930 during the Dutch colonial era and then stopped due to the Second World War. It was resumed in 1961 after independence, followed by censuses in 1971, 1980, 1990, 2000 and 2010. Indonesian law requires censuses to be conducted every ten years (Muhidin 2002). A complete count census was started in 2000. Before 2000, sample censuses were conducted. The 1990 Census, for example, was a sample census covering about 5.8% of the entire population including all provinces (Muhidin 2002). The published 1990 Census dataset contains a total of 11.5 million individuals. Census data, whether by complete or sample enumeration, still have the largest coverage of respondents compared with other surveys.

The Indonesian 2000 Census recorded both provincial and district information whereas the previous censuses before 1990 collected only provincial information (Muhidin 2002). At the time of conducting the 2000 Census, however, the country was still economically and politically unstable due to the Asian Financial Crisis that started in mid-1997 and the collapse of the 32 year Soeharto regime in 1998 (Hull 2010; Brodjonegoro & Asanuma 2000). This created a challenge for security, especially for the field operations in accessing houses in some districts

and caused delays in collecting information. There was an increased number of people who refused to be interviewed for the 2000 Census, partially because of the increasingly negative public attitude towards the government under the post-Soeharto democracy and reform movements (Hull 2001). As a result, Firman (2004) found that the 2000 Census was under-enumerated by approximately 4.5 million persons or 2.2% of the total population.

Jones et al. (2016) also concluded that the quality of the 2000 Census was generally unsatisfactory. One of the main reasons for the negative evaluation was the undercounting of increasingly mobile young people who go to the city during daytime for employment. They were missed from the census count because they stayed in temporary accommodation not visited by census interviewers.

By learning from the experience of the 2000 Census, one of the main objectives of the Census 2010 was to improve the quality of data. The 2010 Census was a complete census, carried out within the time period 1 to 30 May 2010 by covering 88,361 villages, 6,579 subdistricts, 497 districts and cities in 33 provinces throughout Indonesia. The main objective of the 2010 Census was to calculate the total population and to collect basic demographic and housing information. The questionnaire in the latest Indonesian 2010 Census contains three pages comprising four sections of identification, personal characteristics, mortality and housing characteristics. The data and information were collected through face-to-face interviews on housing, household demographics, employment, education, fertility and household deaths. The employment-related questions are under the personal characteristics with three questions on activity status, industry and employment status of the previous week (Hull 2012). Hull (2012) assessed the past three censuses conducted in 1990, 2000 and 2010 and described that the quality of the 2010 Census has improved since 1990. It achieved a good quality rating *inter alia* by its appropriate use of two indices contained in the UN data quality scales. In addition to using IFLS as the main data of this research, the 2010 Census is also used in this research as snapshots so as to provide the latest complete pictures of youth profiles in Indonesia.

3.2.3 Longitudinal data

Longitudinal surveys collect information by tracking the same individual or household respondents continuously on an annual or specific year base. One of the strengths of the longitudinal data is continuously collecting information on individuals, which is critical to tracking their behavioural changes or pathways over time. The data can provide life course

experiences and choices with age-specific and year disaggregated information, which cross-sectional data have limited ability to reveal (Breen 2005; Blanchflower & Freeman 2000; Becker & Hills 1980). The data are also useful to understand young people's life course pathways or behavioural changes. Heckhausen (2002) states that longitudinal data help to find out institutional effects, such as labour force market and education structures or policy on young people's lives during their sensitive transitional periods of life.

Until recently, most transition pathways to employment research with a life course approach have been conducted in the United States or the United Kingdom because other countries have lacked longitudinal data (Salas-Velasco 2007; Wolbers 2007). In the United Kingdom, the Centre for Longitudinal Studies was initiated in 1958 and now has four types of longitudinal surveys including a youth-related survey. They contain information on socio-economic factors, including education, employment and well-being (Centre for Longitudinal Studies 2016). In the United States, the National Longitudinal Survey of Youth, which commenced in 1979, allows intensive research on young people's transition pathways to employment (Klerman & Karoly 1994). Since early 2000, more longitudinal research has been conducted in other countries, however, longitudinal cross-country analyses are still limited due to data deficiencies, coverage and comparability problems (Bell & Blanchflower 2010; Raffe 2008; Scherer 2005; Bernardi et al. 2004).

Empirical research on transition pathways to employment with a life course approach mainly concentrates on examining the time taken in securing the first job after graduation. This is because it is the first and critical entry point to the labour market for young people, and it often influences future employment life (Bradley & Nguyen 2004). However, Bernardi et al. (2004) and Scherer (2005) found from cross-national studies that the duration of the first job does not have consistent correlations with stable employment according to longitudinal data. For example, young people in the United States found jobs relatively quickly but their employment was not very stable, whereas Italian youth spent a longer time to find their first jobs but those positions were more stable. Bernardi et al. (2004) suggest that it is important to identify the transition patterns that best apply to each country in order to improve policy to meet different employment environments experienced by young people. In Indonesia, many young people seek work in their early 20s but then find jobs and stay employed in their late 20s. However, job turnovers are quite frequent during their 20s as they seek better remuneration (Rokhman &

Omar 2008), indicating dynamic transition pathways to employment. However, little attention has been paid to longer career trajectories in Indonesia (Naidoo et al. 2015; Manning & Junankar 1998). Longitudinal data are able to indicate transitional pathways with employment status changes by following the same respondents.

Cuervo and Wyn (2011) argue that the transition pathways to employment are becoming more competitive and complex in the labour force market. Young people exhibit varied behaviours including leaving school early, completing school, or taking some days or even years off for travelling and volunteer work. However, the availability of wider choices also can involve more risk-taking in losing or finding jobs (Kovacheva & Pohl 2007; Margolis et al. 1999; Klerman & Karoly 1994). In addition, the labour market is increasingly unpredictable in modern times, as demonstrated by the Asian Financial Crisis in the late 1990s and the Global Financial Crisis in 2007. Globally, labour force markets also shifted from the manufacturing to the service sector, as well as from full-time to part-time or contract-based work in many middle- to high-income countries. Such changes, accompanied as they are by high youth unemployment, require new insights and defter policy interventions aimed at meeting new and different needs, and Indonesia is not immune to these trends (Cuervo & Wyn 2011).

In Indonesia, the Indonesian Family Life Survey (IFLS) started in 1993 (IFLS 1993). The full follow-up waves were conducted in 1997 (IFLS 1997), 2000 (IFLS 2000), 2007 (IFLS 2007) and 2014 (IFLS 2014), and a special follow up of IFLS 1998 was conducted in 1998 to understand the impact of the Asian financial crisis (RAND 2014c). Several studies have used the IFLS on youth employment and/or education as discussed in Chapter 2. The IFLS provides rich information on the socio-demographic and economic arena (Dong 2018). Most past research on youth employment analysed the relationship between school types and wages (Purnastuti et al. 2013; Newhouse & Suryadarma 2011; Chen 2009; Fahmi 2009; Bedi & Garg 2000).

Cameron & Suarez (2017) and Setyonaluri (2013) investigated women's labour force participation and found that marriage and childbearing had a significant impact on women's decisions to participate or not in the labour force. Naidoo et al. (2015) argue that long-term perspectives on young people's employment processes are still imperfectly known in Indonesia and moreover little is known about employment transition pathways for young Indonesian people. This research uses longitudinal IFLS data and first follows a cohort from 1997 to 2014 of young men and women separately. It then estimates women's working life expectancy. It

helps to understand their different activity patterns and movements, which enables us to capture their detailed employment transition pathways according to their economic activities and helps us to understand the main socio-demographic variables affecting them, such as age, sex, educational attainment, marital status and types of residence. Dong (2016) argues that IFLS provides rich information but SAKERNAS can be used for in-depth analysis with larger samples and more frequent surveys.

3.2.4 Registration-based data

Another potential longitudinal data source for employment transition pathway studies is certain administrative records such as civil registration and the vital statistics (CRVS) system which keeps information on population, education, employment, family or households. High quality CRVS data and well-functioning CRVS systems have direct benefits for individuals and for policymaking. This arises because these systems enhance monitoring and assessment of policy and service improvement which can lead to better health outcomes for the population (Mikkelsen et al. 2015; Phillips et al. 2015).

Data quality of such registration systems varies from country to country (Mathers et al. 2005). According to Mikkelsen et al. (2015), the countries keeping the highest quality data between 2005 and 2012 are mostly in Europe, North America, Australia, New Zealand, Japan and South Korea. Some low- and middle-income countries also maintain high quality civil registration data including Mexico, Chile, Venezuela, Kuwait, Mauritius, Kyrgyzstan and some Latin American countries. North European countries such as Denmark, Finland, Iceland, Norway and Sweden are often known for their high-quality registration data and systems. Their systems were established in the 1960s (UNECE 2007). Many studies have been conducted using registration-based data and information, including cohort studies for health or epidemiological research. Some of the advantages of using these data are cost and time efficiencies, because the information is already held in computerised systems with accurate information and can encompass the whole population as a cohort (Schmidt et al. 2014). However, some concerns involve data and security management, where access to data is restricted even for research purposes.

Despite the importance of these data, it is not always easy to collect and manage CRVS properly in developing countries. Limited investment has been devoted to CRVS compared to household surveys and facility-based information systems (Phillips et al. 2015). Many low- and middle-income countries only partially cover information on births and deaths (Mikkelsen et al. 2015) because it requires effort to handle the data properly with strict registration and data management systems to protect identities as well as to follow subjects' movements precisely. Such a challenging situation discussed by international experts in 2011. These discussions produced a report to the UN Secretary-General which inter alia suggested investment in civil registration and vital statistics systems (AbouZahr et al. 2015; WHO 2013). Then the first global summit on CRVS was held in Bangkok, Thailand in 2013 (Lopez & Thomason 2013). Mikkelsen et al. (2015) conducted global assessments of CRVS systems in 148 countries with the vital statistics performance index by using mortality data as a proxy for the quality and utility of CRVS.

Indonesia has no effective CRVS system in place as yet (Qibthiyah & Utomo 2016), and there was no score provided for Indonesia in the global assessment report by Mikkelsen et al. (2015). Duff et al. (2016) conducted surveys on birth registration in three areas in Indonesia in East Nusa Tenggara, West Nusa Tenggara and West Java. He found that distance to registration offices is an issue for birth registration especially for rural residents, due to the financial and opportunity costs for long and difficult travel. As for mortality statistics, the government introduced a mortality registration system under the Population Administration Law in 2006, and 128 randomly selected subdistricts were implementing the system by 2012. There were many improvements observed not only in better understanding causes of death, but also in collecting other relevant data including birth registration and child and maternal health information. There was enhanced coordination between the administration and health personnel at village and subdistrict levels too. Rao et al. (2010) also argue that collecting cause of death reporting together with mortality registration is feasible in Indonesia. Duff et al. (2016) argue for the enhanced potential benefits of greater use of information and communication technology, using mobile phones to overcome distance issues in Indonesia.

In sum, research on past transition pathways to employment mainly used cross-sectional data which provide information about long-duration and high youth unemployment rates in Indonesia, but this research yields limited understanding of individuals' transition pathways.

Longitudinal data, on the other hand, are able to analyse young people's transition pathways to employment better by following and collecting information on the same respondents continuously. Although past studies using longitudinal data are limited even in developed countries, Indonesia has nationally represented longitudinal IFLS data since 1993 which are available in a total of the five waves until 2014.

3.3 Data used in this research

This research uses the Indonesian Family Life Survey (IFLS) for all three analytical chapters of Chapters 4,5 and 6. Each chapter has different sample sizes with different cohorts, respondents' ages, age groups, variables and recoded variable categories. The next three sections describe each sample and variables in this research.

3.3.1 Indonesian Life Family Survey (IFLS)

IFLS has rich data on socioeconomic information with the four broad areas of: 1) fertility, family planning and contraception, 2) infant and child health and survival, 3) migration and employment and 4) health, economic and social functioning of the older population (Frankenberg & Karoly 1995). It represents approximately 83% of the Indonesian population with a stratified sampling scheme on provinces by selecting 13 out of the nation's 26 provinces. These selected provinces represent the major populated regions in Indonesia. The sample was selected randomly from 321 enumeration areas in the 13 provinces from the 1993 national Socioeconomic Survey (SUSENAS) which covers 60,000 households. SUSENAS is designed and conducted by BPS and is based on the Indonesian 1990 Census (Frankenberg & Karoly 1995).

IFLS has complex sampling and recontact rules which are often necessary for longitudinal surveys to manage and track changes of households' and respondents' living environment over time. The first wave of IFLS 1993 covered a sample of 7,224 households with individual information, but only selected respondents were interviewed (i.e. the designated 'main' respondents) in detail by the survey sampling rules for subsequent follow-up, in order to reduce its cost and time. The sampling rules have the four selection criteria of the main respondents: 1) the household head and their spouse, 2) two randomly selected children of the head and spouse aged 0–14 years (interviewed by proxy), 3) an individual aged 50 and above and their

spouse, randomly selected from remaining members and 4) for a randomly selected 25% of the households, an individual age 15 to 49 years and their spouse, were randomly selected from remaining members. These rules thus permit the theoretical possibility of selecting a maximum of six adults per household, however, IFLS 1993 restricted itself to a maximum of four adults. The rules on how to replace the two selected adults are explained in the IFLS 1993 Overview and Field Report (Frankenberg & Karoly 1995). The rules specify that the household head and spouse would always be interviewed for detailed individual information. These rules cause some bias of the demographic distributions of the main respondents. There are tendencies of larger sample selection rates for those who are ever married and those who are over 30 years old can be overrepresented in the sample because they are more likely to be the household head or spouse. However, these sampling rules still help to cover wider demographic groups by allowing the inclusion of never-married and married men and women, as well as an older population to enhance the research potential of the data (Frankenberg & Karoly 1995).

From the second wave of IFLS 1997, the sampling rules were changed by attempting to interview all the household members whose household heads and spouses were interviewed in 1993. There are target households/respondents, and non-target households/respondents in the IFLS. The target households/respondents are those who were originally interviewed in detail in 1993 as well as their household members including split-off families. Non-target households/respondents in 1993 who are part of new split-off families in 1997 were not part of the 1993 detailed interviewed respondents, but are participants in 1997. As a result, the number of households/respondents were increased by including both target and non-target households/respondents as well as split-off families or newly joined family members. From the second wave, the IFLS 1997 interviewed 7,698 households, then the number of households was increased to 10,574 households in IFLS 2000, 13,995 households in IFLS 2007 and 16,932 households in IFLS 2014 (Strauss et al. 2016b). The benefit of this change in sampling rules in 1997 was to increase the number of young people in the sample, since they are less likely to be heads of households selected as the main respondents in the original 1993 sample.

3.3.2 Analytic samples

Three analytic samples are used to answer the specific questions and aims of this research: one each in Chapters 4, 5 and 6. As presented in Table 3-1, the samples of Chapter 4 and 5 represent men and women respectively as of 1997, and they were tracked until 2014. The main

purpose of these two chapters is to understand the patterns of transition pathways to employment for individuals over time according to their age group and socio-demographic backgrounds. Chapter 6 focuses on women and estimates lifetime employment durations based on the 2007 and 2014 waves. This research uses complete case analysis for all three samples. The reasons for focusing on different ages of the samples are explained in Section 3.4.3 and the Variable Sections in each chapter.

Table 3-1. Overview of the three analytical samples used in this research

	Chapter		
	4	5	6
Sex	Male	Female	Female
Age	15-29	15-20	20-24
Base year	1997	1997	2007
Wave	1997, 2000, 2007, 2014	1997, 2000, 2007, 2014	2007, 2014

Chapters 4 and 5 focus on groups of young men and women, respectively, in 1997 and follow their life transition pathways to 2014. Our rationale for selecting those in IFLS 1997 rather than the first wave of IFLS 1993 is as follows. Firstly, the number of respondents who were interviewed in IFLS 1993 was limited, as explained in the previous section, due to the sampling rules. The respondents who were interviewed in IFLS 1993 were limited to four adults in each household with household heads and spouses, then two additional adults per household who were randomly selected for 15-49 years, and 50 and over from the rest of the household members for cost efficiency (Frankenberg & Karoly 1995). Thus, not all the young people aged 15-29 years were interviewed. For example, there were 4,319 men aged 15-29 years in 1993 recorded in IFLS 1993, however, only 1,104 of them provided primary activity information. Similar to men, 2,206 women aged 15-20 years were recorded in IFLS 1993 but only 384 of them provided primary activity information. By applying the same sampling processes applied in this research for those who answered all selected variables for IFLS 1993 respondents aged 15-29 years, the samples are only 388 men and 178 women. From IFLS 1997, the methods of

respondents' data collection were changed and all the household members whose household heads and spouses were interviewed in IFLS 1993 were interviewed again. As a result, the sample size of the respondents became much larger for IFLS 1997. The sample size in this research by using IFLS 1997 as the base year is 1,257 men and 1,066 women, which is much larger than those of the IFLS 1993.

Another reason for selecting respondents in 1997 for Chapter 4 and 5 is the timing of certain socio-economic impacts on Indonesia. The country experienced rapid economic growth after its independence in 1945 and had had the largest GDP in the region since 1970 (except the crisis year of 1998) by overtaking the Philippines and Thailand (World Bank 2019b). One of the critical challenging moments for Indonesia's economy was the Asian Financial Crisis which started in mid-1997. The negative impact of the Asian Financial Crisis was immense and the Indonesia's economy was near collapse. Unemployment and inflation, especially of basic commodities, rose sharply while the Indonesian rupiah experienced a savage depreciation (Sharma 2018; Suryahadi et al. 2012).

The Crisis also impacted the life of young people especially their employment opportunities, and their own and family incomes. Dong (2018) analysed the impact of the Crisis on employment status and assets within households using the IFLS 1997 and IFLS 2000. She found that it affected married men and women differently. The different impact was associated with an increase in wives' employment but a decrease in wives' business assets such as work-related land, offices, vehicles or equipment, rather than changes in their employment status or husband's income. Despite the hardships, Indonesia successfully overcame the crisis and has managed to increase its GDP. It has been more than double that of Thailand, the second biggest economy in the region since 2010. Following Indonesian young people from 1997 enables us to understand how their transition pathways to employment are dynamic, not only by the nature of the current "demographically dense period" for them, but also through their experience of the Crisis which was an economically challenging moment for the country. Focusing on young people in 1997 is also appropriate for the age coverage. Those who were 15 years old in 1997 became 32 years old at the last wave of IFLS 2014. Examining young people in 1997 means concentrating on the age range of 15-29 years which is the focus of this research.

Chapter 6 attempts to estimate women's lifetime employment duration by using the latest two waves of IFLS 2007 and IFLS 2014 through employing a multistate life table technique. The focus of this chapter is different from the two other analytical chapters. While those two chapters examine young Indonesian men's and women's transition pathways to employment by tracking them based on their past experience, Chapter 6 focuses on estimating women's lifetime employment duration based on the latest available information. The multistate life table analysis is based on the idea of a stationary population where both size and age composition do not change (Schoen 1988). It means that this chapter's examination is based on the data in 2007 and 2014 and does not account for changes in other factors including the situation of labour force market. However, the previous Chapter 5 on women's pathways describes the trends and changes of the socio-demographic and economic environment where young women live.

This research uses complete case analysis. The initial number of the respondents for each variable in each wave, and the sample size for each chapter are presented in Table 3-2, 3-3 and 3-4. They show that there are missing data in the respondent profiles of the samples over time, which always happens to longitudinal surveys (Nakai & Ke 2011). There are two types of missing data: unit nonresponses and item nonresponses. The former is when entire information is not available due to the absence of respondents at home or lack of participation in a survey including follow-up waves for longitudinal surveys. Attrition is similar to the unit nonresponses but applicable for longitudinal data. That occurs when respondents' information lapses over time due to dropping out, but it also includes those who return to longitudinal surveys after not participating in previous waves (Goldstein 2009). The latter involves the respondents who fail to give information on specific questions, refuse to participate, misunderstand a question or feel uncomfortable in answering sensitive questions (Pampaka et al. 2016; Schafer & Graham 2002).

Examination of the three tables of Table 3-2, 3-3 and 3-4 reveals that the main cause of attrition is the absent of information on some participants in the survey. According to the IFLS 2014 user guide report, the response rates were high and the attrition rates were low in IFLS (Dong 2018; Strauss et al. 2016c; Thomas et al. 2001). The average recontact rate of IFLS households between 1993 and 2014 was 90.5%. However, the percentage of the 1993 IFLS household members by age group found in IFLS 2014 becomes lower at younger ages. For example, those aged 10–14 years and 15–19 years in 1993 (who became 14–18 years and 19–23

years in 1997 meaning they are mostly part of the target age group of this research) were found at 71% and 59% respectively in 1997. The three tables show that between 80.0 and 87.3% of the respondents were interviewed for the following waves.

Table 3-2. Number and percentage of men aged 15-29 years in 1997 by IFLS wave for Chapter 4

Variables	Male cohort aged 15-29 years in 1997				All answered
	IFLS 1997	IFLS 2000	IFLS 2007	IFLS 2014	
Number of cohort recorded in surveys	3,657	2,918	2,546	2,390	1,962
Types of residence (urban/rural)	3,657	2,918	2,546	2,390	1,962
Same types of residence (urban/rural)	..	1,825	1,626	1,447	1,257
Economic activity	3,461	2,879	2,462	2,276	1,786
Industry information (for working people)	1,952	2,262	2,458	2,072	1,735
Education attainment in 2014	2,257	2,024	2,024	2,255	1,716
Answered all questions with valid information	2,183	1,685	1,497	1,331	1,257 (sample)

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

Table 3-3. Number and percentage of women aged 15-20 years in 1997 by IFLS wave for Chapter 5

Variables	Female cohort age 15-20 years in 1997				All answered
	IFLS 1997	IFLS 2000	IFLS 2007	IFLS 2014	
Number of cohort recorded in surveys	2,050	1,639	1,449	1,377	1,153
Economic activity	1,977	1,626	1,407	1,323	1,084
Marital status	2,050	1,639	1,449	1,377	1,153
Education attainment in 2014	1,301	1,187	1,178	1,301	1,096
Answered all questions with valid information	1,278	1,183	1,166	1,300	1,066 (sample)

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

Table 3-4. Number and percentage of women aged 20-24 years in 2007 by IFLS wave for Chapter 6

Variables	Female cohort aged 20-24 in 2007		All answered
	IFLS 2007	IFLS 2014	
Number of cohort recorded in surveys	2,090	1,663	1,655
Economic activity	2,090	1,663	1,655
Education attainment	2,058	1,655	1,649
Answered all questions with valid information	2,058	1,655	1,602 (sample)

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND

3.3.3 Coping with missingness in analytic samples

Weights are important for providing unbiased inferences about the population from the sample. Like most surveys, there are two weights provided in the IFLS: cross-sectional weights and longitudinal weights (Strauss et al. 2016b). The cross-sectional weights are calculated based on the information from the latest SUSENAS survey conducted at the time of the IFLS surveys. The longitudinal weights, on the other hand, are in reference to the population profile from SUSENAS in 1993 which is designed based on the Indonesian 1990 Census (Strauss et al. 2016b). As mentioned, the research focuses on those individuals who were in the 1997 sample and follows them to subsequent samples in 2000, 2007 and 2014. Ideally for the purposes of the thesis research, the 1997 longitudinal weights are required to account for the unequal selection probabilities of individuals and households, and more importantly to cope with non-response and attrition. But there are no longitudinal weights provided for the 1997 sample (Frankenberg et al. 2000).

A large amount of time was spent investigating how to construct weights for the analysis in this research. However, it was deemed too complicated. To accurately construct longitudinal weights, detailed information on the study design, sample selection, recruitment protocols and operational information (such as the number of times individuals were contacted before responding to the survey, population benchmarks and statistical models of response propensities) are required. These information were not provided as part of the analytic dataset for secondary analysis for the IFLS. While the results of this research have highlighted the benefits of properly accounting for the missing data due to attrition, the focus of the research has been primarily descriptive in nature while aiming to identify future areas for in-depth analysis. Also, Dong (2016) analysed the IFLS and SAKERNAS surveys on labour force-related variables and concluded that it is unnecessary to use sampling weights to compare variables of the two surveys because of similar estimates, despite SAKERNAS having larger sample sizes and annual survey frequencies. For these reasons, it was decided to choose a complete case analysis, which enables us to select respondents who answered all the questions.

Using complete cases has the advantage of not requiring complicated weighting or data imputation. However, it has the disadvantage that it reduces the number of observations and information could be biased as a result (Nakai & Ke 2011). As a demonstration, this research applied longitudinal weights to deal with attritions of IFLS, however, it was unfeasible to use.

Not all the 1997 sample had longitudinal weights. This is because the respondents of IFLS 1993 were limited by following the sampling rules as explained. As Table 3-5 indicates, less than half of the initial respondents have the latest IFLS 2014 longitudinal weights. This verifies the difficulty in applying longitudinal weights to deal with attritions for this research. Features of the youth population in Indonesia include a rapid increase in numbers and changes in socio-demographic and economic profiles. The longitudinal weights are based on SUSENAS 1993 which is designed based on the Indonesian 1990 Census. That was a sampled census and large time differences apply to this research's target age group, as we examine them in 1997 and follow them until 2014. Based on the points raised and discussed above, it was decided to apply the complete case analysis in this research.

Table 3-5. Number of respondents with IFLS longitudinal weights in 2014

	Chapter		
	4	5	6
Sex	Men	Women	Women
Cohort age	15-29	15-20	20-24
Base year	1997	1997	2007
Initial number of respondents	3,657	2,050	2,090
Number of respondents with IFLS longitudinal weight in 2014	516	737	844

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

Although available IFLS data of two or four waves provide crucial information on young peoples' employment transition pathways, this research also uses the latest Indonesian 2010 Census and SAKERNAS to fill the survey year and data gaps of IFLS. As discussed in Section 3.2.2, the 2010 Census was a complete census and was able to provide snapshots of the young people in Indonesia. SAKERNAS is conducted quarterly. Dong (2016) compared labour market-related data of both IFLS and SAKERNAS including missing data in IFLS and found that adjusting IFLS attrition does not make IFLS and SAKERNAS estimates closer. She

stresses the advantage of using IFLS because of its rich sociodemographic and economic information, but also suggests using complementary data from SAKERNAS in conducting in-depth analysis because of the more frequent observations and larger sample size of SAKERNAS.

3.4 Variables

This section explains the six variables used in this research. Variables categories used for analysis are shown in *italics* for easy reading in Chapters 4, 5 and 6. This research uses an economic activity variable as the main variable in seeking to understand young people's transition pathways to employment. It also follows the changes in the economic activity categories' percentage levels according to their main demographic variables, educational attainment and survey years. The socio-demographic variables are: age, sex, educational attainment, types of residence (urban/rural), industry sectors and marital status. These are based on the main critical variables of young people's employment as argued by Aldobrandini (2012). This research uses types of residence (urban/rural) instead of the region, which she uses, because IFLS does not cover all the regions. Also, this research adds marital status for women's transition analysis because that factor has a significant influence on women's employment (Cameron & Suarez 2017; Setyonaluri 2013). Following these studies, this research undertakes a similar approach but analyses men and women separately because they have different life courses in Indonesia where a strong gender role culture exists (UNFPA 2015a).

Table 3-6 shows the variables and number of categories used in each three chapters. The number of variables, categories and survey years is different in each chapter. This research uses three-year age groups for Chapter 4 and 5 on men and women's pathways. The target age coverage of the cohorts is longer for men aged 15–29 years in 1997 due to their longer career development process whereas for women, it is 15–20 years in 1997 by focusing on 22 years, the mean age at first marriage in Indonesia (United Nations 2017a). It is a critical life event for Indonesian women as it strongly affects their employment possibilities (Cameron & Suarez 2017; Setyonaluri 2013).

Table 3-6. Description of samples, variables, variable categories and IFLS waves used in this research

Chapter	Sex	Variable	Categories				Wave
		Age group (years)	18-20, 21-23, 24-26, 27-29				1997
4	Male	Economic activity/Industry	Working in service	Working in non-service	Not working	Schooling	1997-2014
		Educational attainment	Junor high and less	High school and above	..	..	2014
		Type of residence	Urban	Rural	..	..	1997-2014
		Age group (years)	15-17, 18-20				1997
5	Female	Economic activity	Working	Not working	Schooling		1997-2014
		Educational attainment	Junor high and less	High school	Tertiary		2014
		Marial status	Never married	Married			1997-2014
		Age group (years)	20-24 (five-age group of 15+ is used to construct multistate demography life table)				2007
6	Female	Economic activity	Working	Not working			2007, 2014
		Euducational attainment	Junor high and less	High school	Tertiary		2007, 2014

3.4.1 Economic activity

All three analytical chapters use the information from the economic activity variable recoded from the original variable on the primary activity whose question is, “What was your primary activity during the past week?” The original number of categories was slightly different in each wave. The common categories across the four waves were: *Work*, *School*, *Job-search*, *Housekeeping*, *Sick/disabled*, *Retired*: and *Other*. IFLS 1997 has *Stay at home*, and IFLS 2000 has additional categories of *Volunteer work*, *Religious work*, *On vacation*, *Travel*, *Just graduated*.

There is no unique definition of employment but it differs by country, although many national definitions of employment are in line with an international definition of employment agreed at the 13th International Conference of Labour Statisticians in 1982 (ILO 2003). The definition of work by BPS (Statistics Indonesia) is for those who work at least one hour continuously during the reference week (including unpaid family worker(s) for any economic activity) (BPS 2018). The above conference report by ILO defines employment as all persons engaged in productive activities in an economy including those who are in paid employment or self-employment. This definition specifies some work of at least “one hour” during the reference period without mentioning a clear period (e.g., one hour per week or one hour per month) and only applies to the self-employed (ILO 1982). Another ILO report explains that this one-hour criterion is not mandatory in the international definition of employment (ILO 2003).

In the IFLS questionnaire, employment questions start by asking about the types of primary activities during the past week followed by whether or not the work has earned income for at least one hour during the past week (RAND 2019). However, IFLS does not limit the person who answered working by their working hours. In this research, the economic activity status of respondents who answered ‘work’ in IFLS is noted down as *working*.

The definition of unemployment, as internationally recognised, includes those who are looking for work ‘actively’, but excludes those who are looking for work ‘not actively’. It means that those who answered ‘available for work’ in the Indonesian 2010 Census are not included in unemployment since they are not looking for work ‘actively’ although the percentage of those who answered was larger than those who answered ‘looking for work’. Although the unemployment rate is a widely used indicator, it is often argued that it does not capture unemployed people properly. Hussmanns et al. (1990) explain that it is difficult to apply the definition of unemployment for those actively looking for work, especially in developing countries due to widespread informal economic activities and not well-established job information exchange systems. Manning (2003) has a similar position that the unemployment rate does not capture the labour market dynamics and is a poor measure because informal sectors especially in rural areas are largely dominant in Indonesia.

In order to avoid the limitation of using the internationally recognised definition of unemployment, this research uses two broad categories of employment status: *working*, or *not working*. Each chapter then adds *schooling* for those who are attending school at the time of survey for economic activity categories in this research.

Although this research uses the original primary activity variable to construct the economic activity variable, there are some young people undertaking multiple activities. For example, men who work part-time while attending schools or women who look after small children while selling home-made food in front of their houses (Naafs 2013; Ford & Parker 2008; Mehra 1997). This research uses the primary activity variable based on the respondents' answers, however, examining young people's multiple activities during their transition pathways is an interesting area to investigate for future research.

3.4.2 Industry sector

Chapter 4 on men's pathways uses the information on industry sectors of *service* and *non-service sectors* for those who answered as *working*. Most unemployed youth are educated and have a strong preference for finding jobs in the service sector. Such preference is also seen by employed men by changing jobs frequently until their late 20s (Rokhman & Omar 2008; Bennington & Habir 2003). Focusing on the service sector as a separate category would help to understand career development transition pathways better for young Indonesian men beyond their employment status. All four waves of the IFLS have ten common industry sector categories, and these are recoded into *service* and *non-service* sectors. The service sectors are: wholesale, retail, restaurants and hotels, transportation, storage and communications, finance, insurance, real estate and business services and social services (Strauss et al. 2016b). The rest of the industries are recoded under the *non-service* sector.

3.4.3 Age, cohort and groups

UN agencies define youth as those who are between 15 and 24 years old (United Nations 2013a) including internationally defined indicators such as youth unemployment rates. However, the age for youth is different by countries, organisations, or purpose of policy or programs. In Indonesia, the definition of the youth age group varies between 15 and 30 years old (UNFPA 2014b). This research defines youth as between 15 and 29 years of age, thus following the BPS rules, unless otherwise specified.

This research also defines cohort, age, age groups and the observation periods in different ranges for each analytical sample as presented in Table 3-7, in order to align with the specific aims. Chapter 4 on men’s pathways and Chapter 5 on women’s pathways use three-year age groups to understand the transition pathways in more detail. Using three-year age grouping is also easier to manage instead of using single year ages (Lam & Levison 1991). Chapter 6 on women’s working life expectancy uses five-year age groups by focusing on women aged 20-24 years after constructing an abridged multistate life table.

Table 3-7. Age group, cohort age and age in each IFLS wave

Chapter	Sex	Age group	Cohort age (years)	Age (years) in IFLS wave				Period
				1997	2000	2007	2014	
4	Men	three-year	15-29 in 1997	15-29	18-32	25-39	32-46	1997-2014
5	Women	three-year	15-20 in 1997	15-20	18-23	25-30	32-37	1997-2014
6	Women	five-year	20-24 in 2007	..	..	20-24	27-31	2007-2014

The summary of socio-economic variables used for each chapter is presented in Table 3-8. Each chapter sample is divided into main groups by economic activity status, then into further smaller groups within each main group based on their socio-economic variable categories. Chapter 4 examines a cohort of men aged 15-29 years in 1997. The reasons for covering these ages is because all respondents go through their 20s. Having a wide range of age enables us to understand young men’s school-to-work transition pathways comprehensively. More detailed discussion on this is found in the Chapter.

Chapter 5 investigates a cohort of women aged 15 to 20 years in 1997 and follows their economic activity status according to their marital status and educational attainment. Many Indonesian women start to experience their life course events around their early 20s after completing their education. The mean age at first marriage is 22 years and the first childbirth normally occurs straight after marriage in Indonesia (United Nations 2017a; Setyonaluri 2013; Jones 2004). Marriage and childbearing have a significant impact on women’s employment (Cameron & Suarez 2017; Setyonaluri 2013). Having the starting age of 15–20 years in 1997 for

Indonesian women helps to understand the changes in their economic activity levels before, during and after their main life events.

Chapter 6 estimates the women’s average years of lifetime employment (working life expectancy) at the exact age of 20 years. It uses the cohort of women aged 20–24 years with their original statuses in 2007 and their destination statuses in 2014 after constructing an abridged multistate life table with those 15 years and over in 2007. Since women’s life course events happen when they get married around 22 years in Indonesia, focusing on women aged 20–24 years covers their critical transition time.

Table 3-8. Variables and IFLS wave used for each chapter in this research

Chapter 4		Chapter 5		Chapter 6	
Variable	Wave	Variable	Wave	Variable	Wave
Economic activity	1997-2014	Economic activity	1997-2014	Economic activity	2007, 2014
Working industry	1997-2014	Marital status	1997-2014	Marital status	2007, 2014
Educational attainment	2014	Educational attainment	2014	Educational attainment	2007, 2014
Types of residence (urban/rural)	1997-2014				

3.4.4 Educational attainment

Education is a critical factor for employment. Investment in education increases the future economic returns by increasing human capital such as knowledge and skills (Rosenbaum et al. 1990; Becker 1962). Education is a widespread indicator and would be the single most important variable in population differences after age and sex (Lutz & Samir 2010). This research uses educational attainment to be consistent with the Indonesian 2010 Census as well as the international definition of educational attainment as “the highest level of education an individual has successfully completed” (UIS 2011). In Chapter 4 on men’s pathways, two

educational attainment categories of *junior high school and less* and *high school and above* are used. Chapters 5 and 6 on women's pathways and working life expectancies use three educational attainment categories of *junior high school and less*, *high school* and *tertiary*. This is because the latter two categories had quite different transition pathways for women.

The IFLS does not have an educational attainment variable. Therefore, for the purpose of this research, it is constructed from the two original education-related variables of the IFLS: the highest education school level attended and the highest level of grades completed. It means that, for example, if a person answered the highest school levels attended as *high school* and the highest level of grades completed was 2 or not graduated, this person's educational attainment becomes *junior high school* as the highest education level completed.

Similar to the IFLS primary activity variable for constructing the economic activity variable, the number of categories of the highest educational level attended variable has changed as IFLS waves succeeded each other. IFLS 1997 had ten categories but from IFLS 2000 onwards 21 categories emerged, with more detailed categories of Muslim schools (Pesantren, Madrasah), tertiary education levels (college, bachelor, master, doctorate and open university) and adult education levels (adult education A, B and C). This research removed the respondents without specific education attainment levels including Pesantren, Madrasah General and school for disabled. The percentage of respondents with these schools was smaller than 1% for both men and women aged 15-29 years in 1997. The IFLS education categories for tertiary education are explained in Chapter 5 on women's pathways.

In this research, the highest educational level attained in 2014 is used for Chapter 4 and 5 on men and women's pathways rather than using their education level in each wave. This is because the benefits of education for economic activities are influenced by accumulated skills and knowledge as stock (human capital) rather than currently schooling or not (flow or school enrolment) (Lutz & Samir 2010). In Chapter 6 on women's working life expectancy, educational attainment in each wave was used to understand their change of educational attainment level and its impact on their future economic activities.

3.4.5 Types of residence (urban/rural)

The types of residence categories are used for Chapter 4 on men's pathways. The speed of urbanisation is quite rapid and industrial structural changes are also affected. This means that the differences and features of available jobs in sectors and youth employment vary by urban and rural areas (Aldobrandini 2012). Moreover, significant regional differences in Indonesia are due to various geographic settings, ethnic groups, languages and traditions. Suryadarma et al (2012) measured inequalities in income and consumption, health and education levels, and access to basic services (health and education facilities) against three different geographical segregations: 1) Urban versus rural, 2) Java/Bali versus outside Java/Bali and 3) Western Indonesia versus eastern Indonesia. They found that in every indicator, the highest inequality was seen between urban and rural areas. Therefore, this research focuses on urban and rural information in its analysis. It uses the respondents who stayed only either in the *urban* or *rural* categories in all four waves. Although this reduces the sample size from 1,962 persons to 1,257 persons as presented in Table 3-2, it is too complicated to include all flow information with cross-tabulations. The priority of this research is to follow young Indonesian men's pathway movements between service and non-service sectors as the first step to understand their employment transition pathways. Therefore, it was decided to use those who remained at the same types of residence. Doing this, it is much simpler to compare the different influences exerted by urban residence on young people's employment. However, urbanisation and migration of young people are becoming common phenomena in Indonesia and further research is recommended on transition pathways to employment by focusing on migration movements also.

3.4.6 Marital status

Marital status is used for Chapter 5 on women's pathways. The variable is recoded into two categories: *never-married* and *married*. There are five original marital status categories in IFLS: unmarried, married, separated, divorced and widowed. This research uses *never-married* for those who answered unmarried, and the rest are recoded as *married*. The reason for putting the four latter categories into the *married* category is because married women's responsibilities for their family and children under the strong gender culture are more likely to remain or are subject to even more pressure without partners. The percentages of the latter three categories are quite small (an average of 2.0% by four waves). Chapter 6 on women's work expectancy does not include marital status in the analysis because Chapter 5 identifies the influence of marital status

for women's employment. Rather, it focuses on the differences in working life expectancy according to their employment and educational attainment.

3.5 Data limitations

There are two data limitations to this research. First, there are large gaps of three or seven years in the IFLS. The survey waves were conducted in 1993, 1997, 2000, 2007 and 2014. As explained earlier in Chapter 2, this research does not use the first wave in 1993 and focuses rather on young people who were surveyed in the subsequent waves. Not many developing countries have longitudinal data and it is valuable that Indonesia has IFLS, however, having such large gaps is a challenge if accurate life course pathways are to be adequately captured. Longitudinal surveys in developed countries, such as in the United Kingdom, the United States or Australia, where longitudinal surveys have been conducted annually or more frequently, make it easy to track and compare individual pathways with better civil registration systems. There are retrospective questions in IFLS, but these enquire only about past primary jobs information in the previous four to ten years depending on the wave. Therefore, it is impossible to track down other variables between the survey years as well. In order to overcome such a challenge, this research uses the Indonesian 2010 Census and SAKERNAS to provide general information about the respondents in each chapter.

Second, there is limited inclusion of a number of variables of socio-demographic and economic backgrounds for the cross-tabulation and multistate life table methods. This research uses economic activity as the main variable to understand young people's transition pathways to employment according to the main demographic and educational attainment variables. This is the first step to understanding young Indonesian people's transition pathway patterns and movements. To provide an overall picture, this research firstly uses cross-tabulations separately for men and women, then multistate life tables for estimating working life expectancy for women. Although the outcomes provide critical information on detailed past and potential employment pathways for both men and women, this research does not take other socio-demographic and economic related variables into account, such as timing of childbirth, wages, working hours, full-time or part-time, types of contracts, working while schooling, migration, or subjective variables including satisfaction levels. These aspects are also important for young people's employment in a rapidly changing society like Indonesia.

Based on the results of this research, dynamic employment movements and the importance of supporting *low-educated* young people are observed. Further research with longitudinal perspectives is reflecting a fast-changing society, suggesting the need for better support for those who need it and the need for improvements in policy or program design, implementation and monitoring. More case studies and qualitative analysis in addition to longitudinal research would also be beneficial to fill the gaps in IFLS survey year differences and lack of research into transition pathways to employment. A good example is an Indonesian adulthood study in Greater Jakarta conducted by Utomo et al. (2018). This longitudinal study uses mixed methods of face-to-face interviews, in-depth interviews and self-administered questionnaires for more sensitive matters such as sexual behaviour and drug use for those aged 20-34 years since 2009 for every four years. They found that despite claims by politicians that many young people were successfully working in high-tech industries and even becoming millionaires, the reality is that many of the youth cohort were not achieving tertiary education and also often struggled to satisfy basic needs. Having such a mixed-method survey in different cities would be beneficial in providing more in-depth information to understand the real-life challenges young people face in their transition pathways to employment.

3.6 Methods of analysis

This research uses two main methods to analyse transition pathways to employment: cross-tabulations and multistate life tables. The cross-tabulation analysis is used to answer the first two research questions on men's pathways in Chapter 4 and women's pathways in Chapter 5. It provides the overall transition pathways with detailed movements and patterns over 17 years according to the main demographic and education variables. Based on the outcomes of the research questions of the first two analytical chapters, this research conducts further analysis of women's pathways by estimating their lifetime employment durations (working life expectancy). Women are the most potentially productive workers who can contribute to the demographic dividend because only around 50% of them were in the labour market although their improved educational attainment is similar to men. However, little is known about their working life expectancy by using the multistate life table technique. This is important because the results can provide crucial information about levels of women's economic activity if the current situation continues. The outcomes of working life expectancy are important for policy and employment program makers to identify different (and preferable) life course scenarios according to

women's socio-demographic backgrounds. The results can clarify specific areas or groups of women to support who would face challenges in finding suitable work.

3.6.1 Cross-tabulation analysis with examples

Chapters 4 and 5 use a cross-tabulation analysis technique to understand the economic status movements by survey years for transition pathways to employment for Indonesian men and women separately. Cross-tabulation analysis is widely used in the social research arena as the first step to understanding the general situation of a topic. In this research, the cross-tabulations show the percentage levels changes of the economic activity categories by age-group, educational attainment for both men and women, together with industrial sector information and the types of residences for men and marital status for women. Both chapters follow the same individuals and track the changes in them in four different waves of IFLS as said which provide longitudinal element of the analysis. The results are analysed based on the statuses combined by educational attainment and types of residence for men and marital status for women. Table 3-9 and Table 3-10 show examples of cross-tabulations.

Chapter 4 on men's pathways divides a cohort of 15-29 years in 1997 into three main groups according to their economic status as shown in IFLS 2014, the latest wave of IFLS with their working industries of *service* or *non-service* sectors and *not working*. It then tracks them backwards from 2014, 2007, 2000 and 1997. Since finding jobs in the service sector is popular for educated young men who have the largest rate of unemployment, using the groups of IFLS 2014 enables us to find which ones succeeded in finding jobs in the service sector. Chapter 4 makes cross-tabulations of the cohort with five three-year age groups according to the four economic activities categories of: *working in service* sector, *working in non-service* sector, *schooling* and *not working*. Then, there are four groups based on the combinations of the 2014 educational attainment and types of residence: *educated urban men*, *educated rural men*, *low-educated urban men* and *low-educated rural men*. *Educated* males refers to those with *high school and above* education and *low-educated* men refers to *junior high school and less* education.

Table 3-9 presents as an example the 15–17 year-old age group in 1997 who had *high school and above* educational attainment in 2014 and who lived in *urban* areas measured by their economic activity status based on 2014 in percentages. It shows the changed numbers in the 2014 groups, most of them were working already, and the percentage levels changed in each wave. There are

83 men out of a total of 136 men in 15-17 year-old age group in 1997 *working in service* sector in 2014. It shows that by 2014, all of them were *working in service* sector. But the percentage *working in service* sector changed in each wave, from 73.5% in 2007, 14.5% in 2000 and 0.0% in 1997. By looking at Table 3-9, we see that 97.6% of the group were *schooling* and their economic status changed by waves. Graphs are then produced on the main findings for better visualisation of the dynamic transition pathways and patterns which are presented in the result section of Chapter 4. The percentages of all the groups are presented in Appendix 4-1.

Table 3-9. Example of cross-tabulation results in percentage of economic activity for men age group 15-17 years in 1997 and who were *working in service* sector in 2014

Age in 1997	IFLS2014 Status	IFLS2014 (28-30 years)				IFLS2007 (25-27 years)				IFLS2000 (18-20 years)				IFLS1997 (15-17 years)				Total	
		WS	WN	S	N	WS	WN	S	N	WS	WN	S	N	WS	WN	S	N	(%)	(n)
15-17 years	Working Service (WS)	100.0	0.0	0.0	0.0	73.5	16.9	1.2	8.4	14.5	6.0	53.0	26.5	0.0	1.2	97.6	1.2	100.0	83
	Working non-service (WN)	0.0	100.0	0.0	0.0	60.0	32.5	0.0	7.5	12.5	15.0	55.0	17.5	2.5	2.5	95.0	0.0	100.0	40
	Schooling (S)	0.0	0.0	100.0	0.0	28.6	28.6	14.3	28.6	0.0	0.0	28.6	71.4	0.0	0.0	100.0	0.0	100.0	7
	No work (N)	0.0	0.0	0.0	100.0	50.0	16.7	16.7	16.7	50.0	0.0	33.3	16.7	0.0	0.0	100.0	0.0	100.0	6
	Total (n)	83	40	7	6	90	30	3	13	20	11	70	35	1	2	132	1	..	136

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

Chapter 5 on women's pathways with a cohort of 15-20 years in 1997 has similar cross-tabulations as Chapter 4 but this chapter's analysis starts based on their economic activity status in 1997. The categories of low-educated and educated are the same as men, however, this chapter separated educated women into *high school* and *tertiary* educational attainment. This is because the initial analysis found that these two education levels revealed different transition pathways for women. There are six main groups according to their two age groups in 1997 and three educational attainment levels in 2014:

- 1) 15-17 years in 1997 with junior high school and less educational attainment in 2014,
- 2) 18-20 years in 1997 with junior high school and less educational attainment in 2014,
- 3) 15-17 years in 1997 with high school educational attainment in 2014,
- 4) 18-20 years in 1997 with high school educational attainment in 2014,
- 5) 15-17 years in 1997 with tertiary educational attainment in 2014 and
- 6) 18-20 years in 1997 with tertiary educational attainment in 2014.

An example of the results in percentage of economic activity according to their marital status in each wave is presented in Table 3-10. There were 232 women who were *never-married* at 15-17 years in 1997 with low education at *junior high school or less*. The group with the largest number was *not working* with 87 women. In 2000, 36.0% (33.0% *never-married* + 3.0% *married*) of the group were *working* but most of them were still *never-married*. By 2007, most of them had changed their marital status to *married* and 72.0% of them were *not working* in 2007. This could be the time when many were having small children. Then their *working* percentage increased to 42.0% (1.0% *never-married* + 41.0% *married*) in 2014. It shows that the levels of *working* percentage and marital status changes by wave. The result section in Chapter 5 presents the main findings in graphs. The percentages of all the groups are presented in Appendix 5-1.

Table 3-10. Example of cross-tabulation results in percentage for *never-married* women aged 15-17 years in 1997 by economic activity and marital status

Status in 1997		IFLS 1997 (15-17 years)						IFLS2000 (18-20 years)						IFLS2007 (25-27 years)						IFLS2014 (32-34 years)						Total (<i>n</i>)
Marital Status	Economic Activity	Never married			Married			Never married			Married			Never married			Married			Never married			Married			
		W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	
Never married	Working (W)	100	0	0	0	0	0	48	0	12	17	0	23	8	0	2	40	0	51	0	0	2	45	0	54	65
	Schooling (S)	0	100	0	0	0	0	34	8	19	6	0	34	8	0	6	33	1	53	4	0	3	41	0	53	80
	Not working (N)	0	0	100	0	0	0	33	0	30	3	0	33	2	0	6	25	1	66	1	0	2	41	0	22	87
	Total (<i>n</i>)	65	80	87	0	0	0	87	6	49	19	0	71	13	0	11	74	2	132	4	0	5	98	0	125	232

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

3.6.2 Multistate life table

This research uses the multistate life table technique in Chapter 6 to estimate young women's average years of lifetime employment (working life expectancy). This section presents examples with steps to construct a multistate life table. The multiregional life table extends classical life tables, which are also known as uniregional life tables or conventional life tables. Classical life tables analyse mortality patterns or trends in a view of survival probabilities by constructing from age-specific death rates by population under stable populations (Carmichael 2016; Rogers 1995). Multiregional life tables, on the other hand, are able to examine interactions of several cohorts in different locations and times between original places and destinations which

uniregional life tables do not. Multiregional life tables use geographical destination-specific rates of flow applying to the populations at risk which provides more accurate and less biased results than the uniregional approaches (Rogers 2008; 1980). The applications of multiregional perspectives into such broader or more generalised indicators including employment, marriage and education, are described as multistate demography (Rogers 1995). Although multiregional life tables consider population change and mortality, multistate life tables use population change of transition probability that an individual at exact age x will survive to exact age $x+5$ for all ages. It also enables us to understand transition patterns of status changes within the same cohorts (Rogers 1995; Schoen 1988; Doeve 1982). They can capture multiple changes in subjects' socio-demographic status or events simultaneously, thus helping to understand the behaviours of population cohorts (Martins et al. 2014; Schoen 1988; Doeve 1982; Rogers 1980).

Survival analysis (event history analysis) can also be used to examine longitudinal data, however, it focuses on the timing and durations between at the individual level. Specifically, hazard rates, which are conditional probabilities that an event occurs between particular time intervals (Mills 2011), are used as the basis for analysis. Several researchers used this method to examine the durations of time for individuals to find their first jobs (Salas-Velasco 2007; Van der Klaauw et al. 2004; Biggeri et al. 2001). The IFLS's large gaps of three and seven years, however, present a disadvantage in using this method. IFLS has collected retrospective data on main variables to fill in the gaps and this research initially examined the possibility of using these data, however, data mismatches were found between retrospective data collected between the most recent and earlier waves. One strategy could be to select the latest data but Lynn (2009) argues that even annual data collection is not accurate if a person experiences frequent changes, including job changes, within a year.

The prevalence of large data gaps raises questions about the accuracy of the retrospective data of IFLS. As such, the focus of this research is more to understand transition patterns based on the data collected at the time of the surveys rather than the timings of subjects' status changes. Another possible approach would be to conduct a regression analysis. That would be helpful in understanding the relationship between dependent and independent variables and would enable us to include many variables for analysis which would help to overcome the limitations of the cross-tabulation method. However, this research's focus is directed at status changes which

reflect the fast-changing Indonesian society. This study has employed multistate life table analysis to examine of personal attributes at one or more points in time (Billari et al. 2000). The analyses conducted in this thesis adds further insights to studies using regression analysis to analyse youth unemployment in Indonesia (see, e.g., Aldobrandini 2012) and those examining the relationships between educational attainment and employment or wages (see, e.g., Coxhead 2014a; Federman & Levine 2003), there has been little focus to date on transition pathways to employment. It is suggested for future research.

Frequent usages of life table models for labour force analyses started in 1950. The US Bureau of Labour Statistics developed tables of working life expectancy with age-specific proportions to understand labour force entry and exit patterns of individuals after the first design of the working life table developed by Wolfbein (1949). Then more insights of age and sex patterns of labour force entries and exits were taken into account to improve the measurements of labour force life expectancies (Schoen 1988). Working life tables make estimations of target populations' future entries into employment on the assumption that the distribution of transition rates is observed with closed employment length gaps. Conventional working life tables have three main constraints arising from the assumption of unimodality of labour force participation curves, lack of consideration of multiple exits and entries into the labour force, and the application of the same mortality rates to both economically active and inactive persons. These are not correct or suitable for women who often leave the labour market at marriage or childbearing and return when children reach school age (Willekens 1980). Such constraints are reinforced by adopting the theory of multiregional mathematical demography (Willekens 1980; Ledent 1978; Rogers 1973). As a result, multistate life tables of working life enable us to calculate various events and transfers across subpopulations and are suitable for the analysis of active working life expectancy (Rogers et al. 1989; Rogers 1980).

In this research, a multistate life table is constructed to estimate the average years remaining in employment (working life expectancy) for young Indonesian women in their lifetime. The multistate life table method has enough flexibility to cover heterogenetic individuals' experience over time with their age, and therefore is suitable for the analysis of their life course pathways (Espenshade & Braun 1982). The results provide multiple time scales not only including age but also the duration spent in each state (Billari et al. 2000), which is the combination of economic activity, educational attainment and marital status in this research. The female labour

force participation rate in Indonesia increased, especially after the 1990s, by passing the 50% benchmark in 1992, but remained around the average of 50% between 1996 and 2017 (World Bank 2019e). Women's educational attainment has improved significantly and women attained similar or even higher school enrolment rates than men at secondary and tertiary levels recently. This means that Indonesian women are potentially productive workers, and of course this also suggests some space to improve their labour force participation levels for the benefit of national economic development.

The measurement of working life durations is not straightforward. Working durations are affected not only by gender-related activities with multiple exits and entries caused by fertility and reproductive events but also age-related events over a lifetime, including education, sickness, unfixed retirement age and longer life expectancy (Nurminen 2012). Therefore, understanding the cumulative working years can provide useful information for evaluating labour force potential and the need for policy adjustments for women. This section illustrates the process of constructing a multistate life table from the data used in Chapter 6 with simplified data by having two categories of *working* and *not working*. The detailed multistate life tables with three education attainment categories used in Chapter 6 is presented in Appendix 6-1. There are three main steps undertaken to estimate working life expectancy. First, it requires an understanding of the basic functions of classical life tables. Second, the proportion of *working* and *not working* are calculated by using the numbers of the respondents from IFLS 2007 and 2014. Third, matrix functions are used for calculating life table population.

As the first step, a classic abridged life table construction (based on five-year age groups) starts with the estimation of q_x , probability of dying, which means the proportions of the persons in the cohort alive at the beginning of an indicated age interval x will die before reaching at the end of that age interval $x+5$ by following the formula presented in (3.6.2.2) (Carmichael 2016; Rogers 1995; Doeve 1982).

The observed mortality rate ${}_nM_x$ which is used the formula as presented in (3.5.2.2) based on two numbers, one is the latest population ${}_nP_x$ as the average number of population in 2010 and 2015 and the other is the number of registered deaths ${}_nD_x$ between 2010 and 2015. The latest numbers of both data points are used from the United Nations (2017b, 2015a). The

probability of surviving ${}_5p_x$ for a person between at exact age x and exact age $x+5$ is calculated by using ${}_5q_x$ as presented in (3.5.2.3).

$${}_5q_x = 5 * M_{(x)} / (1 + (5/2 * M_{(x)})) \quad (3.5.2.1)$$

$${}_5M_x = 1/5 * (D_x / P_x) \quad (3.5.2.2)$$

$${}_5p_x = 1 - {}_5q_x \quad (3.5.2.3)$$

Other life table functions including ${}_5d_x$, ${}_5L_x$, T_x and e_x are calculated by following the classic life table formulas (Carmichael 2016). Classic life tables are developed as presented in Table 3-11.

$$l(x+5) = l_{(x)} p_{(x)} \quad (3.5.2.4)$$

$$l_0 = 100,000 \quad (3.5.2.5)$$

$${}_n d_x = (l_x) ({}_n q_x) \quad (3.5.2.6)$$

$${}_5 L_x = 5/2 * (l_x + l_{x+n}) \quad (3.5.2.7)$$

$$T_x = {}_n L_x + T_{x+n} \quad (3.5.2.8)$$

$$e_x = T_x / l_x \quad (3.5.2.9)$$

The definitions of the rest of the functions of classic life tables are denoted as below (Carmichael 2016).

${}_5d_x$ = the number of the initial life table population who die between exact ages x and $x+5$

${}_5L_x$ = the number of person-years lived between exact ages x and $x+5$ by those of them who survived to between exact age x and $x+5$

T_x = the average remaining years lived at all ages above exact age x by those of them who survive to exact age x

e_x = the average number of years of life remaining beyond exact age x for each member of the initial life table population who survives to exact age x

Table 3-11. Abridged life table of women aged 15 years and over, 2005-2010

Age (x)	${}_5P(x)$	${}_5D(x)$	${}_5M(x)$	${}_5q(x)$	${}_5p(x)$	$l(x)$	${}_5d(x)$	${}_5L(x)$	$T(x)$	$e(x)$
15	10,897	50,343	0.00092	0.0046	0.9954	100,000	461	498,848	5,932,027	59.3
20	10,681	67,537	0.00126	0.0063	0.9937	99,539	627	496,127	5,433,179	54.6
25	10,600	78,976	0.00149	0.0074	0.9926	98,912	734	492,723	4,937,052	49.9
30	10,232	94,182	0.00184	0.0092	0.9908	98,177	900	488,638	4,444,329	45.3
35	9,475	114,913	0.00243	0.0121	0.9879	97,278	1,173	483,458	3,955,691	40.7
40	8,638	144,019	0.00333	0.0165	0.9835	96,105	1,589	476,554	3,472,233	36.1
45	7,553	179,276	0.00475	0.0235	0.9765	94,516	2,217	467,038	2,995,679	31.7
50	6,293	212,534	0.00675	0.0332	0.9668	92,299	3,065	453,832	2,528,641	27.4
55	4,790	244,794	0.01022	0.0498	0.9502	89,234	4,447	435,052	2,074,809	23.3
60	3,471	294,315	0.01696	0.0814	0.9186	84,787	6,898	406,691	1,639,757	19.3
65+	6,905	2 180 998	0.06317	1.0000	0.0000	77,889	77,889	1,233,066	1,233,066	15.8

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

Then, as the second step, the proportions of each status in four main groups within the cohort by economic activity status in 2007 and 2014 are calculated by five-year age groups between 15 and 65+ years as presented in Table 3-12. The standard errors (SEs) are presented next to the proportion columns. There are two types of following status:

1 = *working*

2 = *not working*

The table shows that the age between 40 and 44 years has the highest proportion of *working* at 0.70803. It means that the women's labour force participation increases steadily until the age of between 40 and 44 years when they start to leave the labour market according to this IFLS data. According to the Indonesian 2010 Census, female labour force participation rate peaked around between 42 and 52 years old between 55.0 and 57.0% (BPS 2010). The IFLS female respondents have more concentrated *working* status in earlier ages than the Indonesian 2010 Census data.

Table 3-12. Number, proportion and standard error of respondents by employment status by women aged 15-65+ years in 2007, 2007 and 2014

Age in 2007	Employment status	Status in 2014					
		1			2		
		Working			Not working		
		Number	Proportion	SE	Number	Proportion	SE
15-19	1 Working	102	0.44737	0.049	126	0.55263	0.044
	2 Not working	474	0.45533	0.023	567	0.54467	0.021
20-24	1 Working	323	0.55214	0.028	262	0.44786	0.031
	2 Not working	345	0.33923	0.025	672	0.66077	0.018
25-29	1 Working	433	0.61331	0.023	273	0.38669	0.029
	2 Not working	409	0.35198	0.024	753	0.64802	0.017
30-34	1 Working	382	0.63561	0.025	219	0.36439	0.033
	2 Not working	300	0.34803	0.028	562	0.65197	0.020
35-39	1 Working	423	0.70266	0.022	179	0.29734	0.034
	2 Not working	246	0.38438	0.031	394	0.61563	0.025
40-44	1 Working	388	0.70803	0.023	160	0.29197	0.036
	2 Not working	152	0.35681	0.039	274	0.64319	0.029
45-49	1 Working	323	0.67012	0.026	159	0.32988	0.037
	2 Not working	149	0.39840	0.040	225	0.60160	0.033
50-54	1 Working	205	0.60651	0.034	133	0.39349	0.042
	2 Not working	73	0.28077	0.053	187	0.71923	0.033
55-59	1 Working	105	0.51220	0.049	100	0.48780	0.050
	2 Not working	37	0.19271	0.065	155	0.80729	0.032
60-64	1 Working	40	0.48193	0.079	43	0.51807	0.076
	2 Not working	22	0.14103	0.074	134	0.85897	0.030
65+	1 Working	32	0.35556	0.085	58	0.64444	0.063
	2 Not working	14	0.08434	0.074	152	0.91566	0.023
Total (<i>n</i>)		4,977			5,787		

Note: *SE* = Standard error

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

Then, the transition probabilities of employment status are calculated for Indonesian women aged between 15 and 65 years and over between 2007 and 2014 as presented in Table 3-13. The definitions of the main multistate functions used in this research as follows:

$q_i(x)$ = the probability that an individual in an employment status i at age x unemployed before reaching $x+5$

$p_{ij}(x)$ = the probability that an individual in employed status i at age x will keep an employed status j at age $x+5$

$l_{ij}(x)$ = the number of people in status i between ages x and $x + 5$, and previous employment status in j at x

Table 3-13 shows employment status, p_{ij} , transition probabilities of employment status in 2007 as an original status, i , to employment status in 2014 as a destination status, j , by five-year age group based on IFLS data with the subscript numbers presented as follows to represent each status. The transition probabilities are calculated by subtracting the probability of dying (or becoming unemployed in this research's context) of ${}_5q_x$, which is extracted from the latest five-year age-specific mortality rate in 2010-2015 of Indonesia from the United Nations (2017b), from proportions of the status only from p_{11} and p_{22} who remained in the same status. This is because the population who remained in the same locations (or employment statuses in this research) includes those who died in the same while the living were able to move.

Table 3-13. Transition probabilities of employment status p_{ij} for females aged 15-65+ years by age group, 2007 and 2014

Age in 2007	5q_x	Transition probabilities of employment status in 2007 and 2014			
		p_{11}	p_{12}	p_{21}	p_{22}
15	0.0046	0.44276	0.55263	0.45533	0.54006
20	0.0063	0.54583	0.44786	0.33923	0.65446
25	0.0074	0.60589	0.38669	0.35198	0.64060
30	0.0092	0.62645	0.36439	0.34803	0.64281
35	0.0121	0.69060	0.29734	0.38438	0.60357
40	0.0165	0.69149	0.29197	0.35681	0.62666
45	0.0235	0.64667	0.32988	0.39840	0.57815
50	0.0332	0.57330	0.39349	0.28077	0.68602
55	0.0498	0.46236	0.48780	0.19271	0.75746
60	0.0814	0.40057	0.51807	0.14103	0.77762
65	1.0000	0.00000	0.00000	0.00000	0.00000
Total (n)		2,756	1,712	2,221	4,075

Notes: p = Transition probabilities, 1 = Working, 2 = Not working

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

The life table number of people in status j in 2014 between age at x and $x+5$, and who are in the previous status in 2007, i , at age x , denoted $l_{ij}(x)$ is calculated in five-year age groups. It uses the matrix function to calculate numbers of survivors by using the destination specific transition probability rates for less biased results (Rogers 1995). The results of $l_{ij}(x)$ in matrix form table is presented in Table 3-14 which is calculated in Windows Excel by using the matrix function. In manual, matrix notations are used as presented in (3.5.2.10) with an example of those at 20 years old with p_{11} status (*working* in 2007 and *working* in 2014) in matrix form.

$$I_{11}(20) = P_{11}(15) l_{11}(15)$$

$$I_{11}(20) \begin{bmatrix} 0.44 & 276 & 0.45 & 333 \\ 0.55 & 263 & 0.54 & 006 \end{bmatrix} \begin{bmatrix} 100 & 000 & 0 \\ 0 & 100 & 000 \end{bmatrix}$$

$$= \begin{bmatrix} 44 & 276 & 45 & 533 \\ 55 & 263 & 54 & 006 \end{bmatrix} \quad (3.5.2.10)$$

In Table 3-14, $I_i(x)$ represents a hypothetical population in the life table, starting with 100,000 for each cohort at the age of 15 years in 2007 because of the internationally defined working-age starts from the age of 15 years. This research uses cohorts with a stationary population with five-year abridged life tables for the population aged 15 years and 65 years and over in 2007 from IFLS by applying the results of the transition probabilities. Then the matrix form is used for the number of individuals with status transitions in each employment status as presented in Table 3-14. In this working life expectancy, the category of *working* women reached its highest point at the age of 40 years, namely 51,752 persons, without a decrease in their early 20s when most of them married and had their first child, but stayed at similar levels until the 50-year-old point was reached. The figure then gradually decreases because some people then start to leave the labour market. According to these figures, the patterns in Table 3-14 show that this group worked longer than the group studies in Table 3-12, which shows the two largest numbers of *working* women were 433 women and 423 women at the age of 25-29 years and 35-39 years respectively. This indicates that these respondents would stay longer in the labour market in their lifetime if the current condition continues.

Table 3-14. Transition probabilities of employment status $p_{(ij)}$ in matrix form for females aged 15-65+ years, 2007 and 2014

Status in 2007 (<i>i</i>)		Status in 2014 (<i>j</i>)			
		$p_{ij}(x)$		$l_{ij}(x)$	
Age	Status	1	2	1	2
		Working	Not working	Working	Not working
15	1 Working	0.44276	0.55263	100,000	0
	2 Not working	0.45533	0.54006	0	100,000
20	1 Working	0.54583	0.44786	44,276	45,533
	2 Not working	0.33923	0.65446	55,263	54,006
25	1 Working	0.60589	0.38669	42,914	43,174
	2 Not working	0.35198	0.64060	55,997	55,738
30	1 Working	0.62645	0.36439	45,711	45,777
	2 Not working	0.34803	0.64281	52,466	52,400
35	1 Working	0.69060	0.29734	46,895	46,914
	2 Not working	0.38438	0.60357	50,383	50,364
40	1 Working	0.69149	0.29197	51,752	51,757
	2 Not working	0.35681	0.62666	44,353	44,348
45	1 Working	0.64667	0.32988	51,612	51,614
	2 Not working	0.39840	0.57815	42,904	42,903
50	1 Working	0.57330	0.39349	50,469	50,469
	2 Not working	0.28077	0.68602	41,831	41,830
55	1 Working	0.46236	0.48780	40,678	40,678
	2 Not working	0.19271	0.75746	48,555	48,555
60	1 Working	0.40057	0.51807	28,165	28,165
	2 Not working	0.14103	0.77762	56,622	56,622
65	1 Working	0.00000	0.00000	19,267	19,267
	2 Not working	0.00000	0.00000	58,622	58,622

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

Based on the outcomes of $l_{ij}(x)$, the total person-years have in status j , between ages x and $x+5$ by individuals who were in status i at age x , $L_{ij}(x)$ is calculated by using the formula in (3.5.2.11).

$$L_{ij}(x) = 5/2[l_{ij}(x) + l_{ij}(x+5)] \quad (3.5.2.11)$$

Finally, the multistate life table with the rest of the functions is presented in Table 3-15 including T_{ij} and e_{ij} as in status i in 2007 and as j in 2014. By using the functions of l_{ij} and T_{ij} , $e_{ij}(x)$ is calculated for the probabilities of the average working life expectancy based on the transitions of the employment status between 2007 and 2014. The last column in $e_{(x)}$ represents the sum of each original cohort's probabilities of working life expectancy, which means that each status is the decomposition of $e_{ij}(x)$.

In order to interpret the results of $e_{ij}(x)$, women who were *working* at 20 years old in 2007, for example, would spend the average of 22.7 years *working* and the average of 31.9 years *not working* in their remaining lifetime. Their life expectancy would be 74.6 years while the general retirement age of public servants in Indonesia is 56 years in 2016 (OECD 2017) which is not controlled in this calculation. In Chapter 6, three educational attainments at *junior high school and less*, *high school* and *tertiary* education levels are added to understand the differences between the working life expectancy and educational attainment.

Table 3-15. Multistate life table for females aged 15-65+ years in status *i* in 2007 and employment and education statuses *j* in 2014

Status in 2007		Status in 2014 (<i>i</i>)									
Status (<i>i</i>)	Age (x)	m(x)	<i>l_{ij}</i>		<i>L_{ij}</i>		<i>T_{ij}</i>		<i>e_{ij}</i>		e(t+)
			1 Working	2 Not working	1 Working	2 Not working	1 Working	2 Not working	11 Working	12 Not working	
1 Working	15		100,000	0	360,690	138,158	2,615,553	3,316,474	26.2	33.2	59.3
	20		44,276	55,263	217,976	278,151	2,254,863	3,178,316	22.7	31.9	54.6
	25		42,914	55,997	221,564	271,158	2,036,888	2,900,165	20.6	29.3	49.9
	30		45,711	52,466	231,517	257,122	1,815,323	2,629,006	18.5	26.8	45.3
	35		46,895	50,383	246,618	236,840	1,583,807	2,371,884	16.3	24.4	40.7
	40	0.0632	51,752	44,353	258,409	218,145	1,337,189	2,135,044	13.9	22.2	36.1
	45		51,612	42,904	255,201	211,837	1,078,780	1,916,900	11.4	20.3	31.7
	50		50,469	41,831	227,867	225,965	823,579	1,705,062	8.9	18.5	27.4
	55		40,678	48,555	172,108	262,943	595,712	1,479,097	6.7	16.6	23.3
	60		28,165	56,622	118,581	288,109	423,603	1,216,154	5.0	14.3	19.3
65		19,267	58,622	305,022	928,044	305,022	928,044	3.9	11.9	15.8	
2 Not Working	15		0	100,000	113,833	385,015	2,373,600	3,558,426	23.7	35.6	59.3
	20		45,533	54,006	221,768	274,359	2,259,768	3,173,411	22.7	31.9	54.6
	25		43,174	55,738	222,378	270,344	2,037,999	2,899,053	20.6	29.3	49.9
	30		45,777	52,400	231,727	256,911	1,815,621	2,628,709	18.5	26.8	45.3
	35		46,914	50,364	246,678	236,780	1,583,893	2,371,798	16.3	24.4	40.7
	40	0.0632	51,757	44,348	258,428	218,126	1,337,216	2,135,017	13.9	22.2	36.1
	45		51,614	42,903	255,207	211,832	1,078,788	1,916,892	11.4	20.3	31.7
	50		50,469	41,830	227,868	225,963	823,581	1,705,060	8.9	18.5	27.4
	55		40,678	48,555	172,109	262,943	595,712	1,479,096	6.7	16.6	23.3
	60		28,165	56,622	118,581	288,109	423,604	1,216,154	5.0	14.3	19.3
65		19,267	58,622	305,022	928,044	305,022	928,044	3.9	11.9	15.8	

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

3.7 Conclusion

This chapter reviews prior research on transition pathways to employment by data types in order to understand the advantages and weaknesses of different data sets. Past research used mainly cross-sectional data, including national labour force surveys, which many countries collect frequently or quarterly. In the case of Indonesia, the Indonesian National Labor Force Survey (SAKERNAS) collects data quarterly with large coverage on an annual base (ILO 2017b). The latest census was conducted in 2010 in Indonesia. Although there are some improvements in the civil registration and vital statistics system in Indonesia, it is not yet well functioning (Qibthiyah & Utomo 2016; Duff et al. 2016; Rao et al. 2010). Cross-sectional data also have an advantage in providing overall pictures of youth employment, however, they are limited to understanding young people's behavioural changes over time. Longitudinal data, on the other hand, collect information by following the same respondents over time, which is an advantage for this research as it assists the process of understanding transition pathways to employment. More research has started to use longitudinal or combinations of longitudinal and cross-sectional data for better availability. These give good directions for this research. In Indonesia, the Indonesian Family Life Survey (IFLS) has been conducted since 1993 with the latest fifth wave in 2014 (Strauss et al. 2016b). It provides rich information on the Indonesian population including young people, but some limitations include especially large survey gaps and missing data (Dong 2016). This research also uses SAKERNAS and the Indonesian 2010 Census as snapshots of the situation of young people in Indonesia which can partially offset these weaknesses of the IFLS.

Two main methodologies of cross-tabulation and multistate life table techniques are used for this research to understand transition pathways to employment by detangling the complicated school-to-work transition pathways in Indonesia. Cross-tabulations have an advantage in presenting data in a simple format to understand the situation as a first step. The multistate life table technique is suitable for following multiple status changes over time (Rogers 1995; Schoen 1988; Doeve 1982). There are research limitations such as limited variables and survey year gaps in this research. These limitations could be overcome by focusing on more specific areas and availability of data.

The next three chapters are analytical chapters to understand transition pathways to employment for young men and women in Indonesia by using longitudinal IFLS data. First, Chapter 4 examines men, with a particular focus on sector changes with their employment status changes as a dependent variable and age, education levels and types of residence as independent variables. Chapters 5 and 6 analyse women's employment transition pathways by using cross-tabulation and multistate life table techniques respectively.

Chapter 4. Pathways to employment of young men in service sector

4.1 Introduction

This chapter examines young Indonesian men's pathways to employment by tracking their economic activities including industry sector movements. Unemployed youth in Indonesia, especially educated youth with high school qualifications and above, suffer relatively long employment transition periods (Aldobrandini 2012; Suryadarma et al. 2007; Manning & Junankar 1998). The average months of job search periods for young Indonesian men aged 15-29 years reduced significantly from 8.2 to 1.1 months between 2000 and 2015, however, the percentage of young men by educational attainment who were searching or looking for work was actually the highest among the tertiary educated, followed by those with high school education. This is mainly associated with the strong preference for jobs in the service sector, especially among educated young men in urban areas, due to better work conditions with higher incomes and social benefits, including pensions and health care (UNFPA 2014b). The service sector is the fastest-growing sector in Indonesia (ILO 2017c).

The service sector's share of the economy increased from 24.1% in 1971 to 42.3% in 2010 (UNFPA 2015b) and in fact accounted for 53.8% of Indonesia's GDP in 2011 (Duggan et al. 2013). Although Indonesia has recovered from the Asian Financial Crisis and its economy is growing, much of the growth occurred through technology improvements and increased production of low-cost import products (Manning 2010). The service sector is not only a contributing sector to the national economy, but also an important sector to absorb unemployed educated youth both in urban and rural areas (Suryahadi et al. 2012; Suryadarma et al. 2007).

Despite young people's complicated and various transition pathways to employment nowadays, a youth employment transition study in Australia, for example, found that government education, economic and welfare policies are insensitive to diversity and rarely adapt to changes in young people's lives in a rapidly changing society, especially in support of socially and economically disadvantaged populations (Cuervo & Wyn 2011). Studies of young men's unemployment issues have mostly focused on the trends in youth unemployment rates and

understanding the situation at the aggregated level by using cross-sectional data, or they have often examined transitions between school graduation and the first job rather than taking into account individuals' behaviour in long-time career development processes in Indonesia (Naidoo et al. 2015; Manning & Junankar 1998).

This chapter analyses how young Indonesian men experienced the transition pathways to employment by following a cohort aged 15–29 years in 1997 using the longitudinal data of the Indonesian Family Life Survey (IFLS). It examines their economic activity by industry sector, educational attainment and type of residence (urban/rural). The cohort is divided into smaller groups based on their destination economic activity status in 2014 and tracking of their pathways back to the survey years of 1997, 2000 and 2007. Detailed examinations are useful to understand the pathway patterns and differences among those who managed to find jobs in the service sector or non-service sector. The research question motivating this research is:

How do education and early employment contribute towards working in the service sector for young men in Indonesia? Do the patterns differ for those living in rural and urban areas?

The results of this chapter enable us to understand detailed employment transition pathways of young Indonesian men including movements between sectors and differences between urban and rural residence according to their educational attainment. Based on these results, this chapter discusses current policies and programs and the importance of reducing job search periods.

Although this chapter focuses on young men's engagement in the service sector, the Indonesian labour market is still dominated by informal sectors meaning companies, organisations or business owners which are not registered and pay no taxes (Rothenberg et al. 2016). This includes self-employed workers or their assistants, which is also the case in the service sector. A pattern of informal payments is also known to occur in formal sectors. Even in the government sector, about one million people work with informal contracts and are known as honorary employees (Kristiansen & Ramli 2006). Suryahadi et al. (2012) argue that informal employment accounts for about two-thirds of the Indonesian labour market. There are different levels of informal employment even in the same industry sector. According to the

SAKERNAS data in 2012, the share of informal employment in total was 60.1%, but it was highest in agriculture/forestry/hunting/fishery at 88.4%, followed by wholesale trade/restaurants/hotels at 68.1% and manufacturing at 56.3%. Some industries in the same service sector have a low share of informal employment with community/personal/social services at 23.5% and finance/insurance/real estate/business services at 13.3% (UNFPA 2014b).

Aldobrandini (2012) found that young workers (15-24 years) are more likely to work in formal sector jobs and in salaried jobs than adult workers (25-64 years), especially in urban areas. New salaried jobs are most likely filled by young people, based on SAKERNAS data. Informal self-employment jobs are much more common for older workers. This no doubt reflects not only the preference for formal jobs among young people but also structural changes in the economy. Although this chapter does not explore the differences by types of employment or between informal and formal contract arrangements in the service sector, future research is recommended to focus on this topic, with regard to young people's transition pathways to employment, preferably by using longitudinal data.

4.2 Background

4.2.1 Pathways to employment of young men

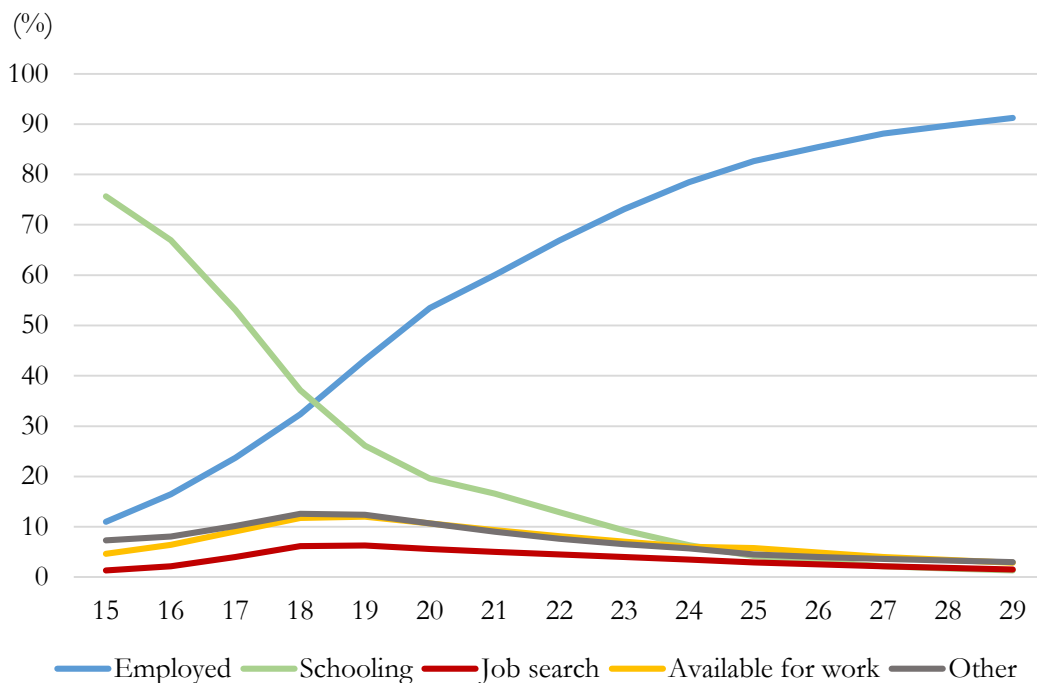
Young men experience considerable pressure to find stable and well-paid jobs in order to secure marriages and to support their families after the completion of their education (Naafs 2013; ILO 2007). However, such pressure helps to create longer school-to-work transitions especially for educated men who prefer to work in the service sector for better and stable jobs, which helps promote a more competitive recruitment environment (Dhanani 2004). This echelon seems to prefer unemployment until they find a well-paid job in the service or formal sectors (Aldobrandini 2012; Suryadarma et al. 2007).

Unemployment experiences have negative impacts on young people and can reduce the probability of their future employment and the level of their wages in the United Kingdom and the United States (Bell & Blanchflower 2010; Mroz & Savage 2006; Bradley & Nguyen 2004; Arulampalam 2001; Becker & Hills 1980). Arulampalam (2001) claims that the best predictor of

future risk of unemployment is the past history of unemployment and if young people cannot find a job just after completing school, they could face difficulty in finding jobs later.

However, young men in Indonesia face a slightly different environment. Clark (1983) found that being unemployed had little or no effect on the availability of good employment for young men in Indonesia if they can secure this by their early 20s. His research was conducted in the early 1980s, but the situation has changed little since then. Most young Indonesian men nowadays eventually find jobs by their late 20s (Manning 2003). The Indonesian 2010 Census confirms that the percentage of this echelon in paid work was more than 90% at the age of 29 years as presented in Figure 4-1.

Figure 4-1. Percentage of men aged 15–29 years by economic activity, 2010

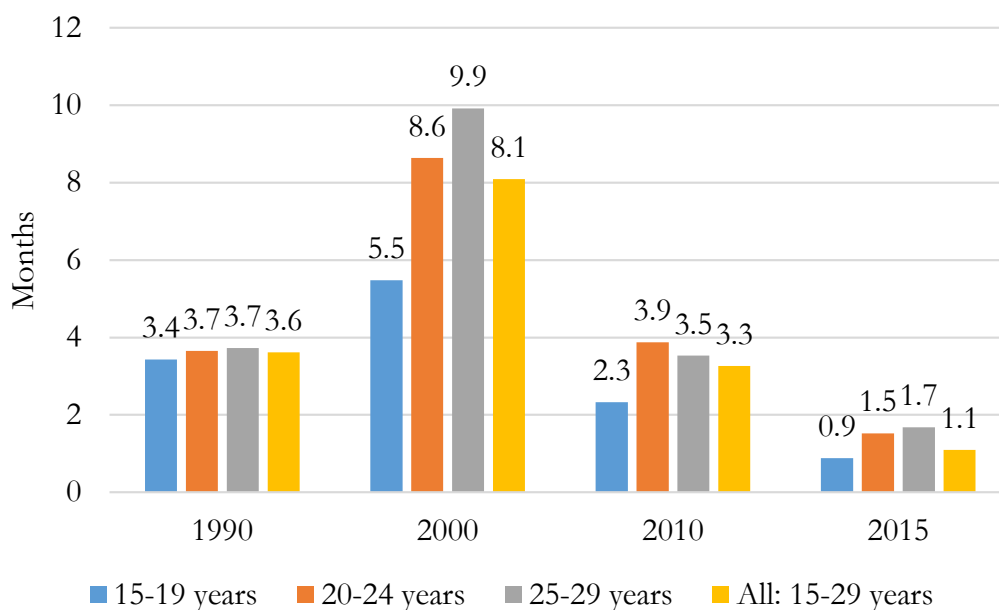


Source: Indonesian 2010 Census, BPS (2010)

Aldobrandini (2012) argues, however, that higher educational attainment actually increases the probability of unemployment in Indonesia, unlike in most developed countries. The probability of unemployment was influenced by education level, age and types of residential location in Indonesia. Another reason for long employment transition periods for educated youth is skill-mismatches, between skills obtained in the education system and skills expected by the labour market. Aldobrandini (2012) stresses that preparations for early involvement in the labour market still reduce the risks of long unemployment periods for school leavers. Although formal jobs increased in the 1990s, the Asian Financial Crisis stopped its growth and many people lost jobs in manufacturing and constructing sectors, for example, due to downsizing. Many job-cut employees tried to find jobs in the informal sector as a safety net (Rothenberg et al. 2016; Brata 2010; Tambunan 2010). Young people without jobs after years of unsuccessful job searches also looked for jobs in the informal sector as a solution for unemployment while wages remained low and unstable conditions persisted (Naafs & White 2012; Nilan et al. 2011). One of the main informal activities is service provision including street vendors, shopkeepers or motorcycle taxi drivers, especially in urban areas where these are still called service sector jobs (Brata 2010). According to a study by Brata (2010) on street vendors in two urban districts of Yogyakarta Special Province, three respondents with tertiary education out of 122 interviewees were working as street vendors. There is a risk of losing employment opportunities by remaining unemployed intentionally while waiting for better jobs (Aldobrandini 2012).

The average months of job search periods for Indonesian men aged 15–29 years since 1990 are presented in Figure 4-2. It shows that job search periods were quite high in 2000, then actually decreased in 2010 and 2015. But examining further by educational attainment gives different stories.

Figure 4-2. Average length of job search period (months) for men aged 15-29 years by age group in various years



Source: SAKERNAS (various years), BPS

The percentages of job search months and age groups are presented in Table 4-1. It illustrates that short-duration periods of 0–3 months for job searches increased significantly and dominated in 2010 and 2015 for all age groups. However, those aged 20-24 years who took more than six months remained at similar levels since 1990. This is the age group when many Indonesian men graduate from high school a few years before or are new graduates.

Table 4-1. Percentage of men aged 15-29 years by age and job search period (months) in various years

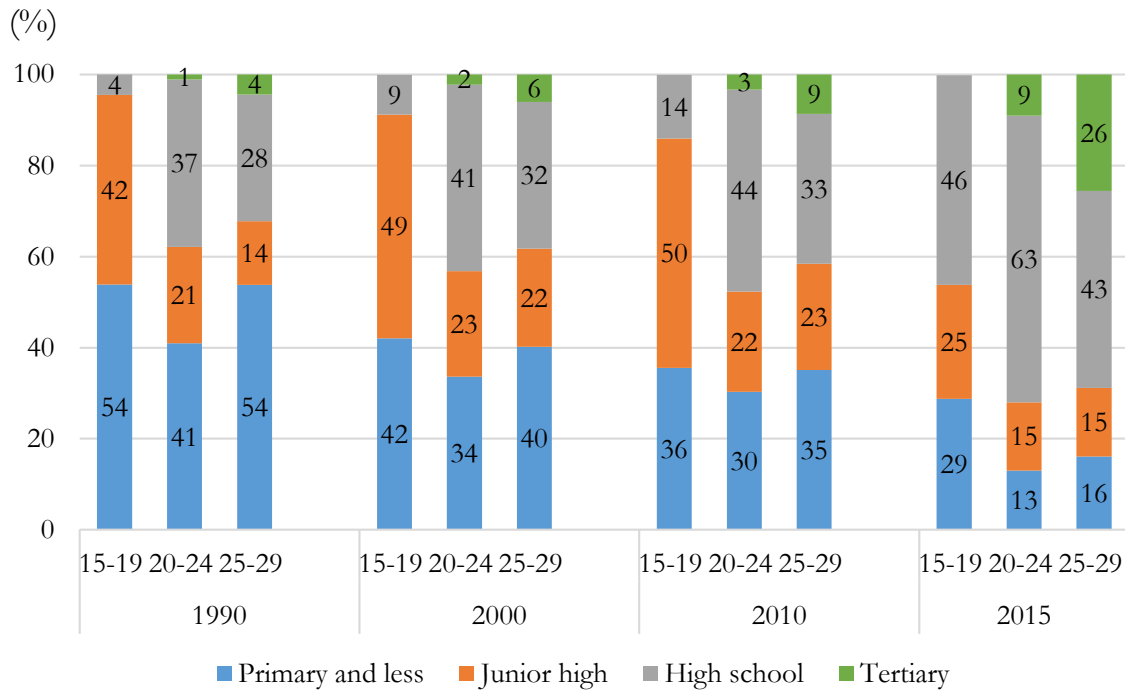
Months	1990			2000			2010			2015		
	15-19	20-24	25-29	15-19	20-24	25-29	15-19	20-24	25-29	15-19	20-24	25-29
0-3	59.0	52.6	50.6	49.3	30.5	36.2	84.0	72.1	74.2	94.5	85.1	89.8
4-6	30.7	35.3	36.3	23.8	67.8	20.6	8.2	13.5	13.7	1.3	2.4	1.5
6+	10.2	12.0	13.0	26.9	11.1	43.2	7.7	14.3	12.1	4.2	12.6	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: SAKERNAS (various years), BPS

Focusing on those who spent more than six months of job searching in line with their educational background is presented in Figure 4-3. It shows that job searches by men with high school and tertiary education increased steadily, especially for tertiary graduates whose numbers increased to 26% in 2015. These figures indicate that more men with high school or tertiary education experienced longer job search periods in recent years and faced less easy employment transition pathways despite their high educational attainment.

Cases in other countries in Southeast Asia show some similarities and some differences. In Cambodia, 18.7% of young men aged 15-29 years spent a job-search period of more than six months. By looking at unemployed young people's educational attainment, the largest group is those with secondary school education at 38.8% followed by primary school at 34.5% and tertiary education at 21.5% (National Institute of Statistics 2015) with relatively similar distributions. In Vietnam, tertiary educated men have the highest youth unemployment rates at 10.2%. However, the unemployment periods are short that 6.1% of young men aged 15-29 years spent more than six months for job search searching (Anh et al. 2015). In Malaysia, youth unemployment is high for tertiary educated young people despite available jobs. High unemployment occurs due to a lack of interpersonal skills rather than technical skills (Singh & Singh 2008).

Figure 4-3. Percentage of men aged 15–29 years who were job searching more than six months by educational attainment in various years



Source: SAKERNAS (various years), BPS

By focusing on the educational attainment levels of job seekers, both Figure 4-4 and Figure 4-5 are from the same Indonesian Labor Force Survey (SAKERNAS) but provide different perspectives. Figure 4-4 presents the percentage distributions of job seekers aged 15-29 years by educational attainment. It shows the percentage of men with high school education and tertiary education who were looking for work was increasing, although the percentage of men with tertiary education was low. This relates to the number of men in relation to the total age population holding tertiary level qualifications. Only 9.5% of men aged between 30 and 39 years were more likely to have completed education and have tertiary educational attainment, according to the Indonesian 2010 Census. On the other hand, Figure 4-5 shows the percentage of men aged 15-29 years with such educational attainment looking for work. A higher percentage of men with tertiary education were looking for work, followed by those with high school education qualifications. Thus, even if men achieved tertiary educational qualifications, between 20 and 40% of them were looking for work since 1990.

Figure 4-5. Percentage of respondents aged 15-29 years job searching by educational attainment

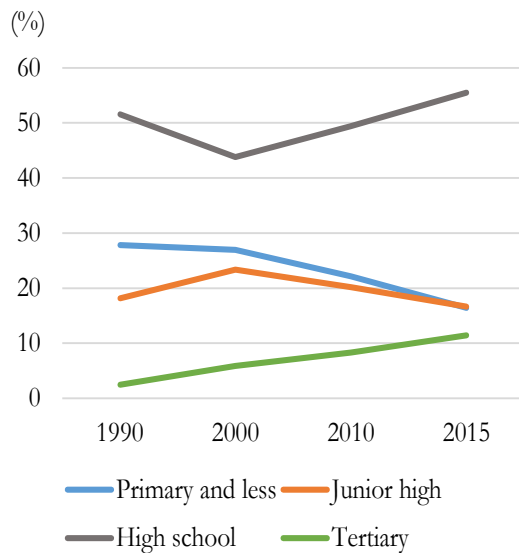
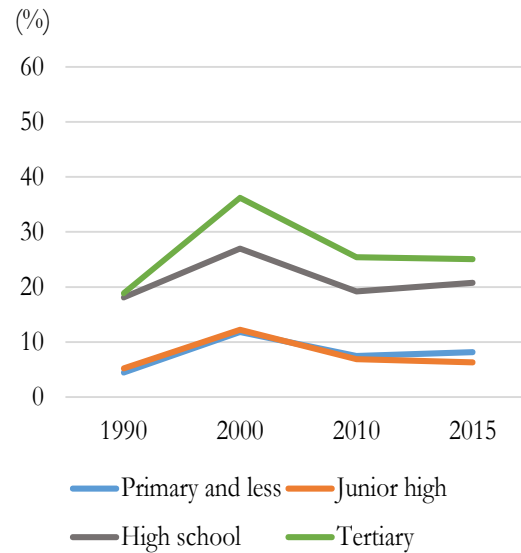


Figure 4-4. Percentage of respondents aged 15-29 years job searching within each educational attainment



Source: SAKERNAS (various years), BPS

Youth employment research often examines high youth unemployment rates and/or school-to-work transition periods between school graduation and obtaining the first job. However, Raffae (2008) argues that youth employment research on transitions has a narrow concept, focusing on first jobs, which is quite a short span. Young people's transition pathways to employment have become significantly prolonged and de-standardised with longer times due to longer education, different lifestyles, an unpredictable labour market and individualisation in more challenging circumstances because access to resources and opportunities have become more unequal among young people (Walther 2006). Having long employment transition pathways means that their transition processes are not straightforward, but various activities and phases in their life course are influenced by different factors, such as personal preferences, locations, historical time and cultural or social expectations, as illustrated in the life course theory (Elder 1994).

Complicated and dynamic employment pathways for Indonesian men are also seen by their job movements. Job turnover rates are highest for workers in their 20s, and many of them quit in their first few years due to lack of commitment, looking for better work conditions and new opportunities (Rokhman & Omar 2008) both in government and private sectors in Indonesia (Bennington & Habir 2003). In the private sector, high turnover rates are observed in mining, construction, trade, transport and social services. More skilled persons with high educational attainment changed jobs more frequently. However, Ginting et al. (2018) found that almost half of the workers aged 30–55 years in their sample had actually remained in the same job for more than ten years by 2015, and the situation was the same in 2005. This means that young Indonesian men experience dynamic employment pathways in their 20s, which more likely correlates with the job searching periods from the Indonesian 2010 Census in Figure 4-1. Despite their frequent job movements, little attention is paid to young people's long job development transition processes (Naidoo et al. 2015; Manning & Junankar 1998) because they are hidden in high youth unemployment rates.

This research is relevant because not having educated men in the labour market until their late 20s is a significant human resource loss from a national economic perspective. But also patterns and details that young Indonesian men's dynamic career development pathways are not well investigated with longitudinal data. Understanding the dynamic transition pathways to employment by following specific groups within a cohort enables us to detangle the complicated processes and identify areas to assist young Indonesian men to better maximise the outcomes of the demographic dividend.

4.2.2 Service sector and education

The structure of the economy has significantly changed in Indonesia over the past few decades. The agriculture sector started to decline in the 1990s and the non-agricultural sectors increased significantly, especially manufacturing, trade and service sectors (UNFPA 2015b; ILO 2007; Aaron et al. 2004; Manning & Junankar 1998). Such a shift was accelerated by the market-oriented economic reforms from the 1970s during the Soeharto regime, driven by the oil boom, then by deregulation (Purnastuti et al. 2015). This transformation has also affected youth employment trends (ILO 2007). While the agricultural sector is still the main sector for young people, it has been decreasing in the rural area. Urban youth, on the other hand, sought jobs in the formal and/or informal non-agricultural sectors (UNFPA 2014b; ILO 2007). The

manufacturing sector grew from the 1970s, but was disrupted by the Asian Financial Crisis in 1997, with the most severe damage among the industries. As a result, Indonesia experienced premature deindustrialisation as the share of the economy rapidly moved from the agriculture sector to the service sector, without proper development in the manufacturing sector (Kim et al. 2017). The Indonesian 2010 Census shows that the share of employment in the manufacturing sector in major cities was 25.9% whereas the service sector was 72.4% (UNFPA 2015b).

The 2012 SAKERNAS data showed that nearly half of the young men aged 20–39 years were employed in the service sector (UNFPA 2014b). Suryadarma et al. (2007) examined the employment sector distribution by education levels and types of residence and found that the service sector has been growing especially in urban areas. The service sector was the fastest-growing sector between 2006 and 2016 in Indonesia (ILO 2017c). The service sector is an important contributing sector of the national economy in the employment of educated youth (Suryadarma et al. 2007). Manning (2003) found that the percentages of educated workers with high school or higher education qualifications were much greater in the service sector, and their average income was about 40% higher than in other sectors.

However, the preference among educated youth for employment in the service sector creates more competitiveness and pushes unemployment rates up (Dhanani 2004). Manning and Junankar (1998) found that the Indonesian labour market was more rigid than counterparts in other regional countries such as Hong Kong, Taiwan and Thailand. This creates inflexible contract arrangements and long job search periods through using personal networks. Despite the growing preference for finding jobs in the service sector, it is not easy for newly graduated youth to enter the labour market because they have to compete for positions with adult workers who have more experience and new positions are rarely available. Their choice would be either to compromise to find jobs in the non-service sector, typically casual, insecure and unskilled jobs in the informal sector, or to keep seeking work until they find one in the desired service sector (Aldobrandini 2012; Manning & Junankar 1998). While most of them are employed by their late 20s, it still means that some of them take nearly ten years after graduating from high school or university to find stable jobs. This results in prolonged career development and frequent job changes.

4.3 Data and methods

4.3.1 Data and sample

This chapter uses the latest four waves of the Indonesian Family Life Survey (IFLS) conducted in 1997, 2000, 2007 and 2014. The sample is a cohort of male respondents aged 15–29 years in 1997. Five variables are used in this chapter: age, economic activity, working industry sectors, educational attainment and two types of residence, either urban or rural. It tracks the sample backwards by grouping their economic activity, working sector and educational attainment status in 2014, then following their status changes in 2007, 2000 and 1997. Aldobrandini (2012) found that the probability of unemployment was influenced by age, location and strongly influenced by education levels. This research uses the types of residence (urban/rural) as locations with three-year age groups within the cohort and tracks the young men's activity transition pathways with industry sector information.

This chapter applies the complete case analysis as discussed in Chapter 3 by selecting those who answered all the above variables. The sample size is 1,257 men. The number of male respondents initially recorded in the 1997 IFLS between ages 15 and 29 years was 3,657 persons. Details of the respondents who answered each variable in each survey year are described in Chapter 3. The descriptive statistics of the sample by age group, IFLS wave and variables are presented in Table 4-2. Categories of variables used for analysis are shown in *italics* for easy reading. The age-specific economic activity (by age group) varied in each survey wave. *Schooling* had the highest percentage for the 15–17 years in 1997 age group, then *working in service* or *non-service* increased with each wave. The *not working* category was large until their late 20s but then declined to less than 10% after age 30 years and onwards.

The distribution of the types of residence between *urban* and *rural* was more or less similar, while the younger age groups had a relatively larger share of *urban* residents. The levels of educational attainment increased by age and survey years while some respondents did not provide information in IFLS 1997. This research uses education as a measurement of human capital as educational attainment (Lutz & Samir 2010) and uses the information from the last wave in 2014. It shows that the percentage of higher education in 2014 becomes progressively larger for the younger age groups indicating a rapid improvement in educational attainment in Indonesia.

Table 4-2. Descriptive statistics by age group and IFLS wave (%)

IFLS wave	1997					2000					2007					2014				
Age group	15-17	18-20	21-23	24-26	27-29	18-20	21-23	24-26	27-29	30-32	25-27	28-30	31-33	34-36	37-39	32-34	35-37	38-40	41-43	44-46
Economic activity																				
Working service	8	11	24	21	32	15	29	37	33	39	45	40	41	38	41	47	47	41	44	41
Working non-service	17	28	46	57	60	33	42	48	55	55	43	51	53	53	53	44	44	51	50	49
Schooling	66	24	10	1	0	29	9	5	0	0	1	0	0	0	0	4	2	1	0	2
Not working	9	37	20	21	8	24	19	9	12	6	11	9	6	9	6	5	7	8	6	7
Total (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Types of residence																				
Urban	58	59	55	49	51	58	59	55	49	51	58	59	55	49	51	58	59	55	49	51
Rural	42	41	45	51	49	42	41	45	51	49	42	41	45	51	49	42	41	45	51	49
Total (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Educational attainment																				
Primary and less	54	33	36	38	23	27	33	38	47	42	27	33	37	49	44	25	31	36	48	44
Junior high	43	36	14	11	10	39	22	18	17	17	20	19	15	15	14	22	19	19	14	14
High school	2	28	43	33	30	32	43	40	30	36	39	36	39	28	35	38	39	33	29	35
Tertiary	0	0	1	3	2	0	1	5	6	4	13	10	8	7	7	15	11	11	9	7
Other or missing	1	3	6	16	34	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Total (%)	100	100	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	100
Sample size (n)	331	258	209	218	241	331	258	209	218	241	331	258	209	218	241	331	258	209	218	241
Total (n)			1,257					1,257					1,257					1,257		

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

4.3.2 Variables

4.3.2.1 Age

The age of the cohort used in this chapter is men aged between 15 and 29 years in 1997. Most young Indonesian men eventually find jobs in their late 20s, and this age range enables us to understand the transition pathways better by covering the period until 29 years as well. This chapter uses the following three-year age groups instead of five-year age groups to understand the transition patterns in more detail to track their pathway history, but also it is more manageable than using a single age analysis (Lam & Levison 1991). This age range also allows three-year age groups. There are five three-year age groups as of 1997: 15-17, 18–20, 21–23, 24–26 and 27–29 years old. Their ages in each wave are presented in Table 4-3.

Table 4-3. Age of cohorts of men between 15 and 29 years in 1997 by IFLS wave and age group

	Year			
	1997	2000	2007	2014
	15-17	18-20	25-27	32-34
	18-20	21-23	28-30	35-37
Age	21-23	24-26	31-33	38-40
	24-26	27-29	34-36	41-43
	27-29	30-32	37-39	44-46

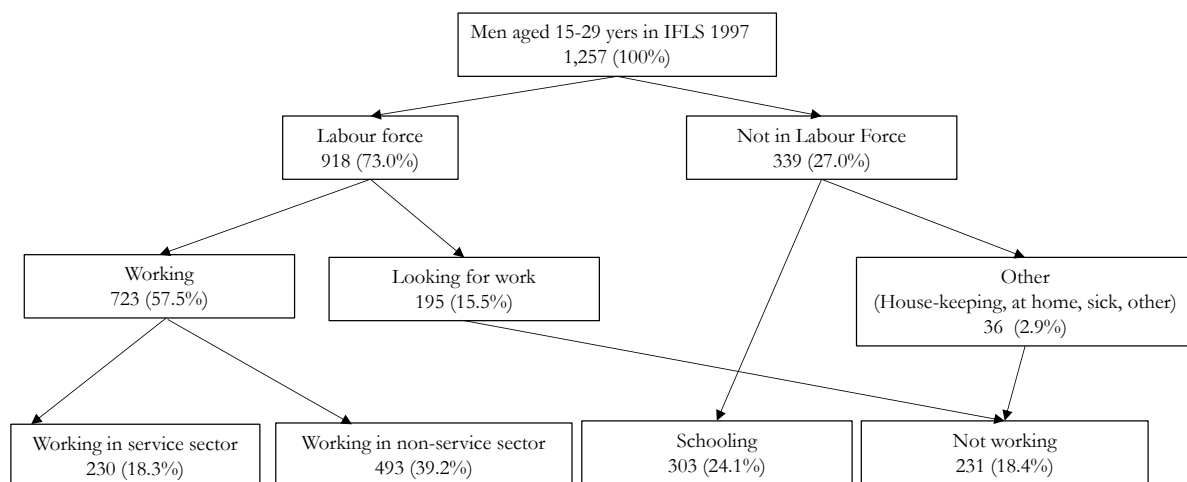
4.3.2.2 Economic activity

The economic activity variable is recoded from the original IFLS questions of “What was your primary activity during the past week?” into the following four categories: 1) *working in service*, 2) *working in non-service*, 3) *schooling* and 4) *not working*. The first two categories help to understand the changes in industry sectors. The active job search status is normally categorised as in the labour market and counted as unemployment, according to the official international definition of unemployment (ILO 2014). However, an issue of youth unemployment in Indonesia is the large number of young people who are not actively looking for work but are available for work. The Indonesian 2010 Census shows that 3.5% and 7.0% of Indonesian men aged 15 and 29

years in 2010 mentioned *looking for work* and *available for work* respectively. The number was 3.3 million and they are potentially productive workers.

The sample of this chapter by economic activity status in 1997 is presented in Figure 4-6 with the four variable categories used in this survey at the bottom. It shows that 73.0% of them were in the labour force, and 39.2% were *working* in the *non-service* sector. However, those with *not working* status including those *looking for work* amounted to 18.4%, most of them were *looking for work*.

Figure 4-6. Number and percentage of a cohort between 15 and 29 years in 1997 by economic activity



Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

4.3.2.3 Industry sector

The industry sectors are recoded into *service* and *non-service* sectors according to the IFLS questionnaire which has the common ten industry categories⁴ for all IFLS four waves. The *service* sector industries used in this research include: wholesale, retail, restaurants and hotels,

⁴ 1. Agriculture, forestry, fishing and hunting, 2. Mining and quarrying, 3. Manufacturing, 4. Electricity, gas, water, 5. Construction, 6. Wholesale, retail, restaurants and hotels, 7. Transportation, storage and communications, 8. Finance, insurance, real estate and business services, 9. Social services, 10. Activity that cannot be classified (IFLS 1997-2014 questionnaires, RAND)

transportation, storage and communications, finance, insurance, real estate and business services and social services. The rest of the industries are recoded under the *non-service* sector. The industries categorised as *non-service sector* include the primary industries of agriculture, forestry, fishing and hunting, and the industries of mining and quarrying, manufacturing, electricity, gas, water and construction. In this research, occupation is not taken into account for the analysis. It means that high-status workers in industry, such as oil company managers or engineers in oil companies, are categorised in the *non-service* sector. The target age group of 15-29 years men in 1997 reach 32-46 years of age in the last wave in 2014. They could possibly have such high-status occupations. Although occupation information is not included in this research which is one of the research limitations, providing broad pictures of complex employment transition pathways is valuable as a first step.

The percentage and standard errors (*SEs*) of the sample by industry and those who were *working* in each survey year is presented in Table 4-4. It shows similar proportions in all three industries in 1997 and a slightly higher percentage in the primary industry sector. Although the primary sector increased its percentage in 2000, it decreased in 2007 and 2014. On the other hand, the *service* sector decreased slightly in 2000 but increased in 2007 and 2014, and the secondary sector remained around 30% in all three survey waves. This indicates that for the young age group that graduated from *high school* around 2000, it might be easier to find work in agriculture and gradually move to the *service* sector. The changes in percentage indicate the movements of young men's employment transition pathways between 1997 and 2014.

Table 4-4. Percentage and standard error of industry sector by *working* men aged 15-29 years by IFLS wave

Working industry sector	IFLS wave							
	1997		2000		2007		2014	
	%	<i>SE</i>	%	<i>SE</i>	%	<i>SE</i>	%	<i>SE</i>
Primary	35.3	1.7	41.4	1.7	35.6	1.5	27.7	1.4
Secondary	32.7	1.7	29.5	1.5	29.2	1.4	30.6	1.4
Service	32.0	1.7	29.1	1.5	35.3	1.5	41.7	1.5
Total (%)	100.0	..	100.0	..	100.0	..	100.0	..
Total (<i>n</i>)	784	..	888	..	1,007	..	1,088	..

Note: *SE* = Standard Error

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

4.3.2.4 Types of residence

The two categories of *urban* and *rural* are used as the types of residence in this chapter. As discussed in Chapter 3, this chapter uses only those who stayed in the same category of either *urban* or *rural* over the coverage of all four waves. In Indonesia, the Indonesian Ministry of National Development Planning (Bappenas) defines urban and rural in two different ways: administrative local government units and functional urban and rural status based on population size (UNFPA 2015b). IFLS follows the definitions of urban and rural in the survey based on the SUSENAS, which uses census classifications of urban and rural (RAND 2000). The Indonesian 2000 and 2010 Censuses used scoring systems to define urban and rural, based on population density, percentage of household working in the agriculture sector and accessibility to urban facilities (BPS 2017; UNFPA 2015b).

However, there are limitations to following exact movements of survey respondents from the survey answers by using *urban* and *rural* information. There are several possible cases where it was not possible to detect their movements accurately. For example, respondents may move from a small regional town (*urban*) to major cities (*urban*) to look for jobs in the service sector, while both of the places are categorised as *urban* but their movements are not captured. In some cases, subjects may not move anywhere but their villages may have simply changed from *rural* to *urban* due to rapid urbanisation in Indonesia. The proportion of villages categorised as *urban* in 2000 was 10.9% which nearly doubled to 20.5% in 2010 (UNFPA 2015c). The main focus of this chapter is to understand young Indonesian men's transition pathways to employment based on their economic activity. More in-depth analysis by following their migration movements could be conducted separately by taking the size of their types of residence more accurately.

4.3.2.5 Educational attainment

This research uses education attainment by recoding IFLS categories according to the highest education attained, as described in Chapter 3, in order to be consistent with the 2010 Census as well as the international definition of the education attainment (UIS 2011). The educational attainment categories are recoded into the following two categories: 1) *high school and above*, as *educated* men and 2) *junior high school and less*, as *low-educated* men. This is because having such categories keeps the distributions relatively similar, as Table 4-5 presents the sample by age group and 2014 educational attainment.

Table 4-5. Number of men aged 15–29 years in 1997 by educational attainment in 2014

Age	Educational attainment in 2014				Total (<i>n</i>)
	Primary and less	Junior high	High school	Tertiary	
15-17	84	73	125	49	331
18-20	81	48	101	28	258
21-23	76	39	70	24	209
24-26	104	31	64	19	218
27-29	105	34	85	17	241
Total (<i>n</i>)	450	225	445	137	1,257

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

4.4 Results

This section provides the results of the percentage levels and changes in economic activities by IFLS wave and differences by groups and age groups. The results are presented in graphs for a better understanding based on the Tables in Appendix 4-1. The number of the *not working* group is relatively small and analyses are conducted on the whole age group with some descriptions by three years age groups.

4.4.1 Method

Cross-tabulations are used in this chapter to examine the detailed transition pathways to the latest employment based on their 2014 four categories of economic activity of: *working in service*; *working in non-service*, *schooling* and *not working*. There are three main groups based on their destination employment status in 2014: *working in service sector*, *working in non-service sector* and *not working*. Within each main group, there are four groups with two educational attainment categories and two types of resident categories in 2014:

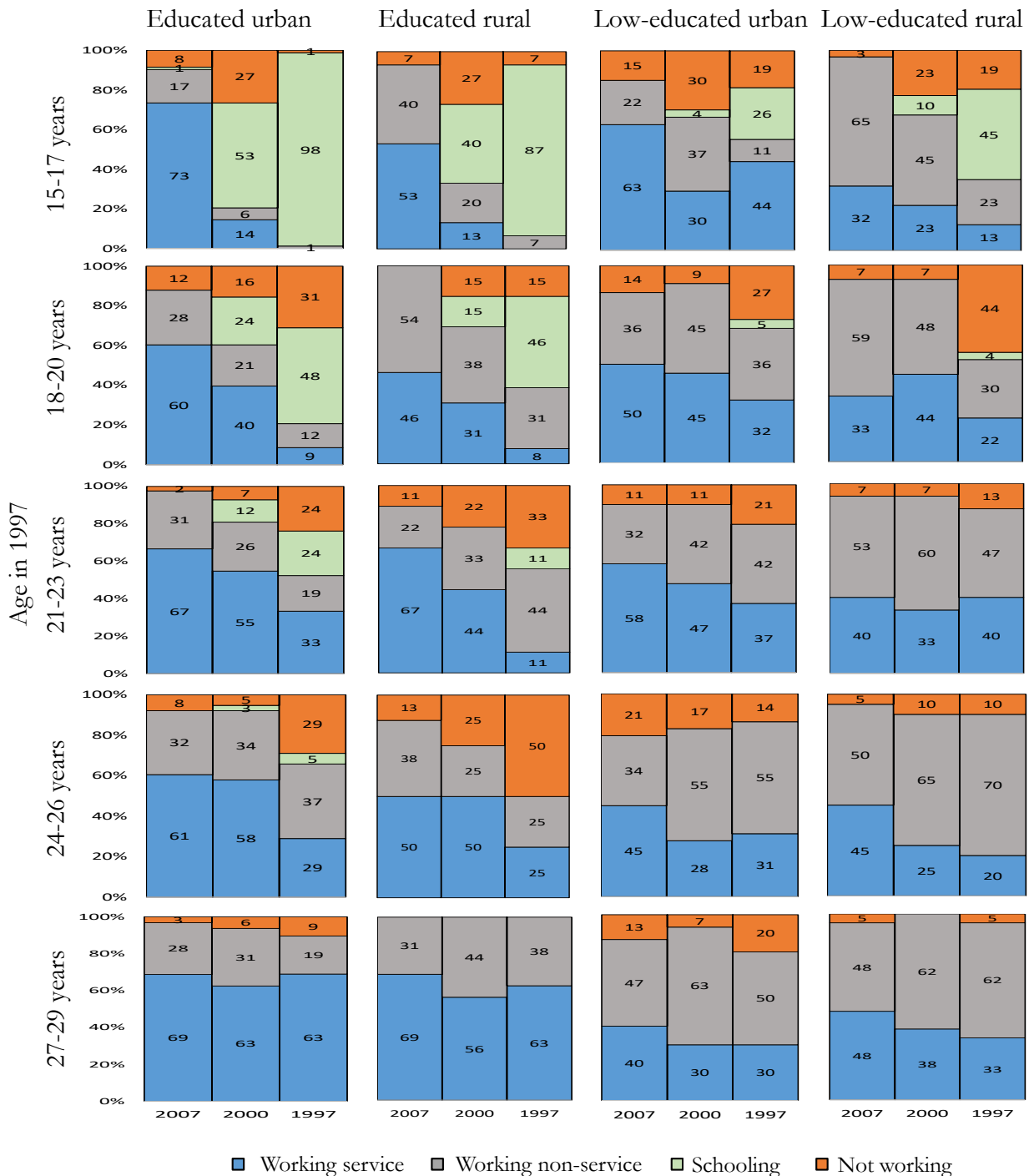
- 1) Educated urban men,
- 2) Educated rural men,
- 3) Low-educated urban men and
- 4) Low-educated rural men.

Then, within each category, the percentage of the four economic activities are provided by five three-year age groups in three survey years backwards in 2007, 2000 and 1997. The cross-tabulations allow showing the changes in the percentage of economic activity statues in their earlier survey year.

4.4.2 Working in service sector in 2014

In this group for young men who were *working* in the *service* sector in 2014, all the four education/residential groups had a relatively high percentage *not working*, in orange, in 1997 as presented in Figure 4-7. This could be partially the influence of the Asian Financial Crisis that hit Indonesia from mid-1997. Some groups still had a high percentage of *not working* in 2000, but this gradually decreased by 2007 except that this increased for some groups of *low-educated urban*. This implies a competitive and disadvantaged environment for them in the urban labour market with low-educated backgrounds. The transition pathways to *service* sector jobs were slightly different by group. Both *educated* groups in *urban* and *rural*, on the left-hand side, increased their percentages in the *working service* sector, in blue, from 1997 gradually, in general by remaining larger than their types of residence in the same urban/rural areas. Both *low-educated* groups in *urban* and *rural*, on the right-hand side, might be expected to have longer work experience through completing education earlier and their percentage in the *working service* sector was larger in 1997, however, the increase was slow and fluctuating. This indicates that low-educated men have to compete with educated men when they enter the labour market after completing their education. Having higher educational attainment is a greater advantage than previous work experience.

Figure 4-7. Percentage of economic activity by 2014 *working in service sector* men aged 15–29 years in 1997 by age group, educational attainment in 2014, and types of residence, in 2007, 2000 and 1997



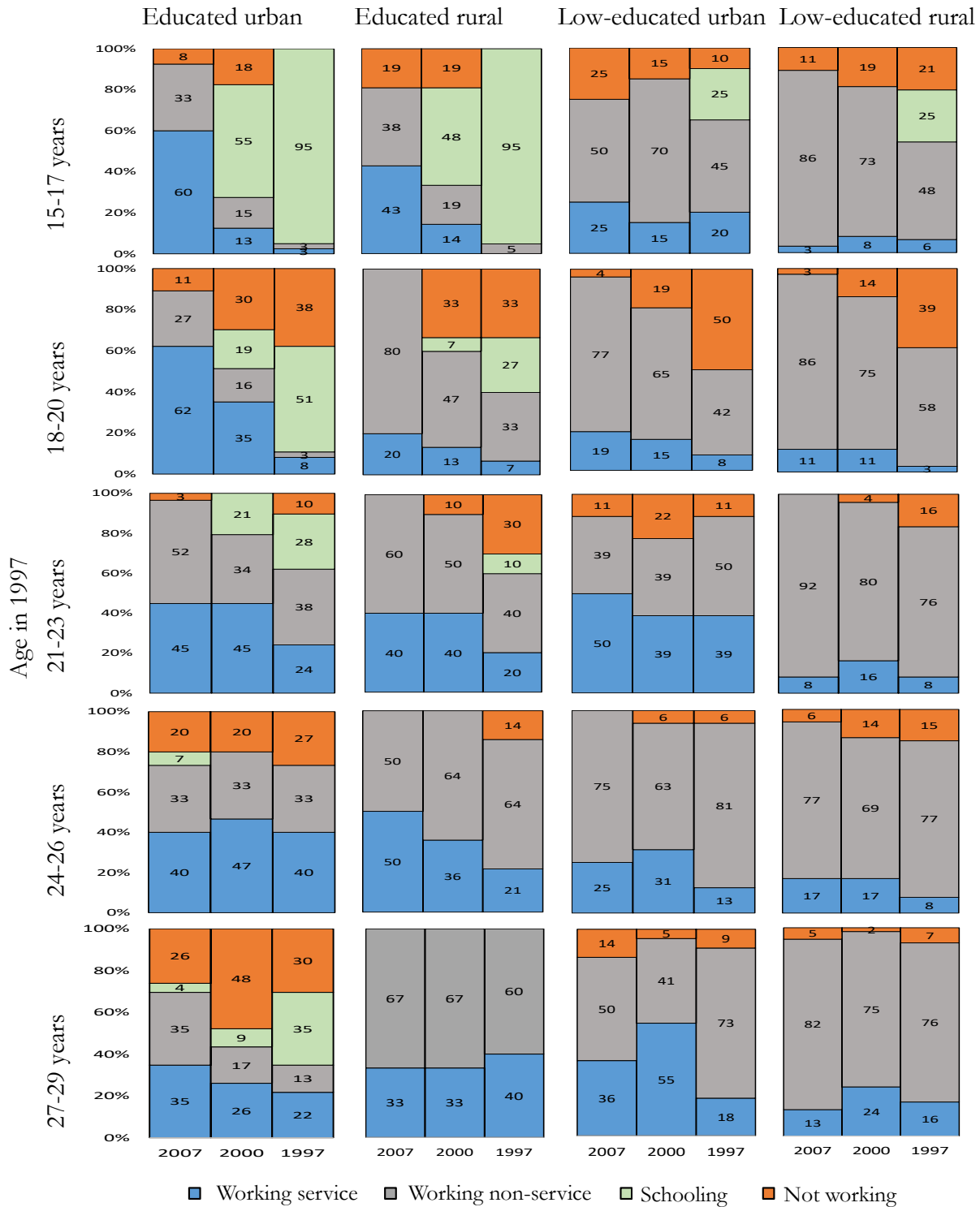
Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

4.4.3 Working in the non-service sector in 2014

In this group of men who were *working* in the *non-service* sector in 2014, all the four education/residential groups had some experience of *working service* sector, in blue, but this fluctuated and differed by group as presented in Figure 4-8. The *educated urban* group, on the far left-hand side, had a high percentage of *working service*, similar to their counterparts in the 2014 *working service* group. However, the other groups, in general, had a lower percentage in *working service* than the same counterparts of the 2014 *working service* group as presented in the previous section. The *low-educated rural* group, on the far right-hand side, especially had quite a low percentage *working service* while the levels increased by age. The *educated rural* group, on the left-hand side of the centre, had a much higher percentage *working service* than that of the *low-educated rural* group. Similar trends were seen between *educated rural* and *urban* groups. This implies that it is not easy to find and remain in jobs in the service sector, especially in rural areas with limited job availabilities and low-educated backgrounds. This is because young men have to compete with higher educated men for popular but limited service sector positions. However, this analysis is focusing on the job movements between service and non-service sectors, and the levels of wages and contract differences were not taken into account.

The percentage levels of *not working*, in orange, were high in 1997 and 2000 compared to the 2014 *working service* group and not necessarily higher than the same counterparts of the 2014 *working service* group in the previous section. Some *low-educated urban* age groups had fluctuations in the percentage *not working*, that unlike other groups decreased gradually. Similar trends were also observed among the 2014 *working service* group in the previous section. Low-educated urban men could more likely face a challenging situation in seeking employment in urban areas by competing with men with higher education. There is a fluctuating percentage of working levels either within each of the four education/residential groups or age groups. This implies that young men changed sectors and experienced dynamic career development transitions even under the same working status destinations in 2014 which enabled us to provide better information for employment transition pathways for young men in Indonesia.

Figure 4-8. Percentage of economic activity by 2014 *working in non-service sector* men aged 15–29 years in 1997 by age group, educational attainment in 2014, and types of residence, 2007, 2000 and 1997



Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

4.4.4 Not working in 2014

The number of men in *not working* status in 2014 was 88 persons in total of all ages and a quite small number in each four education/residential group as presented in Table 4-6 which also provides standard errors (*SEs*). The distributions were not necessarily skewed towards the younger age groups but more or less spread across all the age groups. The number was highest for the *low-educated rural* group, followed by the *educated urban* and *low-educated urban* groups. The relation between educational attainment/residence and age group in the *not working* group was marginally significant ($p = .071$). While a few persons' movements change the percentage significantly, those results show a relatively higher *not working* level in 1997 and 2000, with higher levels in 2000 for all groups except the *low-educated rural* group which is not commonly observed by other two groups in the previous sections. The percentages for each group of all ages are presented in Figure 4-9. The figures show some fluctuations in each economic activity status in each wave. The *educated urban* group, on the far left-hand side, had a high percentage *not working*, especially in 2000, which implies their high prevalence in the job-seeking situation. Relatively high percentages occur in *working service*, in blue, for all groups and increase by year in general. However, the levels of *working non-service* and *not working* showed fluctuations with a relatively high percentage *not working*, especially for the *educated urban* group, which implies their frequent movements and unstable employment environment, even if they already had working experience in the service sector. This implies risks in remaining unemployed and an unpredictable situation for their future employment opportunities.

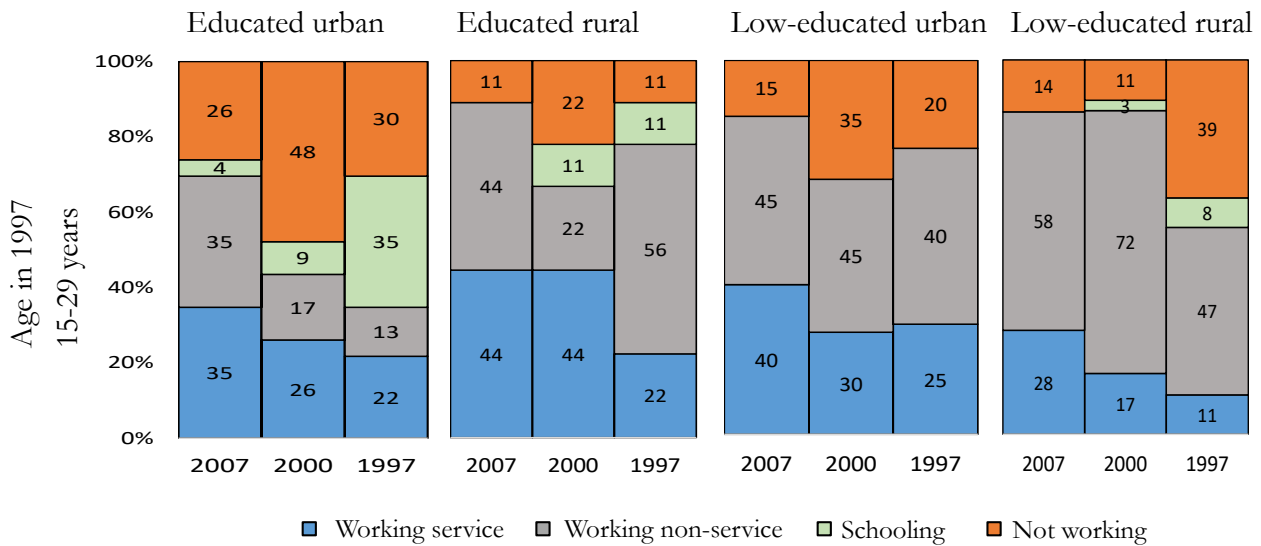
Table 4-6. Number of 2014 *not working* group aged 15–29 years in 1997 by status in 2014

Status in 2014	Age group in 1997					Total (<i>n</i>)	Each cohort		
	15-17	18-20	21-23	24-26	27-29		Total (<i>n</i>)	(%)	<i>SE</i>
Educated/Urban	6	2	2	6	7	23	435	5.3	1.1
Eudcated/Rural	1	1	1	2	4	9	147	6.1	2.0
Low-educated/Urban	7	3	4	3	3	20	252	7.9	1.7
Low-educated/Rural	4	13	9	2	8	36	423	8.5	1.4
Total (<i>n</i>)	18	19	16	13	22	88	1,257	..	..

Note: *SE* = Standard error, $\chi^2(12, N = 88) = 19.78, p = .071$

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

Figure 4-9. Percentage of economic activity by 2014 *not working* men aged 15–29 years in 1997 by age group, educational attainment in 2014, and types of residence, 2007, 2000 and 1997



Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

In sum, all groups had a relatively high percentage *not working* in 1997 and 2000, which could reflect the impact of the Asian Financial Crisis. The employment transition pathways were quite different by group even within the same economic status groups in 2014. For the 2014 *working service* group, the increase of *working service* was steady for *educated* men but slow and fluctuating for *low-educated* men despite their previous work experience. This indicates the advantages of higher education. The 2014 *working non-service* group showed relatively high percentages for *working service* for the *educated urban* group. The other groups had lower levels of *working service* than the same counterparts of the 2014 *working service* group, especially for the *low-educated rural* group. This indicates the popularity of working in the service sector for most men except low-educated rural men, most likely due to limited job availability and the disadvantages of having low education. The number of the 2014 *not working* group was quite small. The levels of percentage *not working* were high with fluctuations for their economic activity status. This indicates the risk of periods of unemployment for their future employment opportunities.

4.5 Conclusion

This chapter examines Indonesian young men's transition pathways to employment by following their economic activity status to identify the changes and differences by each survey year. It tracks three main groups based on their economic activity in 2014 (*working service*, *working non-service* and *not working*) with four groups according to their educational attainment and types of residence (*educated urban*, *educated rural*, *low-educated urban* and *low-educated rural*). The results show that young Indonesian men experienced dynamic movements and changed industry sectors regardless of their educational attainment and the area of residence.

Three main results were found in this chapter. First, there is a preference for working in the service sector and higher education is a clear advantage. The *educated* in the 2014 *working service* group gradually increased their percentage of *working service* but the *low-educated* groups experienced fluctuations despite their early entry into the labour market, regardless of their types of residence. This indicates the advantage of higher educational attainment in securing employment relatively smoothly and quickly in the service sector. Such transitions are supported by human capital theory which states that investment in education creates better outcomes in the future (Rosenbaum et al. 1990; Becker 1962).

However, Aldobrandini (2012) argues that higher educational attainment actually increases the probability of unemployment, due to job preference and the gaps between preference and the reality of labour market demand. Concerns persist about the low quality of education in Indonesia despite the substantial advances in education supported by the government since the 1960s, starting with the school construction program and followed by the expansion of compulsory education to six years in 1984, to nine years in 1994 and to 12 years more recently. These have contributed to a significant increase in the numbers of young people with senior secondary graduate education or above, but focusing rather on quantity than quality. Many graduates with higher education have been coping poorly in a job market characterised by high youth unemployment rates and a sharp increase in under-employment (Tobias et al. 2014). Such a challenging situation may become even tougher with a greater influx of graduates, their preference for the service sector, skill mismatches, lack of demand in the market without more focus on collaboration with industries to identify labour market demand or secure available positions for young people (OECD & ADB 2015). Most unemployed youth have high school qualifications and the percentages of men with high school and tertiary education spending

more than six months of job-searching were increasing, as discussed in Section 4.2.1 (see Figure 4.3). From a human capital perspective, having higher youth unemployment rates and an increasing number of young educated men with high school and tertiary education experiencing longer job search periods contradicts human capital theory. However, such a situation could be partially due to the strong preference for service sector jobs (Aldobrandini 2012; Suryadarma et al. 2007; Dhanani 2004).

Young Indonesian men face heavy social and cultural pressure to be responsible for bringing income to the family even in dual-earner households (Utomo 2012; Nilan 2008). The service sector is particularly popular among them because the informal sector has an unsecured employment environment. The informal sector is still largely dominant in Indonesia and still accounts for about two-thirds of the Indonesian labour force (Naafs 2013; Suryahadi et al. 2012; ILO 2007; Manning 2003). Many young people compete for the limited number of available positions in the service sector. The results of this chapter support such arguments that the *educated* groups steadily increased their percentage of *working service* and had a high percentage of *not working*, and that they are still seeking work in the service sector. Although this research does not take job quality, including wages, work hours, employment types or satisfaction levels into account, Aldobrandini (2012) found that educated men eventually secure better employment than low-educated men, and this finding still supports the human capital perspectives. But it is not an easy process. The results of this chapter show that young men often changed sectors to find jobs in the service sector but always face risks of prolonged unemployment, as seen in the high percentage of the *educated urban* groups in the *not working* group. They experience dynamic employment transition pathways even after finding their first jobs after completing education.

Second, subjects frequently moved from sector to sector. Most of the 2014 *working non-service* groups had a high percentage of *working non-service* previously, while many groups except the *low-educated rural* group had experience of *working in service* with some fluctuating percentages. It shows that low-educated rural men are most likely to spend time in the non-service sector. This means that they most likely face limited choices due to their disadvantaged educational attainment and also to limited service job availability in rural areas. The agriculture sector is the main industry in rural areas, but Aldobrandini (2012) found that rural youth unemployment

reduced around one-fourth between 2007 and 2010. Underemployment with available work less than 35 hours per week, is however common and widespread in rural areas where 45% of employed youth are under this category. However, the agriculture sector still helps to absorb the youth labour force who are not able to find jobs in other places.

Groups other than the *low-educated rural* group moved between industry sectors rather than joining and remaining in the same non-service sector, thus showing their preference for working in service sector jobs. They also experienced dynamic career development processes, which are hard to investigate in detail with a cross-sectional approach by looking at the same age or age groups in different year but different samples (Hannan et al. 1996). The results show that their transition pathways are complicated due to frequent industry sector movements and contrasting patterns between *urban* and *rural* areas. Many young men prefer to have well-paid jobs in the service sector, under social and cultural pressure as the primary breadwinners. But this preference contains risks. Shrestha and Coxhead (2018) analysed IFLS and found that moving away from the service sector incurs the risk of lower wages. Since this chapter studied cohorts from 1997, the subjects in this case also commonly and inevitably experienced the economic crisis. Coxhead (2014b) argues that service sector jobs are more vulnerable than other sectors to an economic crisis or recession. Such a complicated transition pathway is well explained by the life course theory (Giele & Elder 1998), which has four main factors as discussed in Chapter 2, namely personal goals (human agency) where service sector jobs are most preferred, cultural expectations (linked lives) where males are expected to be breadwinners, timing (of life events) where jobs need to be found and location (in time) where a crisis is experienced, in this case the Asian Financial Crisis.

Third, most groups regardless of their 2014 economic activity group had a high percentage *not working* in 1997 and some were still at high levels in 2000. These obviously could reflect the Asian Financial Crisis that started in mid-1997. Many groups reduced the percentage *not working* after 2000 or at the age of 26 years, while the *low-educated urban* groups experienced fluctuations, indicating a challenging environment for them in efforts to find work in *urban* areas with low-educational attainment. The results of the 2014 *not working* group show that while the number was small, they had a higher percentage than the other two groups, but the 2014 echelon still had a relatively high percentage of *working in service* sector, especially for *educated* men. These figures reinforce the perception of a negative influence of periods out of work on subjects'

future employment opportunities even in Indonesia, though the risk seems less severe than in developed countries (Bell & Blanchflower 2010; Mroz & Savage 2006; Bradley & Nguyen 2004; Arulampalam 2001; Becker & Hills 1980). Aldobrandini (2012) argues that long unemployment periods nevertheless increase the risk of future unemployment in Indonesia. Young Indonesian men face a competitive and challenging environment for their transition pathways to employment, especially in urban areas. Their employment career development processes continue many years after the completion of their education or initial employment, which requires continuous efforts to find better jobs for a long time. Therefore, focusing on school-to-work transitions between school graduation and the first job to understand youth employment in Indonesia has some limitations with a narrow concept (Raffe 2008; Hannan et al. 1996) because young Indonesian men often experience dynamic and frequent job changes even when remaining in work.

These results show that young Indonesian men have strong incentives to engage in economic activity despite the periods of unemployment experienced by many of them as presented in Figure 4-1. In order to assist young people in employment, several policies and programs are supported by the government and international organisations. The main policy and program are the government mid-term development plans for both 2010–2014 and 2015–2019 (RPJMN), which emphasise the importance of youth for the country's development. Indonesia has also established the Indonesian Youth Employment Network (IYEN) with the action plan 2004–2007 as a lead country in the global youth employment initiative supported by the UN General Assembly in 2003. The two active government ministries responsible for youth employment in Indonesia are the Ministry of National Education (MONE⁵) and the Ministry of Manpower and Transmigration (MOMT⁶) (Aldobrandini 2012). There are also collaborations with international agencies including the World Bank⁷ and the International Organisation of

⁵ Public and private vocational training providers or centres (MOMT or MONE) (Aldobrandini 2012)

⁶ This is to facilitate job seekers' training through vocational training centres and runs apprenticeship programs to assist job seekers in cooperation with the private sector. The youth professional entrepreneur development (YPED) offers entrepreneurship training for youth graduates. Job fairs are run to bring together prospective employers and employees, especially young people (Aldobrandini 2012)

⁷ The Education for Youth Employment (EYE) programme to enhance skills with training providers and support youth entrepreneurship and self-employment, including life skills training for un-or under-educated youth ages 16-24 who are poor and jobless. (Aldobrandini 2012). The Kursus Para Profesi (KPP Programme) is aimed at disadvantaged youth, and seeks to create job skills in demand from employers.

Labour (ILO)⁸ for youth employment. The government is also planning to implement a program for better employment knowledge and entrepreneurship to revitalise job access (BEKERJA) and strengthening employment services.

The main program run by MONE is to promote and expand vocational education and was aimed at enrolling more students from 2015 than general schools, at a ratio of 70:30. It continued to be included in the country's mid-term development goals 2015–2019 (RPJMN 2015-2019). However, some researchers question the predicted positive impacts due to the quality of the schools, especially bearing in mind that a rapid change to a service-oriented economy may mean declining demand for the industrial skills which vocational schools offer (Newhouse & Suryadarma 2011; Chen 2009; Marks et al. 2003). Aldobrandini (2012) also raises concerns about several limitations, including an absence of national coordination between public and private suppliers, and in policy design, participation by various industries, focusing on informal industries, and the absence of a monitoring system to evaluate and enhance the design and implementation of the programs. Adioetomo et al. (2015) explain that the 2015–2019 National Medium-term Development Plan describes overall employment creation rather than focusing on youth employment despite the vulnerability of young people's employment opportunities as against adults, due to their lack of skills, lack of experience and more limited access to financial resources. Aldobrandini (2012) argues that these policies and programs are not new and are already reflected in the IYEAP and other policies. The real challenge would be to operationalise and coordinate the implementation of these policies.

In sum, one of the issues affecting long and difficult employment transition pathways is the lack of labour market information sharing and job search skills. There are a few formal systems for matching job vacancies and job seekers. However, only a limited number of educational institutions participate in available job fairs and/or public employment services such as using newspaper advertisements (Aldobrandini 2012). Most young people use their personal networks and contacts for securing jobs (Sziraczki & Reerink 2004). In-school career guidance services are available in most secondary and higher education institutions in Indonesia and links with the respective government departments including MONE, MOMT and BPS would help

⁸ Indonesia Decent Work Country Programme (DWCP) 2006-2009, is a collaboration with ILO and key government ministries to improve quality and effectiveness of training policies and programs with local government to improve employability of young people (Aldobrandini 2010).

the process. Some good examples would be cases in Japan where close collaboration occurs between schools and industries, and there are very limited periods of school-to-work transition for Japanese new graduates because the recruitment process starts when young people are still in school (Gaston & Kishi 2005; Genda & Kurosawa 2001; Rosenbaum & Kariya 1989). Genda and Kurosawa (2001) found that providing vocational guidance or recommendations to potential workers and ready-to-graduate students increased the quality of job matches. Many Japanese high schools have agreements with companies and organisations to hire their school students, based on their academic grades, which actually creates competition within and between schools. Such arrangements are not common in other developed countries including the United States. Rosenbaum et al. (1990) found that having strong personal and institutional network linkages actually helps the students to find work rather than hiring non-linked students in contrast to the advantage of having weak-linkage for finding jobs as Granovetter (1983) argues, as discussed in Chapter 2.

While each country has a different culture and environment for young people's transition pathways to employment, it is important to reduce job search periods to improve the utilisation of educated youth skills in Indonesia. Since many policies and programs are already in place, and the results show that young Indonesian men experience long career development pathways through changing sectors, the concern is now mainly related to how the policies can be effectively implemented. A special focus would be required to improve access to job vacancy information. The examples from Japan as described above (Gaston & Kishi 2005; Genda & Kurosawa 2001; Rosenbaum & Kariya 1989), which is different from other developed countries, would be worth trying by selecting some pilot schools.

Appendix 4-1. Percentage of economic activity by men aged 15–29 years in 1997 based on their 2014 economic activity status by age group, educational attainment in 2014 and types of residence (urban/rural), 2007, 2000 and 1997

4-1a: Educated urban men

2014		2007				2000				1997				Sub total	
Age	Status	WS	WN	S	N	WS	WN	S	N	WS	WN	S	N	(%)	(n)
		(25-39 years)				(18-32 years)				(15-29 years)					
32-46 years (All ages)	Working service	66.8	25.3	0.4	7.5	39.5	20.2	25.3	15.0	19.8	15.4	47.8	17.0	100.0	253
	Working non-service	56.8	34.5	0.7	8.1	33.1	27.0	23.6	16.2	16.2	24.3	44.6	14.9	100.0	148
	Schooling	30.0	20.0	10.0	40.0	10.0	10.0	20.0	60.0	0.0	0.0	80.0	20.0	100.0	10
	Not working	34.8	34.8	4.3	26.1	26.1	17.4	8.7	47.8	21.7	13.0	34.8	30.4	100.0	23
	Sub total (n)	111	436	0	28	137	404	0	34	79	391	1	82	..	434
		(25-27 years)				(18-20 years)				(15-17 years)					
32-34 years	Working service	73.5	16.9	1.2	8.4	14.5	6.0	53.0	26.5	0.0	1.2	97.6	1.2	100.0	83
	Working non-service	60.0	32.5	0.0	7.5	12.5	15.0	55.0	17.5	2.5	2.5	95.0	0.0	100.0	40
	Schooling	28.6	28.6	14.3	28.6	0.0	0.0	28.6	71.4	0.0	0.0	100.0	0.0	100.0	7
	Not working	50.0	16.7	16.7	16.7	50.0	0.0	33.3	16.7	0.0	0.0	100.0	0.0	100.0	6
	Sub total (n)	90	30	3	13	20	11	70	35	1	2	132	1	..	136
		(28-30 years)				(21-23 years)				(18-20 years)					
35-37 years	Working service	60.3	27.6	0.0	12.1	39.7	20.7	24.1	15.5	8.6	12.1	48.3	31.0	100.0	58
	Working non-service	62.2	27.0	0.0	10.8	35.1	16.2	18.9	29.7	8.1	2.7	51.4	37.8	100.0	37
	Schooling	50.0	0.0	0.0	50.0	0.0	50.0	0.0	50.0	0.0	0.0	50.0	50.0	100.0	2
	Not working	50.0	0.0	0.0	50.0	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0	100.0	2
	Sub total (n)	60	26	0	13	36	19	21	23	8	8	49	34	..	99
		(31-33 years)				(24-26 years)				(21-23 years)					
38-40 years	Working service	66.7	31.0	0.0	2.4	54.8	26.2	11.9	7.1	33.3	19.0	23.8	23.8	100.0	42
	Working non-service	44.8	51.7	0.0	3.4	44.8	34.5	20.7	0.0	24.1	37.9	27.6	10.3	100.0	29
	Schooling	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	1
	Not working	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0	100.0	2
	Sub total (n)	41	28	0	5	37	21	0	5	21	19	19	15	..	74
		(34-36 years)				(27-29 years)				(24-26 years)					
41-43 years	Working service	60.5	31.6	0.0	7.9	57.9	34.2	2.6	5.3	28.9	36.8	5.3	28.9	100.0	38
	Working non-service	40.0	33.3	6.7	20.0	46.7	33.3	0.0	20.0	40.0	33.3	0.0	26.7	100.0	15
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	16.7	50.0	0.0	33.3	16.7	33.3	0.0	50.0	16.7	16.7	0.0	66.7	100.0	6
	Sub total (n)	30	20	1	8	30	20	1	8	18	20	2	30	..	59
		(37-39 years)				(30-32 years)				(27-29 years)					
44-46 years	Working service	68.8	28.1	0.0	3.1	62.5	31.3	0.0	6.3	62.5	28.1	0.0	9.4	100.0	32
	Working non-service	66.7	29.6	0.0	3.7	40.7	48.1	0.0	11.1	25.9	66.7	3.7	3.7	100.0	27
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	42.9	57.1	0.0	0.0	28.6	28.6	0.0	42.9	57.1	28.6	0.0	14.3	100.0	7
	Sub total (n)	43	18	0	3	33	26	0	8	31	27	1	5	..	66

Notes: WS = Working in service sector, WN = Working in non-service sector, S = Schooling, N = Not working

4-1b: Educated rural men

2014		2007				2000				1997				Sub total	
Age	Status	WS	WN	S	N	WS	WN	S	N	WS	WN	S	N	(%)	(n)
		(25-39 years)				(18-32 years)				(15-29 years)					
32-46 years (All ages)	Working service	57.4	37.7	0.0	4.9	37.7	32.8	13.1	16.4	23.0	27.9	32.8	16.4	100.0	61
	Working non-service	37.3	57.3	0.0	5.3	25.3	46.7	14.7	13.3	16.0	37.3	33.3	13.3	100.0	75
	Schooling	100.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0	100.0	2
	Not working	44.4	44.4	0.0	11.1	44.4	22.2	11.1	22.2	22.2	55.6	11.1	11.1	100.0	9
	Sub total (n)	69	70	0	8	46	57	21	23	28	50	48	21	..	147
		(25-27 years)				(18-20 years)				(15-17 years)					
32-34 years	Working service	53.3	40.0	0.0	6.7	13.3	20.0	40.0	26.7	0.0	6.7	86.7	6.7	100.0	15
	Working non-service	42.9	38.1	0.0	19.0	14.3	19.0	47.6	19.0	0.0	4.8	95.2	0.0	100.0	21
	Schooling	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	1
	Not working	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	1
	Sub total (n)	18	14	0	6	5	7	18	8	0	2	35	1	..	38
		(28-30 years)				(21-23 years)				(18-20 years)					
35-37 years	Working service	46.2	53.8	0.0	0.0	30.8	38.5	15.4	15.4	7.7	30.8	46.2	15.4	100.0	13
	Working non-service	20.0	80.0	0.0	0.0	13.3	46.7	6.7	33.3	6.7	33.3	26.7	33.3	100.0	15
	Schooling	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	1
	Not working	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	1
	Sub total (n)	11	19	0	0	6	12	3	9	2	10	11	7	..	30
		(31-33 years)				(24-26 years)				(21-23 years)					
38-40 years	Working service	66.7	22.2	0.0	11.1	44.4	33.3	0.0	22.2	11.1	44.4	11.1	33.3	100.0	9
	Working non-service	40.0	60.0	0.0	0.0	40.0	50.0	0.0	10.0	20.0	40.0	10.0	30.0	100.0	10
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	1
	Sub total (n)	11	8	0	1	9	8	0	3	4	8	2	6	..	20
		(34-36 years)				(27-29 years)				(24-26 years)					
41-43 years	Working service	50.0	37.5	0.0	12.5	50.0	25.0	0.0	25.0	25.0	25.0	0.0	50.0	100.0	8
	Working non-service	50.0	50.0	0.0	0.0	35.7	64.3	0.0	0.0	21.4	64.3	0.0	14.3	100.0	14
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	100.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	50.0	0.0	0.0	50.0	100.0	2
	Sub total (n)	13	10	0	1	10	12	0	2	6	11	0	7	..	24
		(37-39 years)				(30-32 years)				(27-29 years)					
44-46 years	Working service	68.8	31.3	0.0	0.0	56.3	43.8	0.0	0.0	62.5	37.5	0.0	0.0	100.0	16
	Working non-service	33.3	66.7	0.0	0.0	33.3	66.7	0.0	0.0	40.0	60.0	0.0	0.0	100.0	15
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	0.0	100.0	0.0	0.0	50.0	25.0	0.0	25.0	0.0	100.0	0.0	0.0	100.0	4
	Sub total (n)	16	19	0	0	16	18	0	1	16	19	0	0	..	35

Notes: WS = Working in service sector, WN = Working in non-service sector, S = Schooling, N = Not working

4-1c: Low-educated (*junior high school and less education*) urban men

2014		2007				2000				1997				Sub total	
Age	Status	WS	WN	S	N	WS	WN	S	N	WS	WN	S	N	(%)	(n)
		(25-27 years)				(18-32 years)				(15-29 years)					
32-46 years (All ages)	Working service	50.4	34.6	0.0	15.0	34.6	49.6	0.8	15.0	34.6	39.4	6.3	19.7	100.0	127
	Working non-service	30.4	58.8	0.0	10.8	30.4	55.9	0.0	13.7	18.6	56.9	4.9	19.6	100.0	102
	Schooling	50.0	25.0	0.0	25.0	25.0	50.0	0.0	100.0	50.0	50.0	50.0	25.0	100.0	3
	Not working	18.8	68.8	0.0	12.5	31.3	56.3	0.0	43.8	25.0	50.0	0.0	25.0	100.0	18
	Sub total (n)	150	187	0	63	121	212	0	172	128	196	61	89	..	249
		(25-27 years)				(18-20 years)				(15-17 years)					
32-34 years	Working service	63.0	22.2	0.0	14.8	29.6	37.0	3.7	29.6	44.4	11.1	25.9	18.5	100.0	27
	Working non-service	25.0	50.0	0.0	25.0	15.0	70.0	0.0	15.0	20.0	45.0	25.0	10.0	100.0	20
	Schooling	0.0	25.0	0.0	0.0	0.0	25.0	0.0	75.0	0.0	25.0	50.0	25.0	100.0	4
	Not working	25.0	50.0	0.0	25.0	25.0	50.0	0.0	125.0	50.0	50.0	0.0	0.0	100.0	4
	Sub total (n)	26.0	19.0	0.0	10.0	12.0	26.0	1.0	16.0	18.0	15.0	14.0	8.0	..	52
		(28-30 years)				(21-23 years)				(18-20 years)					
35-37 years	Working service	50.0	36.4	0.0	13.6	45.5	45.5	0.0	9.1	31.8	36.4	4.5	27.3	100.0	22
	Working non-service	19.2	76.9	0.0	3.8	15.4	65.4	0.0	19.2	7.7	42.3	0.0	50.0	100.0	26
	Schooling	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	1
	Not working	25.0	50.0	0.0	25.0	0.0	50.0	0.0	50.0	0.0	50.0	0.0	50.0	100.0	4
	Sub total (n)	18.0	30.0	0.0	5.0	14.0	29.0	0.0	10.0	10.0	21.0	1.0	21.0	..	53
		(31-33 years)				(24-26 years)				(21-23 years)					
38-40 years	Working service	57.9	31.6	0.0	10.5	47.4	42.1	0.0	10.5	36.8	42.1	0.0	21.1	100.0	19
	Working non-service	50.0	38.9	0.0	11.1	38.9	38.9	0.0	22.2	38.9	50.0	0.0	11.1	100.0	18
	Schooling	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	1
	Not working	33.3	66.7	0.0	0.0	66.7	66.7	0.0	0.0	33.3	33.3	0.0	33.3	100.0	3
	Sub total (n)	21	15	0	5	18	17	0	6	15	19	0	7	..	41
		(34-36 years)				(27-29 years)				(24-26 years)					
41-43 years	Working service	44.8	34.5	0.0	20.7	27.6	55.2	0.0	17.2	31.0	55.2	0.0	13.8	100.0	29
	Working non-service	25.0	75.0	0.0	0.0	31.3	62.5	0.0	6.3	12.5	81.3	0.0	6.3	100.0	16
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	0.0	100.0	0.0	0.0	66.7	33.3	0.0	0.0	33.3	33.3	0.0	33.3	100.0	3
	Sub total (n)	17	25	0	6	15	27	0	6	12	30	0	6	..	48
		(37-39 years)				(30-32 years)				(27-29 years)					
44-46 years	Working service	40.0	46.7	0.0	13.3	30.0	63.3	0.0	6.7	30.0	50.0	0.0	20.0	100.0	30
	Working non-service	36.4	50.0	0.0	13.6	54.5	40.9	0.0	4.5	18.2	72.7	0.0	9.1	100.0	22
	Schooling	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	1
	Not working	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	2
	Sub total (n)	21	27	0	7	22	30	0	3	14	33	0	8	..	55

Notes: WS = Working in service sector, WN = Working in non-service sector, S = Schooling, N = Not working

4-1d: Low-educated (*junior high school and less education*) rural men

2014		2007				2000				1997				Sub total	
Age	Status	WS	WN	S	N	WS	WN	S	N	WS	WN	S	N	(%)	(n)
		(25-27 years)				(18-32 years)				(15-29 years)					
32-46 years (All ages)	Working service	38.6	56.1	0.0	5.3	32.5	54.4	2.6	10.5	23.7	43.0	13.2	20.2	100.0	114
	Working non-service	10.4	84.1	0.0	5.6	15.2	73.3	0.7	10.7	8.5	66.7	6.7	18.1	100.0	270
	Schooling	22.2	55.6	0.0	22.2	11.1	66.7	0.0	11.1	0.0	33.3	22.2	33.3	100.0	3
	Not working	30.0	56.7	0.0	13.3	20.0	70.0	3.3	10.0	13.3	56.7	10.0	43.3	100.0	36
	Sub total (n)	83	313	0	27	85	287	6	45	54	246	38	86	..	423
		(25-27 years)				(18-20 years)				(15-17 years)					
32-34 years	Working service	32.3	64.5	0.0	3.2	22.6	45.2	9.7	22.6	12.9	22.6	45.2	19.4	100.0	31
	Working non-service	3.1	86.2	0.0	10.8	7.7	70.8	3.1	18.5	6.2	46.2	27.7	20.0	100.0	65
	Schooling	50.0	50.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	2
	Not working	50.0	25.0	0.0	25.0	0.0	75.0	25.0	0.0	0.0	25.0	75.0	25.0	100.0	4
	Sub total (n)	15	78	0	9	13	64	6	19	8	38	36	20	..	102
		(28-30 years)				(21-23 years)				(18-20 years)					
35-37 years	Working service	33.3	59.3	0.0	7.4	44.4	48.1	0.0	7.4	22.2	29.6	3.7	44.4	100.0	27
	Working non-service	11.1	86.1	0.0	2.8	11.1	75.0	0.0	13.9	2.8	58.3	0.0	38.9	100.0	36
	Schooling	0.0	50.0	0.0	50.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	2
	Not working	9.1	72.7	0.0	18.2	27.3	63.6	0.0	9.1	18.2	27.3	0.0	72.7	100.0	11
	Sub total (n)	14	56	0	6	19	49	0	14	9	32	1	34	..	76
		(31-33 years)				(24-26 years)				(21-23 years)					
38-40 years	Working service	40.0	53.3	0.0	6.7	33.3	60.0	0.0	6.7	40.0	46.7	0.0	13.3	100.0	15
	Working non-service	8.2	91.8	0.0	0.0	16.3	79.6	0.0	4.1	8.2	75.5	0.0	16.3	100.0	49
	Schooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Not working	33.3	66.7	0.0	0.0	11.1	77.8	0.0	22.2	11.1	66.7	0.0	33.3	100.0	9
	Sub total (n)	13	59	0	2	14	55	0	5	11	50	0	13	..	74
		(34-36 years)				(27-29 years)				(24-26 years)					
41-43 years	Working service	45.0	50.0	0.0	5.0	25.0	65.0	0.0	10.0	20.0	70.0	0.0	10.0	100.0	20
	Working non-service	16.9	76.9	0.0	6.2	16.9	69.2	0.0	13.8	7.7	76.9	0.0	15.4	100.0	65
	Schooling	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	1
	Not working	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	1
	Sub total (n)	22	60	0	5	16	60	0	11	10	64	0	13	..	87
		(37-39 years)				(30-32 years)				(27-29 years)					
44-46 years	Working service	47.6	47.6	0.0	4.8	38.1	61.9	0.0	0.0	33.3	61.9	0.0	4.8	100.0	21
	Working non-service	12.7	81.8	0.0	5.5	23.6	74.5	0.0	1.8	16.4	76.4	0.0	7.3	100.0	55
	Schooling	0.0	100.0	0.0	0.0	0.0	66.7	0.0	33.3	0.0	100.0	0.0	0.0	100.0	3
	Not working	40.0	40.0	0.0	20.0	40.0	60.0	0.0	0.0	0.0	140.0	0.0	20.0	100.0	5
	Sub total (n)	68	0	0	6	67	44	0	2	64	44	0	5	..	84

Notes: WS Working in service sector, WN Working in non-service sector, S = Schooling, N = Not working

Source: Author's calculations based on the data of IFLS 1997-2014 from RAND

Chapter 5. Pathways to employment of young women by marital and educational status

5.1 Introduction

This chapter examines young Indonesian women's pathways to employment by following their economic activity levels according to their marital and educational attainment status. Despite the improvement in socio-demographic and economic indicators for women in Indonesia, such as rapid declines in fertility rates and improvements in school enrolment similar to men at all levels, the female labour force participation rates have remained around 50% over the past three decades (World Bank 2019e, 2019d; UIS 2019a). Strong gender roles and norms still exist in Indonesia, where men are considered to be responsible for earning incomes and women are the primary caregivers (UNFPA 2015a). The mean age at first marriage for Indonesian women was 22 years in 2012 (United Nations 2017a) which has not changed much since the 1980s and is much lower than that of the OECD-25 countries at 30.3 years old in 2014 (OECD 2016). The timing of marriage and child-bearing has an especially strong influence on women's employment in Indonesia (Cameron & Suarez 2017).

Studies of women's employment often focus on employment transition pathways where women leave the labour market, rather than their moves into the market because a significant cohort of young mothers do participate in employment (Hynes & Clarkberg 2005). This research addresses gaps by examining both directions of women's transition pathways, by following groups within a cohort of women aged between 15 and 20 years in 1997 and onwards, to identify transition patterns of economic activity with both movements in and out of employment.

Cameron and Suarez (2017) represent one of the few studies that used all five waves of the IFLS. They conducted two types of analyses of labour force activity changes by age and marital status, as well as tracking women aged 10-49 years over time. They found that as of 2016 8.6 million women were out of the labour market due to marriage and childbearing. They argued that policy support was required for women in Indonesia to remain in the labour market especially those with high school and less educational backgrounds. Another study by Setyonaluri (2013) used the IFLS data in 2000 and 2007 to examine the factors determining

decisions of women aged 15-49 years to leave and return to the labour market. She found that work interruptions were common. Marriage, childbearing and traditional gender norms were the main cause of the interruptions, but causes differed according to women's educational attainment. Women with tertiary education had fewer interrupted periods while married women with high school education and low-level occupations in the private sector were less likely to return to the labour market. Both studies found that marriage and childbearing had a significant influence on women's decision to leave their work, and the effect of marital status was especially strong for women who worked in low-level occupations or in the private sector. Their studies focussed on labour force activity changes at the time of marriage and childbearing. The present research builds on their work by using cross-tabulation analysis to present changes in women's economic activity status. The results identify the patterns and differences in the transition pathways of each group. Young women's transition pathways are more complicated than men's in regard to education, family responsibilities, employment and gender roles (Gaudet et al. 2011).

The aim of this chapter is to examine transition pathways of a cohort of young Indonesian women aged 15-20 years in 1997 by group according to their economic activity, age, educational attainment and marital status. Many women stay out of the labour market despite their willingness to work, and it is essential to discover why. This research is important in recognising women's transition pathway patterns and differences according to their backgrounds and in identifying areas of support for those who struggle to find jobs despite their wish to do so. Providing assistance for these women in participating in economic activity is critical for their households' income, which eventually contributes to the country's economic growth with added production and consumption. The overall research question of this chapter is:

How do the transition pathways to employment differ for women in Indonesia by educational attainment and marital status?

There are two sub-questions with a specific focus on educational levels and marital statuses separately.

1. Do never-married women who go to school at age 15-20 years in 1997 have higher proportions of employment than those who did not in 1997?
2. Do women who marry young ever enter the labour force? Does this differ by employment status?

This research uses human capital theory and life course theory as the two core guiding frameworks to investigate women's transitions to employment. The human capital theory is useful to examine the expectation that higher levels of education will result in better employment. The first sub-research question investigates the effect of their initial schooling status on later employment by educational attainment. This question is important to clarify how women's schooling status changes their later employment by examining transition patterns. Despite recent rapid improvements in women's school enrolment, marriage still has a significant influence on their employment. The second sub-research question investigates the impact of early marriage and previous work experience on their later employment. As previous studies found (Cameron & Suarez 2017; Setyonaluri 2013), marriage has a significant impact on women's employment and this question shows if there are any different transition patterns by early marriage.

Both of the questions are answered based on the results of pathway patterns which clarify the differences and similarities of their initial status and educational attainment and identify which group has more advantage and/or disadvantage in employment status. In order to investigate these two questions, this research analyses 16 selected groups according to women's age, marital status and educational attainment. Having many groups helps to clarify the similarities and differences women experience in their pathways according to their backgrounds. Life course theory provides different aspects of the results to understand complicated and various transition patterns better by focusing on four elements including personal/group goals, social/cultural expectations and norms, location and timing of life events as discussed in Chapter 2.

5.2 Pathways to employment of young women

The lives of young women have changed significantly since independence in 1945 as the statistics show. The country achieved universal primary education in the mid-1980s (Hull & Jones 1994). There is almost no gender difference in school enrolment, and female gross school enrolment rates at secondary and tertiary levels are higher than males as shown in Table 2-1 in Section 2.2.2 in Chapter 2. A rapid expansion of female educational attainment, especially at the tertiary level, has also been seen since the 1980s, starting in OECD countries and then followed by other countries. However, as is commonly noted, this positive development does not mean that women have gender equality in labour force participation, wage levels, occupations, work environment, family arrangements, educational expectation and political representation (McDaniel 2010). Female labour force participation rates in Indonesia were 31.4% in 1961 and reached the 50% mark in 1986 (World Bank 2019e). Many working women engaged heavily in the agricultural sector until the 1980s, then started to expand into factory work and the service sector such as sales, trade, and community and tourist industries as well as government work (Cameron & Suarez 2017; Ford & Parker 2008; Bahramitash 2004). Unlike men who start working after the completion of their education and remain in the labour market, women's life courses and choices are more diverse and complicated according to individual circumstance (Moen & Han 2001). Many critical life decisions and changes happen in a limited time for young people, such as completion of education, employment, marriage, giving birth and looking after family, referred as a "demographically dense period" by Rindfuss (1991). For women, the timing of marriage and childbirth have a great impact on their life choices and female labour force participation rates decrease significantly around these timings in Indonesia (Cameron & Suarez 2017). Similar trends are observed across the world, though some developed countries including France, Germany, Sweden and Canada, have made great improvements in keeping women engaged in employment. These countries have introduced gender and family-friendly policies and programs with provisions for more childcare centres and flexible work environments for women (Gaudet et al. 2011; Kenjoh 2005; OECD 2001).

In Indonesia, like many other countries in developing and developed countries, a strong gender role culture persists despite rapid socio-demographic and economic transformations. It takes time to change cultural and individual perceptions of appropriate gender roles which are often

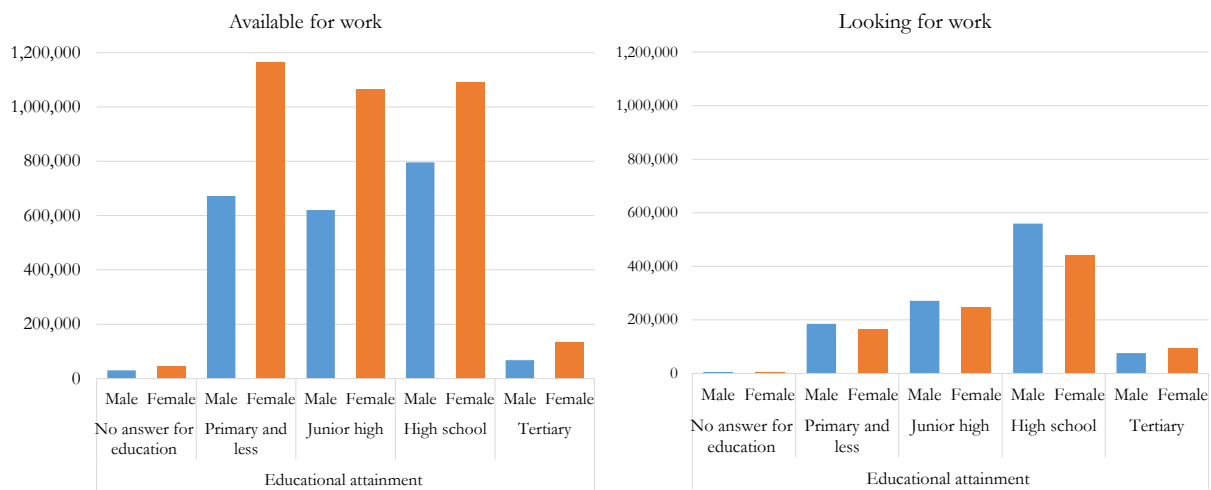
influenced by personal experiences of parental education and religious affiliations (Fortin 2005). As noted previously, the mean age at first marriage was 22 years old in 2012 (United Nations 2017a). According to the findings by Setyonaluri (2013), the mean age of marriage of Indonesian women by educational attainment was 21 years old for junior high school and less, 23 years old for high school and 25 years old for tertiary educated women. Young working women often quit their jobs at the time of marriage or becoming pregnant, especially if they work in the manufacturing, wholesale, retail trade, hotels and sales industries, because these jobs do not provide long-term career support and employers are reluctant to keep married women (Caraway 2005).

Although there are almost no gender gaps in secondary and tertiary level education, the long stagnation of the female labour force participation rate (Ginting et al. 2018) and the Indonesia's young mean age of first marriage indicate that women experience a dilemma in balancing work and family obligations (Moen & Han 2001). Additionally, women's productive economic contributions are often invisible because their work is often within families or communities and not seen as a part of economic market-based activities (Ford & Parker 2008). This is also the case for unemployment. Men often spend time on the street with a group of friends who are unemployed while women generally help parents and families at home (Naafs 2013). But that does not mean that they should be excluded from opportunities and underutilised as part of the national economy (Cameron & Suarez 2017).

In Indonesia, both male and female labour force participation rates have remained at similar levels at an average of 83% for men since 2000 and around 50% for women since the 1980s (World Bank 2019f). The latest Indonesian 2010 Census shows that approximately 3.5 million young women aged 15-29 years, accounting for 11% of the total population, answered *available for work*, which is much larger than the corresponding figure for men, at 2.2 million as presented in Table 2-2. Those who answered *looking for work* were roughly one million for both young men and women at the same ages and they are counted in the official unemployment rates because they are 'actively' looking for work, according to the international definition of unemployment (ILO 2019c). While those who answered *available for work* in the Indonesian 2010 Census were much larger than those with *looking for work*, they are not counted under the official unemployment rate because they are not 'actively' looking for work as discussed in Section 3.4.1 in Chapter 3.

The differences among those who answered as *available for work* and *looking for work* in the 2010 Census by their educational backgrounds and sex are shown in Figure 5-1. Women with primary and less educational attainment have the largest number who answered *available for work* while junior and high school educated women had a similar level. For *looking for work*, high school educated women were the largest group, but the numbers are significantly lower. As for men, the highest number was among those with high school backgrounds. Women and men have different levels of willingness in economic activity engagements, but the definition of unemployment only covers those who are *looking for work* not those who are *available for work*. The differences within women particularly through registering a high number of *available for work* at junior high school level or even earlier indicate their challenging situation, in that they are seeking extra income but looking for work actively might be difficult, due to strong gender roles as mothers and wives (Kring 2014). This chapter investigates women’s employment trends by educational attainment noting the shifts from *working* to *not working* and vice versa.

Figure 5-1. Number of respondents aged 15-29 years who answered *Available for work* and *Looking for work* by sex and educational attainment, 2010



Source: Indonesian 2010 Census, BPS (2010)

Young people make critical life course decisions after completing education such as employment, marriage and family formation (Rindfuss 1991). The life course approach adds multi-dimensional factors into one framework which helps to understand complicated

employment transition pathways as discussed in Chapter 2. Four main key factors influence the process of determining such decisions as described by life course theory (Giele & Elder 1998). The diverse and dynamic life courses of young Indonesian women are well-explained by life course theory. They make life course decisions and choices based on their personal goals (*human agency*) with life events such as marriage, employment and childbearing (*timing*). Strong gender roles still exist in Indonesia and women are expected to be the main caregivers culturally and socially (*linked lives*) despite a rapid socio-economic and demographic transformation (*location in time*). In order to understand young women's life course experiences in Indonesia, longitudinal data are important in connecting life events and changes in individuals' lives over time by the interaction of these key factors. In life course theory, age or age cohorts are the principal concept to understand social changes for individuals by aggregating perspectives to reveal different patterns in transitions (Giele & Elder 1998).

The next section describes data and variables used to analyse young women's pathways to employment in order to understand and visualise their detailed pathway trends by following two age groups.

5.3 Data and methods

5.3.1 Data and sample

This chapter uses the four latest waves of the IFLS, conducted in 1997, 2000, 2007 and 2014 (IFLS 2007-2014) and follows the economic activity pathways of a cohort of young Indonesian women aged 15- 20 years in 1997. These women are then followed through time over the subsequent waves of the IFLS to examine their education, marital status and employment pathways. The analytic sample for this chapter is 1,066 women who answered all the questions of the selected variables in four waves by using complete case analysis as explained in Chapter 3. These variables are economic activity and marital status in all four waves as well as educational attainment in 2014. Variable categories used for analysis are shown in *italics* for easy reading. This section explains in more detail the characteristics of the sample.

The descriptive statistics of the variables, as presented in Table 5-1, show that the percentages between younger age group (15-17 years) and older age group (18-20 years) are 55.1% and 44.8% respectively. Two groups do not have any significant differences, which are highlighted

in grey in the table. First, for marital status, most of the women in both age groups were married by 2014, and as such there are no significant differences by age groups ($p = .272$). Second, for economic activity, while there are differences in working and schooling status for both age groups, similar patterns are observed, and as such there is no significant difference between both groups ($p = .481$). While this research uses the latest educational attainment as of 2014, Table 5-1 shows the sample's educational attainment in each survey year. It is observed that the young age group (15-17 years in 1997) had the highest percentage (35.4%) of *high school* in 2007, whereas the older age group (18-20 years in 1997), had the highest share of *high school* (32.2%) and *primary and less* (34.5%) educational attainment levels in 2014.

Table 5-1. Descriptive statistics of women aged 15-20 years in 1997 by IFLS wave (%)

	1997		2000		2007		2014	
Age group in 1997	15-17	18-20	15-17	18-20	15-17	18-20	15-17	18-20
Marital status								
Never married	90.3	66.9	71.4	41.4	18.0	9.4	4.9	3.6
Married	9.7	33.1	28.6	58.6	82.0	90.6	95.1	96.4
Chi-square tests	89.36		97.43		16.09		1.21	
<i>p</i> -value	< .001		< .001		< .001		0.27	
Economic activity								
Working	12.6	24.5	32.3	42.7	41.8	40.8	46.3	47.5
Schooling	62.6	25.5	23.6	6.9	1.0	0.4	0.0	0.0
Not working	24.8	50.0	44.0	50.4	57.1	58.8	53.7	73.4
Chi-square tests	145.89		55.71		1.47		5.81	
<i>p</i> -value	< .001		< .001		0.48		0.02	
Educational attainment								
Primary and less	51.5	34.7	27.0	34.5	26.0	34.1	24.8	34.5
Junior high	45.6	31.8	36.4	20.3	23.6	20.3	23.8	19.7
High school	2.2	29.5	33.7	40.2	35.9	32.4	35.4	32.2
Tertiary	0.0	0.4	1.4	3.8	14.1	11.7	15.5	13.6
Other or missing	0.7	3.6	1.5	1.3	0.3	1.5	0.0	0.0
Chi-square tests	179.05		37.72		13.17		12.33	
<i>p</i> -value	< .001		< .001		< .001		0.01	
Sample size (<i>n</i>)								
Total (<i>n</i>)	588 478		588 478		588 478		588 478	
	1,066		1,066		1,066		1,066	

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

There are following six main groups used in this chapter with two age groups in 1997 and three educational attainment levels in 2014 (Note the insufficient sample number of women at 3) 15-17 years in 1997 with high school educational attainment in 2014, and analysis was not conducted):

- 1) 15-17 years in 1997 with junior high school and less educational attainment in 2014,
- 2) 18-20 years in 1997 with junior high school and less educational attainment in 2014,
- 3) 15-17 years in 1997 with high school educational attainment in 2014,
- 4) 18-20 years in 1997 with high school educational attainment in 2014,
- 5) 15-17 years in 1997 with tertiary educational attainment in 2014 and
- 6) 18-20 years in 1997 with tertiary educational attainment in 2014.

Each main group also has six groups with two types of marital status (*never-married* and *married*) and three types of economic activity status (*working*, *schooling* and *not working*). This means there is potentially a maximum of 36 groups in this sample. Table 5-2 presents the number, percentage and standard errors of all groups of the sample in 1997 by age group, marital status and economic activities according to their educational attainment in 2014. The membership numbers of each group are quite different, ranging from 0 to 196 women. There are 27 groups with respondents and 9 groups with no respondents. The largest number of 196 women was the group of 15-17 years of *never-married* and *schooling* with *high school* education, followed by 114 women (18-20 years, *never-married* and *not working* with *junior high school and less* education) and 91 women (15-17 years, *never-married* and *schooling* with *tertiary* education). Such a range of differences arise because a very limited number of women with *high school and above* education were *married*, or most of them were still *schooling* if they were 15-17 years in 1997. Early marriage was seen for those who had *junior high school and less* education in 2014. In order to understand their economic activity transition pathways in percentages in graphs, this chapter examines the groups with more than 10% of each group, or 16 groups as highlighted in grey in Table 5-3. The percentage of economic activity levels for all the groups in each survey year is presented in Appendix 5-1.

Table 5-2. Number, percentage and standard error of a cohort of women aged 15-20 years by economic activity in 1997 and age, marital status and educational attainment

Educational attainment in 2014	Age (years)	Economic activity	1997						Total (<i>n</i>)	Total in cohort
			Marital status							
			Never married			Married				
			<i>n</i>	%	<i>SE</i>	<i>n</i>	%	<i>SE</i>		
Junior high school and less	15-17	Working	65	22.7	2.5	4	1.4	0.7	69	..
		Schooling	80	28.0	2.7	1	0.3	0.3	81	..
		Not working	87	30.4	2.7	49	17.1	2.2	136	..
		Sub total (<i>n</i>)	232	..	..	54	..	..	286	100.0
	18-20	Working	52	20.1	2.5	27	10.4	1.9	79	..
		Schooling	8	3.1	1.1	0	0.0	0.0	8	..
		Not working	58	22.4	2.6	114	44.0	3.1	172	..
		Sub total (<i>n</i>)	118	..	..	141	..	..	259	100.0
High school	15-17	Working	5	2.4	1.1	0	0.0	0.0	5	..
		Schooling	196	94.2	1.6	0	0.0	0.0	196	..
		Not working	5	2.4	1.1	2	1.0	0.7	7	..
		Sub total (<i>n</i>)	206	..	..	2	..	..	208	100.0
	18-20	Working	27	17.5	3.1	3	1.9	1.1	30	..
		Schooling	72	46.8	4.0	1	0.6	0.6	73	..
		Not working	38	24.7	3.5	13	8.4	2.2	51	..
		Sub total (<i>n</i>)	137	..	..	17	..	..	154	100.0
Tertiary	15-17	Working	0	0.0	0.0	0	0.0	0.0	0	..
		Schooling	91	96.8	1.8	0	0.0	0.0	91	..
		Not working	2	2.1	1.5	1	1.1	1.1	3	..
		Sub total (<i>n</i>)	93	..	..	1	..	..	94	100.0
	18-20	Working	8	12.3	4.1	0	0.0	0.0	8	..
		Schooling	41	63.1	6.0	0	0.0	0.0	41	..
		Not working	16	24.6	5.3	0	0.0	0.0	16	..
		Sub total (<i>n</i>)	65	..	..	0	..	..	65	100.0
Total (<i>n</i>)			851	..	..	215	..	..	1,066	..

Note: *SE* = Standard error

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

This chapter uses three economic categories of *working*, *schooling* and *not working*. Figure 5-2 presents this chapter's sample by their original economic activity and marital statuses in 1997. It shows how the sample numbers can be changed differently depending on the different definitions or categories. As discussed in Section 3.4.1 regarding the definition of unemployment, those who are *looking for work* are considered unemployed as part of the labour market force category of actively looking for work, but those who are at home to look after family but *available for work* are not considered as unemployed because they are not actively seeking work, hence not in the labour market. In this research, however, they are both used

under the category of *not working* to reflect their actual working status. The three categories used in this chapter are presented at the bottom of the figure.

Figure 5-2. Number and percentage of a cohort of women aged 15–20 years by economic activity and marital status in 1997



Notes: N: Never-married, M: Married

Source: Author’s calculations based on the data of IFLS 2007-2014 from RAND

5.3.2 Variables

Four variables are used in this chapter: economic activity, age group, marital status and educational attainment in 2014. The common recoded processes for each variable are explained in Chapter 3. This section describes the recoding processes of variable categories used in this chapter. Each variable is recoded into two or three categories for the analysis as presented in Table 5-3.

Table 5-3. Variable and categories used in Chapter 5

Variables	Categories		
Economic activity	Working	Schooling	Not working
Age in 1997	15-17 years	18-20 years	
Marital status	Never married	Married	
Educational attainment in 2014	Junior high school and less	High school	Tertiary

5.3.2.1 Economic activity

Economic activity has three categories of *working*, *schooling* and *not working*. These are recoded from the original IFLS primary activity answers. As explained in Chapter 3, the number of the original IFLS primary activity categories were slightly different in each wave but the main four common categories were: *working*, *schooling*, *job searching* and *housekeeping*. It is important in this chapter that the economic activity status does not limit our concept of women's potential to participate in the labour market by their employment categories as job seekers based on respondents' judgements as 'actively' or 'not actively' looking for work. Hussmanns et al. (1990) explain that it is difficult to apply the definition of unemployment only for those actively looking for work in developing countries due to widespread informal economic activities and the lack of well-established job information exchange systems. Women's real economic activities are often undercounted because many women in developing countries conduct small informal activities such as household help, seasonal work, petty cash trades by selling home-made food or seasonal vegetables in front of their houses during their free time for extra family income, but they do not claim these as a type of work (Naafs 2013; Ford & Parker 2008; Mehra 1997). While it is always a challenge to capture economic activities accurately, this chapter uses the following three economic activity categories of *working*, *schooling* and *not working* since such grouping helps to understand women who have potential to participate in economic activities.

5.3.2.2 Age groups

This chapter uses two age groups of 15-17 years and 18-20 years in 1997 within the cohort and follows them until 2014. Having three-year age groups allows the identification of relatively fine details in cohort histories rather than five-year age groups, which helps to articulate their employment transition pathways better but still keeping the process more manageable than using single ages (Lam & Levison 1991). There are two main reasons for focusing on these two age ranges. First, the completion age of junior high school in Indonesia is 15 years old. According to the latest Indonesian 2010 Census, 70.7% of women aged 25 years old and over completed junior high school and less as the highest educational attainment (BPS 2010). It means that many Indonesian women start to experience their life course transitions when they complete junior high school at the age of 15 years. Second, the legal age of marriage for women in Indonesia is 16 years (United Nations 2013b). As mentioned previously, the mean age at first marriage in Indonesia was 22 years (United Nations 2017a). Targeting women at the ages of 15 to 20 years old in 1997 allows an understanding of their pathways aligned with the timing of critical life events. These women reached the ages of 32–37 years in 2014 as presented in Table 5-4. The official junior high school completion age is 15 years, legal marriage age is 16 years, before the mean age at first marriage at 22 years. Earlier studies suggest that women tend to have their first child within a year after their marriage (Setyonaluri 2013; Jones 2004)

Table 5-4. Age of the cohort of women by IFLS wave

	IFLS1997	IFLS2000	IFLS2007	IFLS2014
Age (years)	15-17	18-20	25-27	32-34
	18-20	21-23	28-30	35-37

5.3.2.3 Marital status

This chapter uses two categories of marital status: *never-married* and *married*. These are recoded from the original marital status variable of IFLS as explained in Chapter 3. The outcomes of the economic activity levels are analysed by group, tracking the changes in marital status in each wave. According to the Indonesian 2010 Census, 52.2% of women at 21 years and 90.2% of women at 29 years were *married*. It shows that most women marry in their early 20s.

5.3.2.4 Educational attainment

This chapter uses educational attainment as of 2014 with the three following categories: *junior high school and less*, *high school* and *tertiary*. As with men in the previous chapter, this chapter initially used two educational categories for women, namely low-educated women with *junior high school and less* educational attainment and educated women with *high school and above* educational attainment. However, the results showed interestingly different transition patterns for high school and tertiary educated women. Therefore, this chapter uses these three educational attainments to better understand the transition patterns by educational attainment.

For the tertiary education level, this chapter uses post-secondary education levels which start at the age of 19 years, the formal schooling for post-secondary education (Suharti 2013). The tertiary education level has three diploma levels (D1, D2, D3), bachelor, master and doctoral degrees. IFLS 1997-2014 had all these education qualifications and degrees but IFLS 1997 had a lesser number of categories by putting some degrees together. From IFLS 2000, Open University is included in the IFLS education level variable. The main role of Open University is to meet the requirements of primary teachers' four-year post-secondary degrees and to provide online learning opportunities for better access for students including those in remote areas (Luschei et al. 2008).

The distributions of the sample's educational attainment in 2014 by age are presented in Table 5-5 and were marginally equal ($p = .086$). The table shows that in general, younger women have higher educational attainments and especially those with primary education level and less are significantly different between 15 and 20 years old. The pattern indicates a rapid improvement of educational attainment for young women in Indonesia.

Table 5-5. Educational attainment (%) in 2014 of women aged 15-20 years in 1997

Age in 1997	Age in 2014	Educational attainment in 2014					Total (%)	Total (<i>n</i>)
		Primary and less	Junior high	High school	Tertiary			
15	32	20.7	25.8	37.3	16.1	100.0	217	
16	33	23.7	22.1	38.9	15.3	100.0	190	
17	34	30.9	23.2	29.3	16.6	100.0	181	
18	35	34.1	17.3	34.6	14.1	100.0	185	
19	36	33.6	19.2	31.5	15.8	100.0	146	
20	37	36.1	23.1	29.9	10.9	100.0	147	
Total (<i>n</i>)		311	234	362	159	..	1,066	

Notes : χ^2 (15, N = 1,602) = 22.93, $p = .086$

Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

5.3.3 Method

This chapter uses a cross-tabulation method to examine the economic activity pathways by following groups within the cohort according to the main socio-demographic variables of age, educational attainment and marital status. A cross-tabulation method enables us to provide general overviews of complicated employment transition pathways. These socio-demographic variables are available consistently across the latest four waves of the IFLS. It provides the levels and changes in the percentage of economic activity categories, by focusing on the *working* levels over time in four waves between 1997 and 2014. The results show different or similar patterns of economic activity pathways by group based on the age and educational attainment groups.

5.4 Results

This section presents the results of the analysis of the selected 16 groups which had more than 10% of each group's sample as explained in Section 5.3.1. All numbers and percentages of each group's sample of economic activity levels are presented in tables in Appendix 5-1. The graphs presented in this section are generated based on those tables and show the levels of economic status percentages of the *never-married* women in light colour and the *married* women in dark colour in 2000, 2007 and 2014 according to their initial economic activity status in 1997. Black arrows in figures for each group show for easy reference the employment trend patterns of percentages of the *working* group in blue, in total of *never-married* and *married* women. In the text,

the total percentage *working* is used followed by percentages of *working never-married* and *married women* separately in brackets unless specified. Overall, *married* groups were only in the women with *junior high school and less* educated groups. There are four patterns found: 1) continuous increase, 2) increase in 2007 and decrease by 2014, 3) continuous decrease and 4) increase in 2007 and decrease by 2014.

5.4.1 Junior high and less educated women

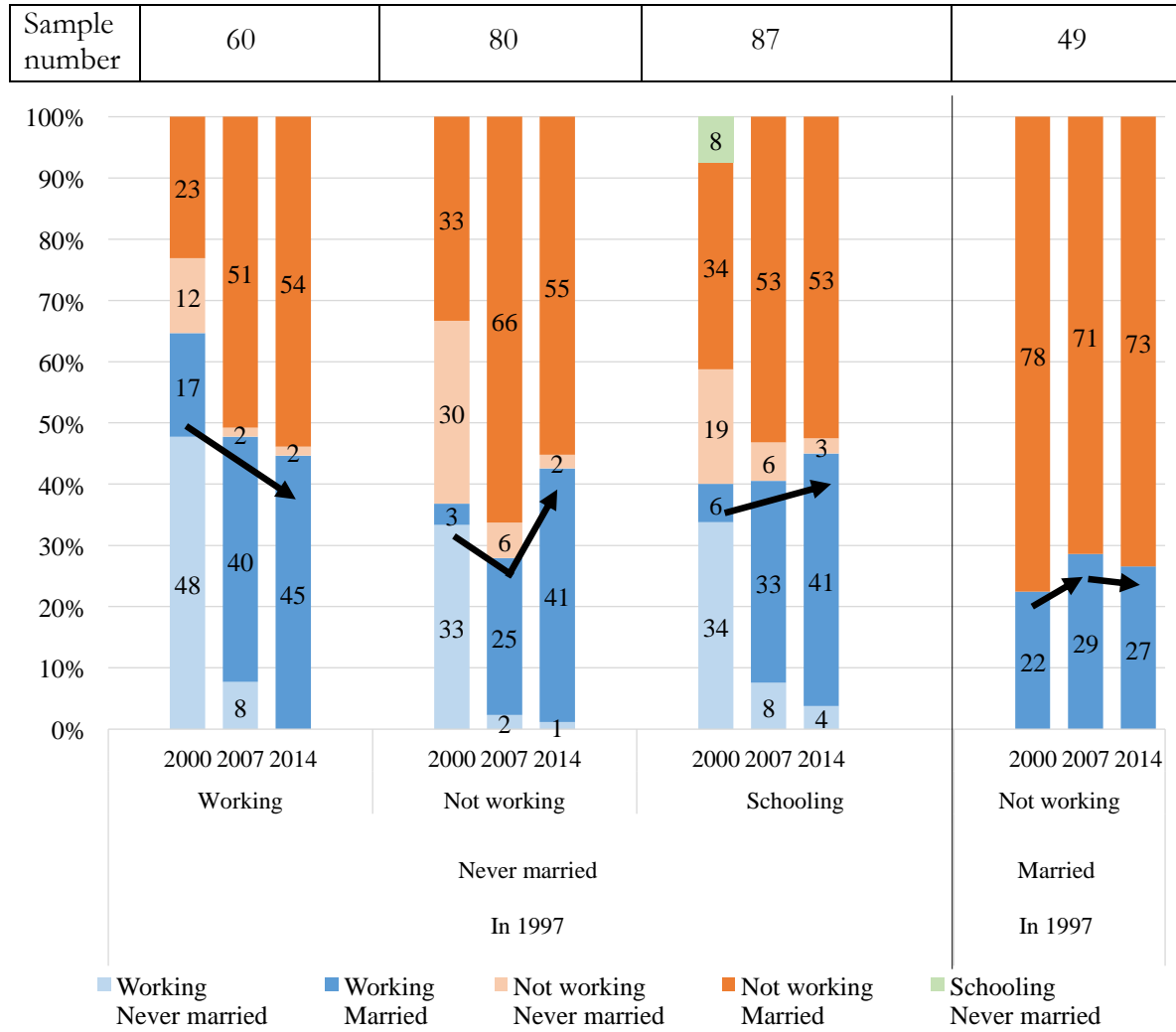
5.4.1.1.1 15-17 years old in 1997

This group has all three economic activity groups in 1997 for the 1997 *never-married* women and one *not working* for the 1997 *married* women. Figure 5-3 shows that most of the *never-married* women changed their marital status to *married* by 2007, which is mostly the case in all other groups.

The three economic activity groups of the 1997 *never-married* women all had different transition patterns, although they ended up at a similar percentage of *working* in 2014 either at 45% or 42%. The 1997 *working* group continuously decreased their *working* percentage. The 1997 *not working* group had fluctuating *working* levels in that some started work in 2000, then levels decreased by 2007 and increased by 2014. On the other hand, the 1997 *schooling* group kept increasing their percentage of *working* in a gradual pattern. By 2014, all three groups had a similar percentage of *working*, between 40 and 45%. This indicates that there was not much effect from the previous economic activity status on their later employment in this group in relation to the first sub-research question.

The 1997 *married* women had one 1997 initial economic activity group *not working*. The percentage *working* increased to 7% by 2007 then decreased, but remained at a similar level of 26% on average. Although 22% of them found jobs in 2000, the increase in the later years did not exceed 30%, which is lower than that of the average of 44% *working* in 2014 among the three *never-married* groups. This gives some indications of the second sub-research question regarding early marriage, that group members faced limited future employment status if they *married* early with *low-education*.

Figure 5-3. Percentage of women aged 15-17 years old in 1997 with *junior high school and less* education in 2014, by economic activity and marital status in IFLS wave



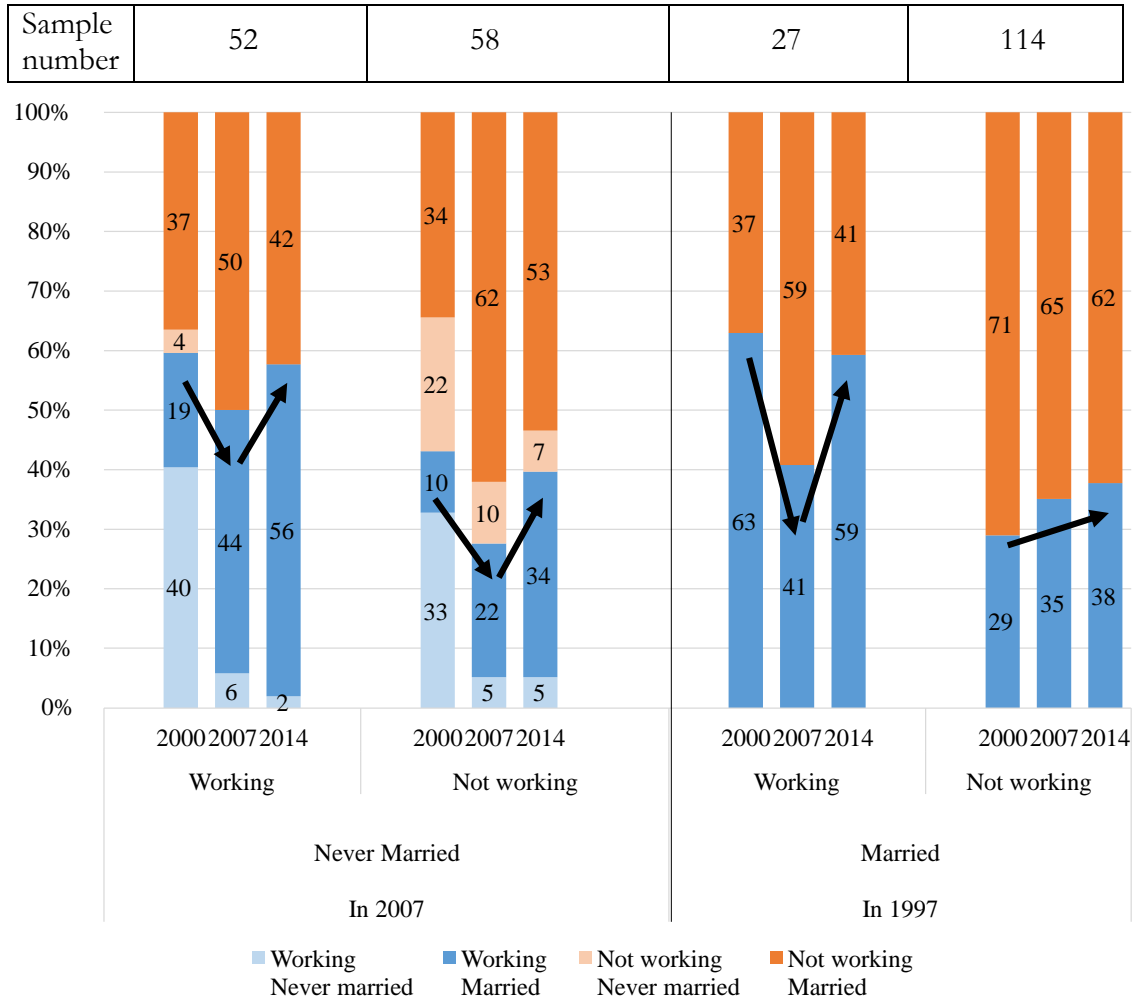
Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

5.4.1.2 18-20 years old in 1997

There were four 1997 economic activity groups, *working* and *not working* groups for both *never-married* and *married* women. Two main features can be observed. First, three groups, except the 1997 *married* and *not working* group, had the pattern of a decrease by 2007 then increases in the percentage of the *working* group. The 1997 *married* and *not working* groups, however, had the second largest number of 114 women as one group among the 16 groups. This indicates that many tended to stop working in 2007 when they were 28 and 30 years old respectively. This was when they were more likely looking after their small children and family. Then the *working* levels increased again by 2014 when they reached 35-37 years old. The 1997 *married* and *not working* groups, however, had a small but gradual increase in *working* levels by year. This implies that they could have faced a demand for extra family income even during the time when many women exited from working for childminding. Second, by comparing all the groups' percentages of *working* status in 2014, both 1997 *working* groups of *never-married* and *married* women had a high percentage of *working* at 58% (2% *never-married* + 56% *married*) and 59% (0% *never-married* + 58% *married*) respectively, while the 1997 *not working* groups for *never-married* and *married* women had only 39% (5% *never-married* + 34% *married*) and 38% (0% *never-married* + 38% *never-married*).

These outcomes give some answers for the second sub-research question about the effects of early marriage and previous employment history on this cohort's later employment. On the one hand, if women were married after 18 years old, there was not much difference in employment levels by their marital status except the negative effects of not having previous work experience. On the other hand, if they got married before 18 years old, as seen in the previous section, their earlier work experience did not make much difference to their later employment status. Married status, however, more likely had negative effects. It is also confirmed in the literature that women who marry early often face disadvantages in educational attainment and decision-making power (Jensen & Thornton 2003). The findings suggest the importance of providing specific and continuous support for low-educated women if they are interested in working without previous work experience, as discussed later in this section.

Figure 5-4. Percentage of women aged 18-20 years in 1997 with *junior high school and less* educational attainment in 2014 by economic activity and marital status in IFLS wave

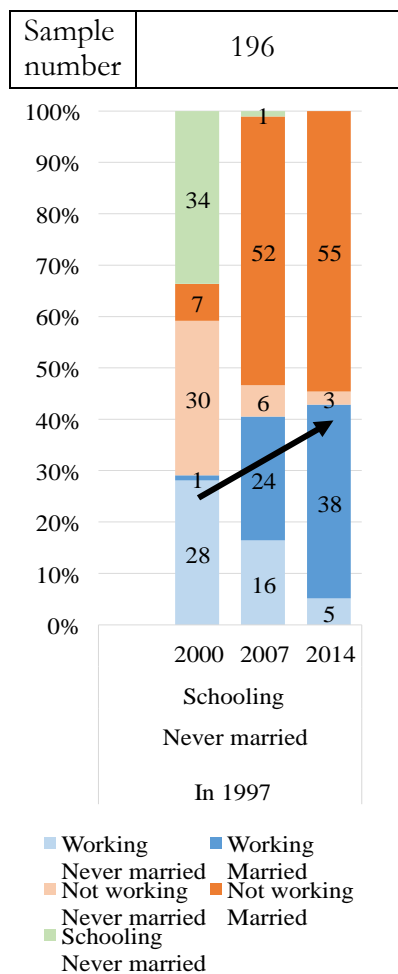


Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

5.4.2 High school educated women 15-17 years in 1997

Most of the *high school* educated women in 2014 had *never-married* status in 1997 with the largest number of 196 women among the 16 selected groups. After finishing *schooling* in 1997, there were similar percentages around 30% for the three economic activities by 2000, meaning they shared two main separate pathways after *schooling*, *working* or *not working*. Two such similar percentages in employment were also seen in later years. The percentage *working* increased each year, which is the same pattern and similar employment levels to the counterpart of the *junior high school and less* educated women at 15-17 years at 45% (4% *never-married* + 41% *married*) in 2014. This shows that there was not much difference for their future employment by 2014 between *junior high school and less* educated and *high school* educated women.

Figure 5-5. Percentage of women *never-married* and *schooling* aged 15-17 years in 1997 with *high school* education in 2014, by economic activity and marital status in IFLS wave



Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

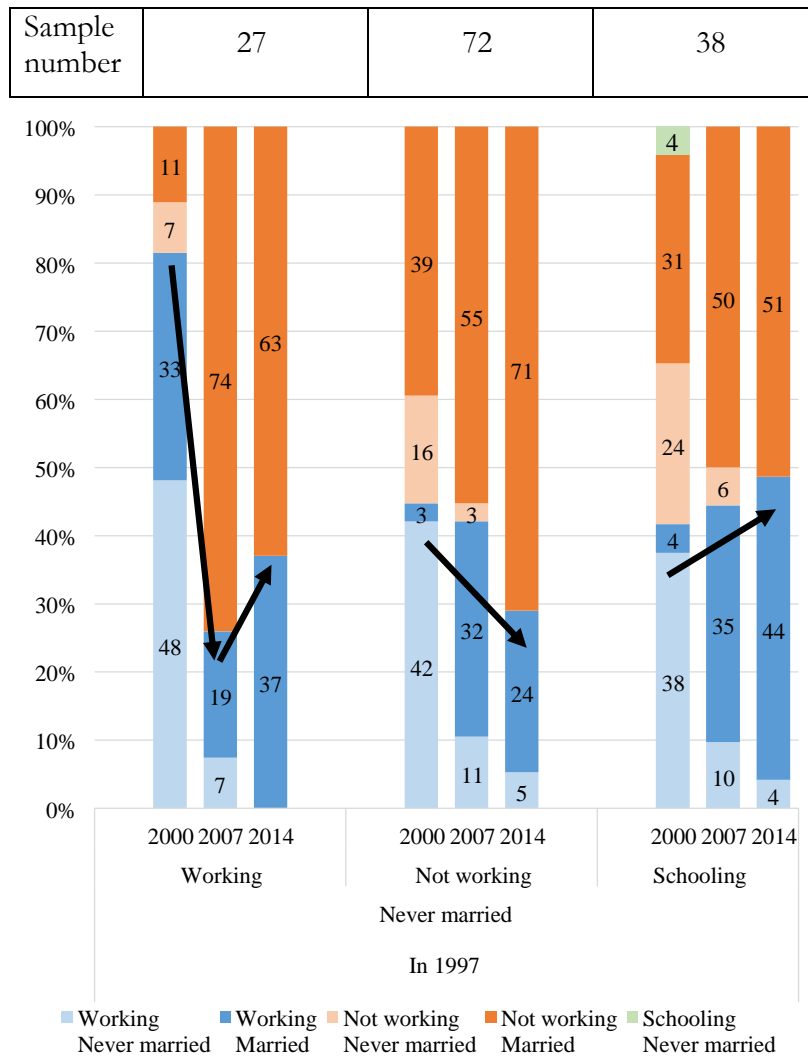
5.4.2.1 18-20 years in 1997

In this group, there were only *never-married* women with three 1997 economic activity groups with different transition pathways patterns. The 1997 *working* group retained a relatively high *working* level in 2000 but dropped significantly in 2007 and then increased again in 2014. A possible interpretation of this would be that they stopped working after their marriage and first child, around the age of 22 years old, which is the similar finding of Setyonaluri (2013) for high school graduates. Women with high-school backgrounds would not have as much attachment to work as tertiary educated women who have more autonomy and wage incentives when the time of looking after small children arrives (Cameron & Suarez 2017). Then, some of them returned to work by 2014 at ages 32-34 years. This could be when their responsibilities for childbearing lessen as children reach primary school age at six years old.

As for the 1997 *not working* group, nearly half of them were *working* in 2000 without getting married, then changed to married. Interestingly, their percentage *working* was at 43% (11% *never-married* + 32% *married*), much higher than that of the 1997 *working* group at 26% (7% *never-married* + 19% *married*) in 2000. But this level had decreased by 2014, at the lowest level among the three groups, while the 1997 *working* group increased to 37%. The decrease of 14 percentage points *working* between 2007 and 2014 by this group is something not observed in other groups with the same 1997 *not working* groups. This implies that women with high school education did not always remain working or return to work once they got married, while some women in low-educated and tertiary educated women did. This is discussed in the next conclusion section.

On the other hand, the 1997 *schooling* group increased their percentage *working* year by year, with the highest percentage at 48% (4% *never-married* + 44% *married*) in 2014 among the 1997 three economic activity groups. This indicates the positive influence of schooling on their later chances for employment, in relation to the first sub-research question, however, these were lower levels than those of the *tertiary* educated women as seen in the next sub-section.

Figure 5-6. Percentage of *never-married* women aged 18-20 years old in 1997 with *high school* education in 2014, by economic activity and marital status in IFLS wave



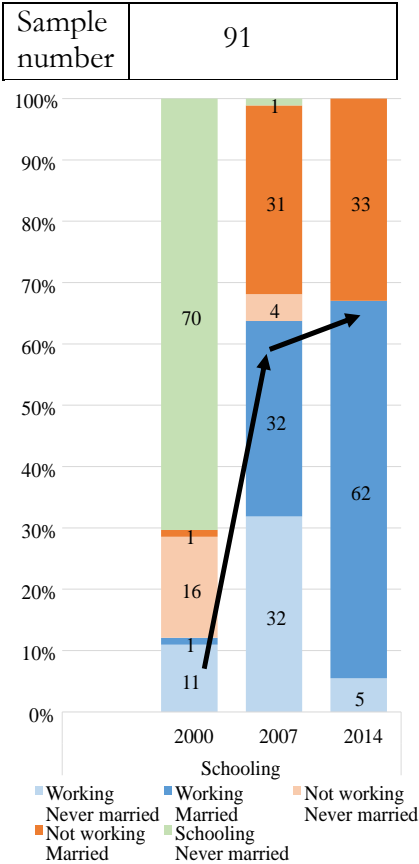
Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

5.4.3 Tertiary educated women

5.4.3.1 15-17 years in 1997

Most of the women in this group were still *schooling* in 2000 when they were 18-21 years old and this schooling group had the third largest number of 91 women. After schooling by 2007, the percentage *working* increased significantly in 2007 to 64% (32% *never-married* + 32% *married*) and increased slightly later. The percentage *not working* was 33% (0% *never-married* + 33% *married*) by 2014 while the other *schooling* groups with *less than tertiary* education had more than 53% *not working*. In 2007, 63% (32% *working* + 31% *not working*) of them were *married*, sharing *working* and *not working* almost equally. By 2014, most of them were *married* but the *working* level increased to 67% (5% *never-married* + 62% *married*), which is much higher than that of the 1997 *high school* educated and schooling groups at around 45%. This implies a more positive influence of tertiary educational attainment on later employment prospects than that provided by high school-level education, and also that many did not stop working despite marriage.

Figure 5-7. Percentage of *never-married* and *schooling* women aged 15-17 years in 1997 with *tertiary* education by 2014, by economic activity in IFLS wave



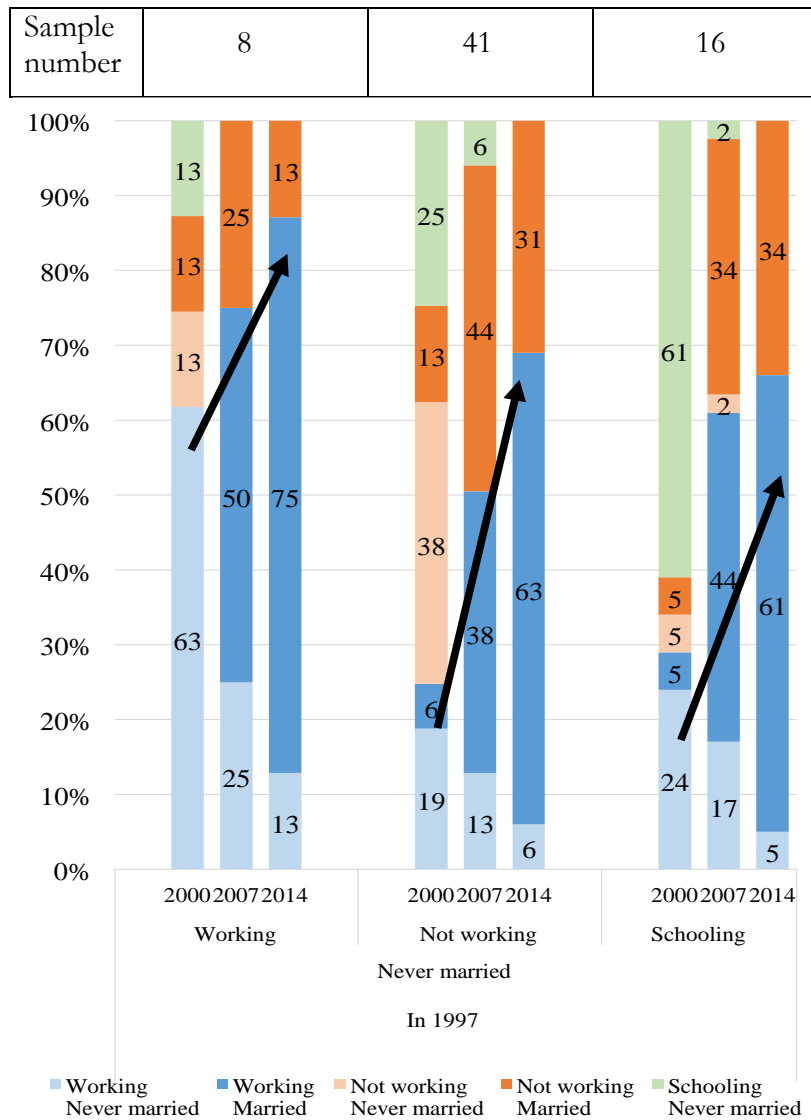
Source: Author’s calculations based on the data of IFLS 2007-2014 from RAND

5.4.3.2 18-20 years in 1997

The total number of this group was relatively small, just 65 women, and none was yet *married*. There were 41 women *schooling*, followed by 16 women *not working* and 8 persons *working*. The features of this group were a high percentage *working* by 2014 regardless of their initial economic activity status in 1997 with a continuous increase from 2000. In the 1997 *working* group, a total of 39% were out of the labour market either by *schooling* (13%) or *not working* (13% *never-married* + 13% *married*), but the percentage *working* increased later from 75% (25% *never-married* + 50% *married*) in 2007 to 88% (13% *never-married* + 75% *married*) in 2014 which was the highest level of *working* among the three groups despite the limited group number of eight women.

The 1997 *not working* group started at a small percentage *working* and more than half of them were *not working*, but then the percentage *working* increased steadily to 69% (6% *never-married* + 63% *married*) by 2014. Similar patterns were observed for the 1997 *schooling* group. These show that tertiary educated women remained in the labour market at high percentages regardless of their initial economic activity, age group and marital status. What is different from other groups was their previous employment experience contributed to their later working status, whereas most other groups did not experience this result. This implies that high educational attainment is a strong advantage for women in the labour market and having previous work experiences adds value to their later employment prospects.

Figure 5-8. Percentage of *never-married* women aged 18-20 years in 1997 with *tertiary* education by 2014, by their economic activity and marital status in IFLS wave



Source: Author’s calculations based on the data of IFLS 2007-2014 from RAND

In sum, the results show four main patterns with some variations. The patterns by largest numbers were: 1) continuous increase (591 women in 8 groups), 2) decrease by 2007 and then increase (244 women with 5 groups), 3) continuous decrease (132 women in 2 groups) and 4) increase by 2007 then decrease (49 women with 1 group). The first pattern was with the groups of all *schooling, tertiary* educational attainment and the 1997 *married* and *not working* at 18-20 years with *junior high school and less* education. This shows a positive effect of schooling or higher

education. The second pattern was spread among the *less than tertiary* education groups. This shows the effect of marriage and childbearing on employment for *less than tertiary* educated women. The third pattern of decreasing continually was found by two groups of the 1997 *never-married* and *not working* with *high school* education (18-20 years), and the 1997 *never-married* and *working* with *junior high school and less* education (15-17 years). The latter group still had a high percentage *working* at 45% whereas the former had 29% (24% *never-married* + 5% *married*), indicating a positive effect of previous working experience for *less than tertiary* educated women as observed in the first pattern groups. The smallest pattern was an increase in 2007 and decrease by the 1997 *married* and *not working* with *junior high school and less* education (15-17 years).

5.5 Conclusion

This chapter examines economic activity levels of six main groups of young Indonesian women according to their age groups, educational attainment and marital status between 1997 and 2014. Overall, most women were married by 2007 at ages between 25 and 30 years, which matches the mean age at first marriage of 22 years in Indonesia (United Nations 2017a). The results show they experienced various *working* level patterns by group, and each group had different combinations of patterns. This is especially the case for those with *less than tertiary* educational attainment. There were following four patterns found from the 16 selected groups based on percentage of *working* levels: 1) continuous increase, 2) decrease by 2007 then increase, 3) continuous decrease and 4) increase in 2007 and then decrease.

This section discusses these four patterns in relation to the two sub-research questions as well as theory, policy and program implications. The most common pattern was the first pattern of continuous increase in *working* levels continually with a total of 591 women. The groups which had this pattern were all six of the 1997 *schooling* groups, or all the four *tertiary* education groups, and the 1997 *married* and *not working* with *junior high school and less* education group (18-20 years). This means, in general, that *schooling* and *tertiary* educational attainment have positive effects on later employment status. By looking at the *working* percentages in 2014, *tertiary* educated groups had a higher level (larger than 66%) than other groups (less than 48%) without any subsequent decline. This indicates the advantage of *tertiary* education. This confirms the findings of other literature that tertiary educated women did not take much break from work after marriage because they have stronger attachments to work due to often greater autonomy and job

satisfaction (Cameron & Suarez 2017; Gaudet et al. 2011; Elliott et al. 2001). As they receive higher wages, they can usually afford childcare assistance to stay in the labour market. In rural areas, many women look after children while doing agricultural work (Bloom et al. 2009; Widarti 1998). However, the gender roles are still strong and working women's families tend to see them merely as extra income earners, and especially tertiary educated women are regarded as secondary earners in the urban areas, as argued by Utomo (2008). Despite high working levels among tertiary educated women, they still face challenges despite their high working levels.

In relation to the first sub-research questions regarding the effects of school on their later employment for *never-married* women in 1997, we can compare the following three *schooling* groups: 1) The 1997 *never-married* women with *junior high school and less* educational attainment (15-17 years), 2) the 1997 *never-married* women with *high school* educational attainment (18-20 years) and 3) the 1997 *never-married* women with *tertiary* educational attainment (18-20 years).

Two main results were found. First, the results support the human capital theory that higher levels of education lead to better employment, however, this result also means that having less than tertiary educational attainment is a disadvantage in the labour market. All three *schooling* groups had continuous increases, implying they found successful pathways to find jobs, but the first two groups with *less than tertiary* educational attainment had a larger percentage of *not working* than *working* in 2000. This shows again the advantage of tertiary educational attainment in seeking higher working levels and underlines once more the disadvantages faced by women with less than tertiary education. These results could partially arise from the recent rapid expansion of tertiary education for women; and many tertiary-educated women are confronting more intense competition for jobs in recent years as are men (ILO 2017c) but there is not much increase of full-time or professional jobs for new jobseekers (Nilan et al. 2011).

Second, by comparing these three groups' *working* levels in 2014, the *tertiary* group (18-20 years) had a higher percentage *working* with continuous increase by all groups. But it is important to note that the number of this group is not large: eight women *working* in 2014, 41 women *not working* in 2014 and 16 women *schooling* in 2014. Despite continuous increases of working level for *less than tertiary* educated groups, the *schooling* group of the *junior high school and less* (15-17 years) group ended up having similar levels of *working* in 2014 regardless of their initial

economic activity. It means that there is not much schooling effect found for their future employment despite the continuous increase with junior high school and less educational attainment. Among the *high school* group (18-20 years), the *schooling* group had the highest percentage of *working* level in 2014, more than the level of the 1997 *working* group which initially had a quite high percentage of *working* but had dropped significantly in 2007, then increased in 2014 but less than the *schooling* group. These results indicate the positive impact of previous work experience for later employment if accompanied by tertiary educational attainment, but the effect is not so strong for those with less than tertiary education. In other words, educational attainment level (human capital) has more positive effects than previous work experience.

The second pattern, as seen by the *working* group of the *high school* group (18-20 years), that the percentage of *working* decreased in 2007 and increased by 2014, is also observed in other groups with the second largest number of 244 women in this chapter's sample. There were five groups with this pattern and all the groups had *less than tertiary* education and one was the 1997 *married* group. Most of the *never-married* groups changed their marital status to *married* by 2007. The emergence of a decreased percentage of the *working* group in 2007 indicates the effects of marriage (and more likely childbearing) on the lower percentage of *working* in 2007, as argued by Cameron and Suarez (2017). These show that marriage was more likely to affect the life decisions of quitting jobs to undertake responsibilities as the primary caregivers for a greater number of high school educated women than for women of other educational backgrounds. Samarakoon and Parinduri (2015) analysed the IFLS and found that women's higher educational attainment does not improve their decision-making authority, asset ownership and community participation in general. Local norms, especially men's authority to ask their wives to be housewives, still remain strong.

Among the five groups, the *high school* group (18-20 years) had the sharpest drop of percentage of *working* with 55 percentage points from 81 to 26% between 2000 and 2007, whereas the *junior high school and less* groups had an average of 15 percentage point drop from 48 to 33% during the same reference years. From a human capital point of view, this outcome runs counter to the theory. However, Widarti (1998) argues that women in Indonesia with high school backgrounds often get married to a husband with similar or higher education backgrounds, and they earn some income to cover basic needs, though not enough to hire

additional domestic helpers to look after children or house chores. They are reluctant to work in low-status jobs but their education level is not as helpful as tertiary education especially for seeking jobs in the formal sectors (Jellinek 1991).

Although their experience of paid work is often sporadic, and any earnings may be seen as merely supplementary to their husband's, this group's level of education helps to maintain certain living standards by finding a husband with similar or higher education, whereas low-educated women, often coming from lower-class families, often cannot afford to quit their jobs easily but work in low status and insecure jobs mostly in the informal sector to support their families (Naafs 2012; Widarti 1998). Such a phenomenon in Indonesia is referred as a J-curve pattern where women have the lowest labour force participation rates with medium educated women relative to women with lower and higher education levels (Setyonaluri 2013; Utomo 2008; Ogawa & Akter 2007; Widarti 1998). This chapter's results confirm the findings of the previous studies.

The third pattern of continuous decrease is seen only by two groups (132 women) with the *never-married* and *working* groups with *junior high school and less* education (15-17 years) and the *never-married* and *not working* groups with *high school* education (18-20 years). The former group's *working* levels decreased by more percentage between 2000 and 2007 than the latter group's, with 14 percentage points difference between 2007 and 2014. The percentage *working* in 2014 was higher for the *high school* group than the *junior high school and less* educated group at 11 percentage points, which also supports the above J-curve situation in Indonesia.

Examination of these three patterns so far shows that different patterns are seen in various different groups and combinations in the six groups, especially for those with *less than tertiary* education. These variations demonstrate that young Indonesian women make different life course decisions and directions according to their socio-demographic and economic backgrounds as well as individual environments. However, the employment transition pathways are not always easy for many women who experience tensions and dilemmas between family and work throughout their lifetime (Moen & Han 2001). As life course theory describes, people make decisions based on four main factors of personal/group goals, life events, culture and historical time or residential locations (Giele & Elder 1998). For young Indonesian women, their living environment and decision-making processes become more complicated where

traditional gender roles are still strongly influential, while rapid social transformation is happening at the same time (UNFPA 2015a; Samarakoon & Parinduri 2015; Nilan 2008).

The last transition pattern of increase in 2007 and decrease in working levels was seen by one group with 49 women in the 1997 *married* and *not working* group with *junior high school and less* education (15-17 years). The percentage at *working* level slightly increased in 2007, but the overall level remained low, less than 30%, which is lower than the average working level within the same group of 42%. This group *married* young and more likely had children soon after, which also means that later on they had the potential to participate in and stay in the labour market if they had opportunities, and their willingness was shown the high percentage of “available for work” in the Indonesian Census 2010. Setyonaluri (2013) found the average time of returning to the labour market by working women is three years after the birth of the first child (Setyonaluri 2013). However, this chapter’s results show that they were limited in engaging in economic activities. In order to understand their lifetime working duration, the next chapter estimates the working life expectancy by educational attainment.

These results show the effects of marriage, in relation to the second sub-research question. There are only two other groups of initial *working* and *not working* groups with *married* status in 1997 with *junior high school and less* education (18-20 years). All three *married* groups had different transition patterns, indicating various life decisions and environments for married women who also encounter choices between family and work, or traditional gender role expectations and modern society with consumption culture in a rapidly transforming society. The results of this chapter show that young Indonesian women can face more complicated life choices and dilemmas than men, and more investigation is necessary to understand such ongoing experiences, but with longer perspectives, as attempted in Chapter 6.

This 1997 18-20 years group, however, did not show much effects of marriage on their later employment. In this group, there were four subgroups, the *working* and *not working* groups for both types of marital status. Comparing the working levels in 2014, the *working* levels were almost the same by the initial economic activity status that the *working* groups had 58 or 59%, whereas the *not working* groups had 38 or 39%. This shows that the 1997 18-20 years group enjoyed positive effects from their previous work experience and did not suffer too many ill-effects from their early marriage. Although it still could be a positive sign that the *not working*

group women managed to find ways to enter the labour market without previous work experience, the low *working* levels in later years indicate that they faced challenges in entering and remaining in the labour market. They faced disadvantages with relatively low skills and without previous work experience as well as lower educational attainment, because they have to compete with women with higher educational attainment and more work experience.

This is where policies and associated employment programs should come in. Women with low educational backgrounds or high school educated women who quit jobs without returning need support to gain skills so that they can (re-)enter the labour market as well as to retain jobs when they have them, or improve skills in the longer term (Cameron & Suarez 2017). But several studies show that only providing jobs or training would not be successful by themselves, and work and training need to be combined for better retention rates and long-term solutions. Training which is related to previous or familiar work helps more for future career paths (Schneider 2000; Mehra 1997). A review of 20 technical and vocational education and training (TVET) programs for young people in low- and middle- income developing countries⁹ showed that those who participated in TVET programs improved participation in the labour market by providing programs with culturally accepted, least costly and easy implementation (Tripney & Hombrados 2013). Employment programs can offer job training to develop skills and confidence and sharing job opening information and advice to match their preferences and job requirement. They can provide not only better job skills but also share some realities workers may face once they start work. They also need places for consultations, mentors and good advice on how to continue and survive in the labour market (Schneider 2000). While there are many employment policies and programs in Indonesia, gender perspectives especially for married women are still lacking (Utomo 2008).

In terms of job opportunities, Indonesia is experiencing rapid growth in new technology sectors such as e-commerce, on-demand services and transportation in the private sector (ILO 2017c; Nilan et al. 2011). It is getting more important to provide education in science, mathematics and engineering for young people's job opportunities along with enhancing computer literacy as a potential entry point for them (Bonous-Hammarth 2000). However, not

⁹ 10 upper middle-income countries (Argentina, Bosnia and Herzegovina, Brazil, Chile, China, Colombia, Dominican Republic, Latvia, Mexico, Panama and Peru); two lower-middle income countries (India and Bhutan);, one low-income country (Kenya).

everyone, for example women and low-skilled people, can easily find jobs in such male-dominated workplaces (ILO 2017c). Despite rapid social transformation, strong social norms about gender-based occupations persist in Indonesia in trade and services sectors (Naafs 2013). Therefore, technology-related positions in these sectors could provide job opportunities even for women, but it requires close collaboration and information sharing with the industries and school or communities to minimise skill mismatches during and after the school-to-work transition periods, with a better environment for married women. As Cameron and Suarez (2017) argue, it is estimated that 8.6 million women aged between 20 and 44 years experienced work interruptions due to marriage and childbearing. Institutional change including providing flexible contract arrangements, flexible hours, part-time hours and working from home as well as accessible provisions for work-based childcare would also be important, and the government should take initiatives to introducing policies along these lines.

The next chapter continues to focus on women by examining transition pathways to employment for a selected age group but with lifetime perspectives by estimating the duration of women's employment. The results provide the estimated average years remaining in working durations (working life expectancy) and give specific year differences by educational attainment, along with some policy and program suggestions for better employment opportunities for women in Indonesia.

Appendix 5-1. Percentage of women aged 15-20 years in 1997 with *junior high school and less* education in 2014 by age, economic activity and marital status in IFLS wave

5-1a: 15-17 years in 1997

Status in 1997		2000						2007						2014						Total (%)	Total (n)
15-17 years		Never married			Married			Never married			Married			Never married			Married				
Marital Status	Economic Activity	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N		
Never married	Working (W)	48	0	12	17	0	23	8	0	2	40	0	51	0	0	2	45	0	54	100	65
	Schooling (S)	34	8	19	6	0	34	8	0	6	33	1	53	4	0	3	41	0	53	100	80
	Not working (N)	33	0	30	3	0	33	2	0	6	25	1	66	1	0	2	41	0	55	100	87
Married	Working (W)	0	0	0	0	0	100	0	0	0	50	0	50	0	0	0	50	0	50	100	4
	Schooling (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	1
	Not working (N)	0	0	0	22	0	78	0	0	0	29	0	71	0	0	0	27	0	73	100	49
Total (n)		87	6	49	30	0	114	13	0	11	91	2	169	4	0	5	114	0	163		286

5-1b: 18-20 years in 1997

Status in 1997		2000						2007						2014						Total (%)	Total (n)
18-20 years		Never married			Married			Never married			Married			Never married			Married				
Marital Status	Economic Activity	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N		
Never married	Working (W)	40	0	4	19	0	37	6	0	0	44	0	50	2	0	0	56	0	42	100	52
	Schooling (S)	25	0	0	25	0	50	25	0	0	0	0	75	0	0	0	25	0	75	100	8
	Not working (N)	33	0	22	10	0	34	5	0	10	22	0	62	5	0	7	34	0	53	100	58
Married	Working (W)	0	0	0	63	0	37	0	0	0	41	0	59	0	0	0	59	0	41	100	27
	Schooling (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
	Not working (N)	0	0	0	29	0	71	0	0	0	35	0	65	0	0	0	38	0	62	100	114
Total (n)		42	0	15	68	0	134	8	0	6	87	0	158	4	0	4	110	0	141		259

Notes: W = Working, S = Schooling, N = Not working

Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

Appendix 5-2. Percentage of women aged 15-20 years in 1997 with *high school* education in 2014 by age, economic activity and marital status in IFLS wave

5-2a: 15-17 years in 1997

Status in 1997 15-17 years		2000 (18-20 years)						2007 (25-27 years)						2014 (32-34 years)						Total (%)	Total (<i>n</i>)
Marital Status	Economic Activity	Never married			Married			Never married			Married			Never married			Married				
		W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N		
Never married	Working (W)	20	20	20	0	0	40	20	0	0	0	0	80	0	0	0	60	0	40	100	5
	Schooling (S)	28	34	30	1	0	7	16	1	6	24	1	52	5	0	3	38	0	55	100	196
	Not working (N)	40	40	0	0	0	20	20	0	0	0	0	80	0	0	0	40	0	60	100	5
Married	Working (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
	Schooling (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
	Not working (N)	0	0	0	0	0	100	0	0	0	50	0	50	0	0	0	100	0	0	100	2
Total (<i>n</i>)		58	69	60	2	0	19	34	2	12	48	1	111	10	0	5	81	0	112		208

5-2b: 18-20 years in 1997

Status in 1997 18-20 years		2000 (21-23 years)						2007 (28-30 years)						2014 (35-37 years)						Total (%)	Total (<i>n</i>)
Marital Status	Economic Activity	Never married			Married			Never married			Married			Never married			Married				
		W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N		
Never married	Working (W)	48	0	7	33	0	11	7	0	0	19	0	74	0	0	0	37	0	63	100	27
	Schooling (S)	38	4	24	4	0	31	10	0	6	35	0	50	4	0	0	44	0	51	100	72
	Not working (N)	42	0	16	3	0	39	11	0	3	32	0	55	5	0	0	24	0	71	100	38
Married	Working (W)	0	0	0	33	0	67	0	0	0	67	0	33	0	0	0	100	0	0	100	3
	Schooling (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	1
	Not working (N)	0	0	0	23	0	77	0	0	0	23	0	77	0	0	0	69	0	31	100	13
Total (<i>n</i>)		56	3	25	17	0	53	13	0	5	48	0	88	5	0	0	63	0	86		154

Notes: W = Working, S = Schooling, N = Not working

Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

Appendix 5-3. Percentage of women aged 15-20 years in 1997 with *tertiary* education in 2014 by age, economic activity and marital status in IFLS wave

5-3a: 15-17 years in 1997

Status in 1997		2000						2007						2014						Total	Total
15-17 years		(18-20 years)						(25-27 years)						(32-34 years)						(%)	(<i>n</i>)
Marital Status	Economic Activity	Never married			Married			Never married			Married			Never married			Married				
		W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N		
Never married	Working (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
	Schooling (S)	11	70	16	1	0	1	32	1	4	32	0	31	5	0	0	62	0	33	100	91
	Not working (N)	50	0	50	0	0	0	0	0	0	50	0	50	0	0	0	100	0	0	100	2
Married	Working (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
	Schooling (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
	Not working (N)	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0	0	100	1
Total (<i>n</i>)		11	64	16	2	0	1	29	1	4	31	0	29	5	0	0	58	0	31		94

5-3b: 18-20 years in 1997

Status in 1997		2000						2007						2014						Total	Total
18-20 years		(21-23 years)						(28-30 years)						(35-37 years)						(%)	(<i>n</i>)
Marital Status	Economic Activity	Never married			Married			Never married			Married			Never married			Married				
		W	S	N	W	S	N	W	S	N	W	S	N	W	S	N	W	S	N		
Never married	Working (W)	63	13	13	0	0	13	25	0	0	50	0	25	13	0	0	75	0	13	100	8
	Schooling (S)	24	61	5	5	0	5	17	0	2	44	2	34	5	0	0	61	0	34	100	41
	Not working (N)	19	25	38	6	0	13	13	6	0	38	0	44	6	0	0	63	0	31	100	16
Married	Working (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Schooling (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Not working (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (<i>n</i>)		18	30	9	3	0	5	11	1	1	28	1	23	4	0	0	41	0	20		65

Notes: W = Working, S = Schooling, N = Not working

Source: Author's calculations based on the data of IFLS 2007-2014 from RAND

Chapter 6. Estimating duration of employment of young women

6.1 Introduction

The previous chapter follows the economic activity levels of the two age groups of 15-17 years and 18-20 years of a cohort of Indonesian women in 1997 by marital status and educational attainment between 1997 and 2014. The results show that both previous working experience and higher educational attainment had positive effects on subjects' later employment status. Early marriage effects were different by age groups between junior high school and less educated groups, i.e. if they were married before 18 years old, they had lower working levels while never-married 18-20 years had previous work experience. These findings illustrate that young Indonesian women experience various life courses which arise from their life goals, social and cultural expectations, and locations and the timing of their life events is also important (Giele & Elder 1998). The cross-tabulation enables us to provide more detailed dynamic transition patterns and movements that have been underexplored in past studies.

In this chapter, young Indonesian women's transitions are examined further by investigating their lifetime employment durations. Past research on women's dynamic employment in Indonesia was conducted by Cameron and Suarez (2017) and Setyonaluri (2013) who respectively examined the determinants of Indonesian women's labour force participation and their transition pathways by using the Indonesian Family Life Survey (IFLS). They found that marriage and childbirth significantly influence women's labour force engagements. This chapter extends their research by estimating this cohort's average years remaining in employment in their lifetime (working life expectancy). The multistate model includes transitions between working and educational status. Examining their estimated working life expectancy enables us to articulate which groups would have long working or not working durations, as well as identifying differences in working life expectancy by educational attainment. Understanding women's working life expectations is beneficial in recognising their long-term labour participation outcomes and in identifying gaps to enhance associated economic outcomes (Fullerton & Byrne 1976). The research question motivating this chapter is:

How do the working history and educational attainment affect the expected durations of lifetime employment for Indonesian women at age 20 years?

In order to answer this research question, this chapter estimates the average years of lifetime employment (working life expectancy) based on the two most recent waves of the longitudinal IFLS data collected in 2007 and 2014. The main sample group is women between the ages of 20 and 24 years in 2007. Working life expectancy at the exact age of 20 years is used for the analysis after developing a multistate life table with five-year age groups between 15 and 65 years and over. The reason of targeting this age is because most Indonesian women start to experience family formation in their early 20s.

6.2 Women's employment pathways across the life course

Women across the world face challenges to balance work and family life (Van der Lippe et al. 2006; Pocock 2005; Hill et al. 2004). Previous studies on women's employment focused on understanding their employment behavioural patterns around the timing of marriage and childbearing using cross-sectional or longitudinal data. The outcomes of these studies have contributed to enhancing employment policies and programs in developed countries by assisting women in achieving better participation in the labour market by creating more family and gender-friendly environments (Gaudet et al. 2011; Euwals et al. 2011; Kenjoh 2005; OECD 2001). Family and gender-friendly work environments aimed at retaining women in work need to be encouraged more by policies and practices in Indonesia due to an increased number of dual-income families (Cameron & Suarez 2017; Afrianty et al. 2015). Women face more pressure to seek additional income, not only to protect families against poverty (Schoeni & Blank 2000), but also to enjoy consumption-based lifestyles, such as shopping, sport, travel and watching Western movies, driven by mass media and advertising (Nilan 2008; Gerke 2002). However, in Indonesia married women are still expected to be wives and mothers, a country that is characterized by having a strong gender role culture (UNFPA 2015a; Utomo 2012). Indonesian women are caught up in the middle of pressure, burden and adjustment between traditional mores and a rapidly changing society (Ginting et al. 2018; Moen & Han 2001; Riley & Riley Jr 1994).

The latest Indonesian 2010 Census (BPS 2010) shows the gaps between women's willingness and the reality of employment. The percentage of women who answered *available for work* plateaued, while the proportion who are *looking for work* decreased gradually for both men and women after age 18 years as presented in Figure 6-1. By looking at those who answered *available*

for work by educational attainment (see Table 6-1), women with *less than tertiary* education had similar levels of around 30%. However, the level of *tertiary* educated women was significantly low at 3.8%. The levels of *looking for work*, on the other hand, was the highest for women with high school education, followed by junior high school education, primary and less education, then tertiary education. The difference was quite significant. It implies that women with less than tertiary education have similar willingness to work, but the level of ‘activeness’ in a job search is quite different. This could indicate that they experience challenges in getting into the labour market or are caught up in family responsibilities. However, in official statistics, only those who are ‘actively’ *looking for work* are counted under the most commonly used unemployment rate, as discussed in Section 3.4.1 in Chapter 3, and those who answered *available for work* could be invisible despite having a much larger proportion over time in Indonesia.

Figure 6-1. Percentage of respondents aged 15-29 years who answered either *available for work* or *looking for work* by sex, Indonesia, 2010



Source: Indonesian 2010 Census, BPS (2010)

Table 6-1. Percentage of women aged 15-29 years who answered either *available for work* or *looking for work* by educational attainment, 2010

Economic activity	Educational attainment in 2010					Total (%)	Total (<i>n</i>)
	No answer	Primary and less	Junior high school	High school	Tertiary		
Available for work	1.3	33.3	30.5	31.1	3.8	100.0	3,520,861
Looking for work	0.6	17.6	26.1	46.1	9.7	100.0	966,321
Total (<i>n</i>)							

Source: Indonesian 2010 Census, BPS (2010)

Education is an important investment for employment because it allows an individual to acquire better knowledge and skills for better future outcomes as supported by human capital theory (Becker 1962). Strong correlations have been identified between education levels and the later wage premium in Indonesia (Aldobrandini 2012). The distributions of overall educational attainment and those in the labour market were different between men and women for those aged 25-29 years in 2010 as presented in Table 6-2 and Table 6-3. Most young people completed education by age 25 years in Indonesia. There was not much difference in the distributions of educational attainment between men and women, however, the percentage actually working was different. More than 84% of men were working regardless of their educational attainment, whereas the percentage of working women ranged from 42 to 71%. Tertiary educated women had the highest percentage, followed by women with primary and less, high school and junior high school. Such a situation is often confirmed by other studies that high labour force participation rates are attained by both highly educated and less educated women. A recent study of Cameron and Suarez (2017) found that the educational attainments of non-working women are varied, but the main group are high school educated women. Widarti (1998) explains that women with medium education in Indonesia are reluctant to work in low-status jobs but can manage to survive on their husband's income. Women with tertiary education can often remain in work because they usually marry a husband with similar education and can afford child-care, and many of them are determined to avoid the opportunity cost of leaving well-paid jobs, and thereby negating their long investment in education. On the other hand, women with low education have more pressing needs to work for family survival because their household incomes are often low. Such a situation is referred as a J-curve pattern for female labour force participation in Indonesia as also explained in the previous chapter. This implies that women with less than tertiary education are interested in

finding jobs but some of them face challenges in finding satisfactory work, and either stay at home until opportunities come or they accept low-wage jobs while striving to balance their work and family life.

Table 6-2. Percentage of educational attainment for persons aged 25-29 years by sex, 2010

Sex	Educational attainment in 2010				Total (%)	Total (<i>n</i>)
	Primary and less	Junior high school	High school	Tertiary		
Male	29.5	24.6	36.4	9.5	100.0	10,427,330
Female	31.8	25.0	30.8	12.4	100.0	10,430,204

Source: Indonesian 2010 Census, BPS (2010)

Table 6-3. Percentage of working persons aged 25-29 years by educational attainment and sex, 2010

Sex	Educational attainment in 2010				Total (<i>n</i>)
	Primary and less	Junior high school	High school	Tertiary	
Male	88.6	87.4	84.0	85.3	9,001,272
Female	42.1	39.8	41.9	71.4	4,702,471

Source: Indonesian 2010 Census, BPS (2010)

In Indonesia, women's school enrolment levels have improved significantly in the past few decades. While there were gender gaps in education until the late 1990s, that has not been the case in more recent years. Female educational attainment at secondary and tertiary enrolment rates is actually slightly higher than men. Nilan et al. (2011) conducted a qualitative survey on aspirations and expectation of young Indonesians and found that young Indonesian women are keener to have paid professional work than men. Indonesian girls are less likely to leave school early than boys (ILO 2006). Such higher aspirations accompanied by reluctance to abandon

their education would reflect both their high educational aspirations and their actual attainment.

Improvement of female educational attainment is often related to the increase of female labour force participation rates in many countries (Jaumotte 2004). A study in OECD countries found that the major determinants of female labour force participation are female education, a well-functioning labour force market to assist women including childcare, tax support, parental leave and cultural attitudes (Jaumotte 2004). However, in Indonesia, the relationship between female education and labour force participation is not always positive (Widarti 1998). The female labour force participation rates increased from 31.2% in 1961 to 54.2% in 1998, but despite the improvement in women's school enrolment, the average female labour force participation rates between 1998 and 2018 remained stagnant at 52.9% (World Bank 2019e). This is a further indication that many women experience challenges in balancing their work and family life due to the strong gender role culture (UNFPA 2015a; Nilan et al. 2011; Moen & Han 2001). The results shown in this chapter reveal similarities and differences in women's lifetime employment by educational attainment based on their original status in 2007.

6.3 Data

6.3.1 Data and sample

This chapter uses the two latest waves of the longitudinal IFLS survey data conducted in 2007 and 2014. Three variables used in this chapter are: age in 2007, economic activity and educational attainment in 2007 and 2014. A multistate life table is constructed for women aged 15 years and over with five-year age groups. This chapter also uses a sample from the complete case analysis by selecting the respondents who provided information on all three variables. The analysis is focused on the estimated working life expectancy at the exact age of 20 years in the multistate life table based on the abridged age group of 20-24 years. The sample size of the respondents aged 20-24 years in 2007 is 1,602 women. Categories of the variables used for analysis are shown in *italics* for easy reading.

The distributions of the sample by economic activity and educational attainment in 2007 and 2014 are presented in Table 6-4. There is a significant relationship between the working status and educational attainment variable, and time ($p < .001$). It shows that large numbers of

women are in the diagonal, which means that many of the sample did not change their status between 2007 and 2014. For example, there were 125 women who were *working* with *junior high school and less* education in 2007 and 2014, and 118 women who were *working* with *high school* education in 2007 and 2014, and so on. But there were more women with *less than tertiary* education *not working* than *working* while the *tertiary* educated women had more *working*. A similar situation is observed for those who were off in the diagonal, which means that they changed their status, either their economic activity or obtained higher educational attainment by 2014. On the one hand, 121 *working* women with *junior high school and less* or *high school* in 2007 changed to *not working* in 2014, and 167 *not working* women with *junior high school and less* education in 2007 changed to *working* in 2014. On the other hand, 59 women started *working* while 26 women remained *not working* after obtaining a *tertiary* education qualification. Although the difference in number may not be so large for *tertiary* educated women, larger numbers of women with *less than tertiary* education changed their economic activity from *working* to *not working*, while women with *tertiary* education started *working*. A tertiary education is evidently an advantage in remaining or participating in the labour market.

Table 6-4. Number of women aged 20-24 years in 2007 with economic activity and educational attainment status in 2014

Working status Educational attainment	2014						Total (n)	Total (%)
	Working Junior high and less	Working High school	Working Tertiary	Not working Junior high and less	Not working High school	Not working Tertiary		
2007 Working Junior high and less	125	5	0	121	5	0	256	16.0
Working High school	0	118	18	0	116	8	260	16.2
Working Tertiary	0	0	57	0	0	12	69	4.3
2007 Not working Junior high and less	167	9	0	390	16	0	582	36.3
Not working High school	0	91	59	0	226	26	402	25.1
Not working Tertiary	0	0	19	0	0	14	33	2.1
Total (n)	292	223	153	511	363	60	1,602	100.0
(%)	18.2	13.9	9.6	31.9	22.7	3.7	100.0	

Note: $\chi^2 (25, N = 1,602) = 2.3e+03, p < .001$

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND

6.3.2 Variables

Three variables of age, economic activity and educational attainment are used in this chapter to estimate women's working life expectancy by constructing a multistate life table. It provides the average years remaining in employment in their lifetime by exact age, based on the information of economic activities and educational attainment variables in 2007 and 2014. The results show the differences in years for each age and status combinations in 2007.

6.3.2.1 Age

This chapter uses a cohort of women aged 20-24 years in 2007 as the sample. There are two main reasons for selecting this age period. First, this is when most women complete their education. Only 4.2% of women were continuing their education at age 25, according to the Indonesian Census 2010 (BPS 2010) as presented in Table 6-5.

Table 6-5. Percentage of women aged 15-29 who were attending school, 2010

Age	Schooling	
	(%)	(<i>n</i>)
15	76.5	1,660,684
16	67.8	1,382,649
17	53.7	1,069,981
18	37.6	709,274
19	26.5	528,897
20	19.8	443,176
21	16.8	324,575
22	13.0	226,834
23	9.4	143,685
24	6.4	93,940
25	4.2	65,396
26	3.1	45,591
27	2.2	37,164
28	1.7	29,758
29	1.4	25,482

Source: Indonesian 2010 Census, BPS (2010)

Second, aside from completing education, other critical life events, such as getting married and giving birth happen among Indonesian women in their early 20s. Marriage and childbirth have a significant impact on Indonesian women's employment status (Cameron & Suarez 2017; Setyonaluri 2013). The mean age at first marriage was 22 years (United Nations 2017a) and the mean age of first childbirth was 23 years or an average of 1.4 years after their marriage. About a half of the working women returned to work within an average of three-years (Setyonaluri 2013). This means that many new 'mothers' start coming back to the labour market around their mid- to the late 20s after their first childbirth. Cameron and Suarez (2017) also found no negative effect caused by returning to the labour market after the birth of a second child. Focusing on the age group 20-24 years in estimating working life expectancy covers the start of the "demographically dense period" which is critical in understanding Indonesian women's transition pathways.

6.3.2.2 Economic activity

The economic activity variable is recoded into *working* and *not working*, based on their original answers to the question on primary activity during the past week in the IFLS questionnaires for each wave. As explained in Chapter 3, those who answered "working" are coded as *working* and the rest of the categories are coded as *not working* to reflect the actual working status of women.

6.3.2.3 Educational attainment

The educational variable is derived from the reported highest educational attainment of the respondents in the IFLS, as explained in Chapter 3. This chapter uses the educational attainment in each of 2007 and 2014. To be consistent with the previous chapter, the following three educational attainment categories are used: *junior high school and less*, *high school* and *tertiary*. The educational attainment of the sample in 2007 and 2014 is presented in Table 6-6. It shows that most subjects kept the same educational attainment while between 2.2 and 6.9% of the sample had obtained higher education. *Tertiary* educational attainment had the largest increase.

Table 6-6. Educational attainment by women aged 20-24 years between 2007 and 2014

2007	2014							
	Junior and less		High school		Tertiary		Total	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Junior and less	803	50.1	35	2.2	0	0.0	838	52.3
High school	0	0.0	551	34.4	111	6.9	662	41.3
Tertiary	0	0.0	0	0.0	102	6.4	102	6.4
Total	803	50.1	586	36.6	213	13.3	1,602	100.0

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND

6.3.3 Method

This chapter uses the multistate life table technique to estimate the average years of remaining in employment (working life expectancy) for women in Indonesia. The multistate life table method is used to study population and to understand interactions of subgroups based on their features and attributes such as educational levels, marital status, employment status, health and household types in the population (Martins et al. 2014; Lutz & Samir 2010; Rogers 1995).

Billari et al. (2000) argue that the multistate life table technique articulates the emergence of macro-level phenomena based on micro-level behaviours by focusing on personal attributes at one or several points in time while event history analysis examines specific timings of personal events. These personal attributes affect future population size and structures by playing a key role in changing decision making for policies and programs. This method estimates working life expectancies by revealing the average years of lifetime employment by educational attainment. Education could be the most important factor affecting many demographic variables after age and sex because it influences people's behaviour with regard to population-related activities such as fertility, mortality and migration, and increases a person's potential and wellbeing by increasing human capital (Lutz & Samir 2010; Goujon 2008). While step by step calculations with examples are presented in Chapter 3, this chapter describes the main outcomes.

As explained in Chapter 3, multistate life tables use the technique of classic life tables which are a model to summarise the mortality experience of a population with a hypothetical group of newborn babies throughout their lifetime by using a hypothetical group which is 100,000 in size (Carmichael 2016). The multistate life tables also use the hypothetical group of 100,000 while the starting age could be different depending on interest of the research. This chapter aims to

estimate the expected number of years women would work at the exact age of 20 years based on the work experience of women aged between 15 and 65 years by using data from 2007 and 2014. Data from 15 years on is used as the starting age of a multistate life table by looking at young women's economic activities. This is because the working-age population is between 15 and 64 years old. The multistate life tables have less bias in population calculation by taking the true population at risk into account by using matrix notation (Rogers 1986; Willekens et al. 1982). The survival probabilities for an active population are calculated as transition probabilities of the respondents' employment status and educational attainment. In this chapter, there are following six status types:

- 1 = Working/Junior high school and less,
- 2 = Working/High school,
- 3 = Working/Tertiary,
- 4 = Not working/Junior high school and less,
- 5 = Not working/High school and
- 6 = Not working/Tertiary.

This implies 24 possible combinations in reality out of 36 theoretical combinations by excluding the (non-existent) transition pathways from higher to lower level of educational attainment between 2007 and 2014. The excluded combinations are highlighted in black in Table 6-7.

Table 6-7. Combinations of employment and educational attainment status, P_{ij} by status in 2007 (i) and status in 2014 (j)

		Status in 2014 (j)						
		1	2	3	4	5	6	
		Working / Junior high and less	Working / High school	Working / Tertiary	Not working / Junior high and less	Not working / High school	Not working / Tertiary	
Original status in 2007 (i)	1	Working / Junior high and less	P_{11}	P_{12}	P_{13}	P_{14}	P_{15}	P_{16}
	2	Working / High school		P_{22}	P_{23}		P_{25}	P_{26}
	3	Working / Tertiary			P_{33}			P_{36}
	4	Not working / Junior high and less	P_{41}	P_{42}	P_{43}	P_{44}	P_{45}	P_{46}
	5	Not working / High school		P_{52}	P_{53}		P_{55}	P_{56}
	6	Not working / Tertiary			P_{62}			P_{66}

The latest mortality rate between 15 and 65 years and over by five-year age group in 2010-2015 from the United Nations for women in Indonesia (United Nations 2017b) is applied in calculating the life table population's life expectancy $e(t+)$. Then, matrix notation is applied for calculating the life table population, l_{ij} . Each process of developing multistate life tables is explained in Chapter 3. Table 6-9 presents the life table population of l_{ij} , while the complete life table is presented in Appendix 6-1.

By looking at Table 6-8, the life table population of 100,000 starts at the exact age of 15 years, then it distributes into the six described status types according to their economic activity and educational attainment by age. The lower educational attainment status from 2014 to 2007 as well as younger school completion ages for each educational attainment show 0 persons in the life table due to zero probability. Many Indonesian women stop attending school at 18 when they complete high school, as shown in Table 6-2, where the same educational attainment statuses in 2007 and 2014 have large numbers in this life table. For example in Table 6-8, $P_{11}(15)$ represents for those with the original status of *working/junior high school and less* has a life table population of 100,000 at the exact age of 15 years, then at the exact age of 20 years, the later status of *not working with junior high school and less* education has the highest number at 56,410 life table population and the later status of $P_{11}(20)$ in *working/junior high school and less* has the second highest number at 36,719 in the six status types. This also means that those who had a *working* and *junior high school and less* status in 2007 would not be *working* in later years. Some people in this status would obtain higher education later in *high school* and *tertiary* levels of educational attainment at 1,923 persons with the later status of $P_{12}(20)$ in *working/high school*, 641 persons with the later status $P_{13}(20)$ in *working/tertiary* respectively. By looking at Indonesia's female labour force participation rates in Indonesian 2010 Census, as presented in Figure 6-2, the largest percentage engaged in economic activity was 57.0% of the 45-49 age group in 2010. This multistate life table also shows the largest life table population of *working* is around the age group of 45-49 years. Then it decreases as retirement age approaches, which is 56 years for public servants in Indonesia in 2016 although the government is now planning to increase this gradually to 65 years by 2043 (OECD 2017), depending on the companies and industries involved.

Table 6-8. Multistate life table of employment status and educational attainment, 2007 and 2014

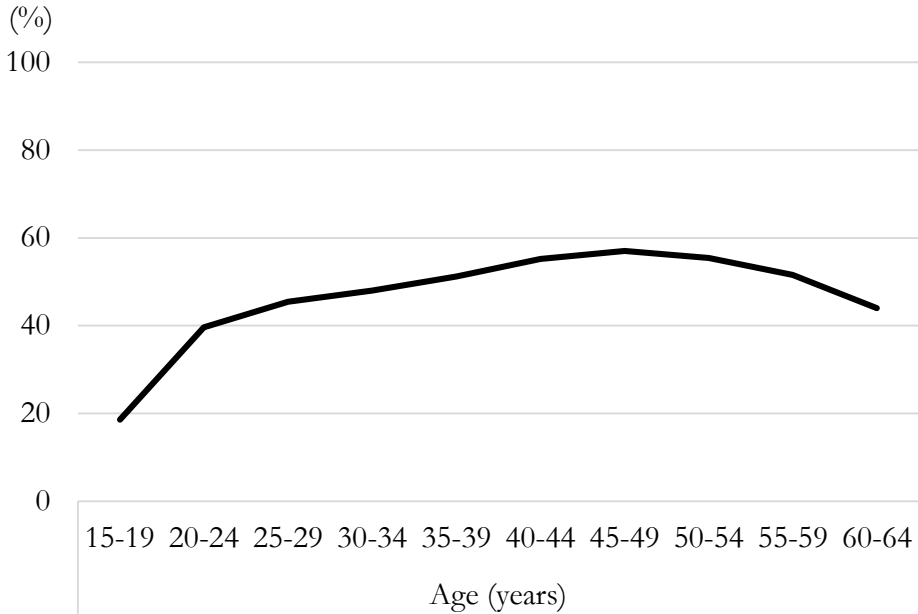
Original status in 2007 (<i>j</i>)	Age	Life table population: <i>l_{ij}</i>					
		Status in 2014 (<i>j</i>)					
		1 Working/ Junior high and less	2 Working/ High school	3 Working/ Tertiary	4 Not working/ Junior high and less	5 Not working/ High school	6 Not working/ Tertiary
1 Working/ Junior high and less	15	100,000	0	0	0	0	0
	20	36,719	1,923	641	56,410	3,846	0
	25	33,884	3,321	1,223	54,800	5,264	419
	30	34,696	4,825	1,643	50,512	5,699	803
	35	37,295	5,284	2,294	44,928	6,434	1,043
	40	41,156	6,321	3,252	38,227	6,058	1,091
	45	40,508	5,594	4,874	36,606	5,890	1,044
	50	37,939	6,405	6,742	36,737	3,960	515
	55	32,512	3,344	4,636	38,943	6,314	3,485
	60	23,823	1,041	1,908	43,215	8,342	6,457
65+	16,083	1,810	1,753	43,865	7,747	6,631	
2 Working/ High school	15	0	100,000	0	0	0	0
	20	0	48,835	7,042	0	39,437	4,225
	25	0	30,783	17,375	0	43,710	7,044
	30	0	30,619	21,300	0	36,979	9,280
	35	0	28,515	23,200	0	33,806	11,756
	40	0	27,284	29,168	0	28,677	10,976
	45	0	21,454	37,509	0	26,390	9,165
	50	0	24,474	47,420	0	16,488	3,917
	55	0	12,055	29,114	0	23,327	24,738
	60	0	3,785	11,986	0	27,457	41,558
65+	0	4,974	11,011	0	21,336	40,569	
3 Working/ tertiary	15	0	0	100,000	0	0	0
	20	0	0	99,539	0	0	0
	25	0	0	81,601	0	0	17,311
	30	0	0	73,414	0	0	24,764
	35	0	0	64,838	0	0	32,440
	40	0	0	68,661	0	0	27,444
	45	0	0	74,040	0	0	20,476
	50	0	0	84,589	0	0	7,710
	55	0	0	44,552	0	0	44,682
	60	0	0	18,342	0	0	66,445
65+	0	0	16,850	0	0	61,039	

Table 6-8. (Continued)

Original status in 2007 (<i>j</i>)	Age	Life table population: <i>l_{ij}</i>					
		Status in 2014 (<i>j</i>)					
		1 Working/ Junior high and less	2 Working/ High school	3 Working/ Tertiary	4 Not working/ Junior high and less	5 Not working/ High school	6 Not working/ Tertiary
4 Not working/ Junior high and less	15	0	0	0	100,000	0	0
	20	10,702	20,736	10,925	26,518	24,861	5,797
	25	12,767	15,527	17,378	22,661	24,009	6,569
	30	13,729	16,618	19,066	20,304	20,405	8,055
	35	14,867	15,910	19,488	17,974	19,039	10,001
	40	16,432	15,763	23,249	15,275	16,366	9,021
	45	16,178	12,650	28,618	14,622	15,181	7,267
	50	15,153	14,447	35,418	14,674	9,596	3,011
	55	12,986	7,192	21,102	15,554	13,857	18,543
	60	9,515	2,255	8,688	17,261	16,673	30,395
65+	6,424	3,140	7,981	17,520	13,461	29,364	
5 Not working/ High school	15	0	0	0	0	100,000	0
	20	0	25,532	39,716	0	20,816	13,475
	25	0	16,139	45,140	0	22,962	14,671
	30	0	16,068	45,013	0	19,415	17,681
	35	0	14,967	42,594	0	17,747	21,971
	40	0	14,322	47,665	0	15,053	19,065
	45	0	11,261	54,740	0	13,853	14,662
	50	0	12,847	65,031	0	8,655	5,766
	55	0	6,328	36,434	0	12,245	34,227
	60	0	1,987	15,000	0	14,413	53,387
65+	0	2,611	13,780	0	11,199	50,299	
6 Not working/ tertiary	15	0	0	0	0	0	100,000
	20	0	0	66,667	0	0	32,872
	25	0	0	73,579	0	0	25,333
	30	0	0	70,364	0	0	27,813
	35	0	0	63,706	0	0	33,572
	40	0	0	67,888	0	0	28,218
	45	0	0	73,679	0	0	20,837
	50	0	0	84,453	0	0	7,846
	55	0	0	44,510	0	0	44,724
	60	0	0	18,325	0	0	66,462
65+	0	0	16,834	0	0	61,055	

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

Figure 6-2. Female labour force participation rates by age group, Indonesia, 2010



Source: Indonesian 2010 Census, BPS (2010)

The results of $e_{ij}(20)$ which represents the working life expectancy of women at the exact age of 20 years is presented in Table 6-9. It shows that women who were in $P_{11}(20)$ in *working* with *junior high school and less* education status in 2007 would spend the average of 18.0 years in *working* with *junior high school and less* education status, an average of 2.2 years in *working* with *high school education* status, and so on, in their total of 54.6 years remaining in lifetime from the exact age of 20 years old. A more detailed analysis is discussed in the next section.

Table 6-9. Estimated average years of remaining in employment for women aged 20 years in 2007

Status in 2007 (<i>i</i>)	Status in 2014 (<i>j</i>)						<i>e</i> (<i>t</i> +
	<i>e_{ij}</i> (20)						
	Working / Junior high and less	Working / High school	Working / Tertiary	Not working / Junior high and less	Not working / High school	Not working / Tertiary	
Working / Junior high and less	18.0	2.2	1.7	26.8	3.9	2.0	54.6
Working / High school	7.1	6.1	10.4	10.8	9.9	10.2	54.6
Working / Tertiary	0.0	11.1	13.1	0.0	16.8	13.5	54.6
Not working / Junior high and less	0.0	5.8	21.2	0.0	8.8	18.7	54.6
Not working / High school	0.0	0.0	31.2	0.0	0.0	23.4	54.6
Not working / Tertiary	0.0	0.0	29.7	0.0	0.0	24.9	54.6

Source: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

6.4 Results

The estimated average of working years in the lifetimes (working life expectancy) of women at the exact age of 20 years in 2007 is presented in Figure 6-3. The abridged life table with ages 15 years and over is presented in Appendix 6-1. In Figure 6-3, years of working life expectancy are shown on the Y-axis according to their 24 status combinations on the X-axis as explained for Table 6-7. The total years of *working* (W) and *not working* (NW) within each of the 2007 six original status types are also displayed in the boxes on top of the graph.

Three main results are found in this chapter. First, the total number of working years increases with advancing education, regardless of their 2007 original working status. In other words, tertiary educated women had the longest average working years. For example, *tertiary* educated women who were *working* in 2007 can expect to spend 31.2 years *working* and 23.4 years *not*

working. Women with *high school* education have an estimated working life expectancy of an average of 25.6 years (24.2 years *working*/27.0 years *not working*), while those with *junior high school and less* education have a working life expectancy of an average of 22.3 years (21.9 years *working*/23.6 years *not working*).

Educational differences in working life expectancy are larger between women with *tertiary* education and *high school* education, rather than between *high school* and *junior high and less* educated women, although women with *tertiary* education would spend the longest years in schooling which often kept them out of the labour market while obtaining their higher education levels. Unless working at the same time, they would have the longest estimated *working* years. This reconfirms that education is an important factor for remaining in employment longer in Indonesia, which supports the human capital theory that investment in education provides better outcomes (Becker 1962).

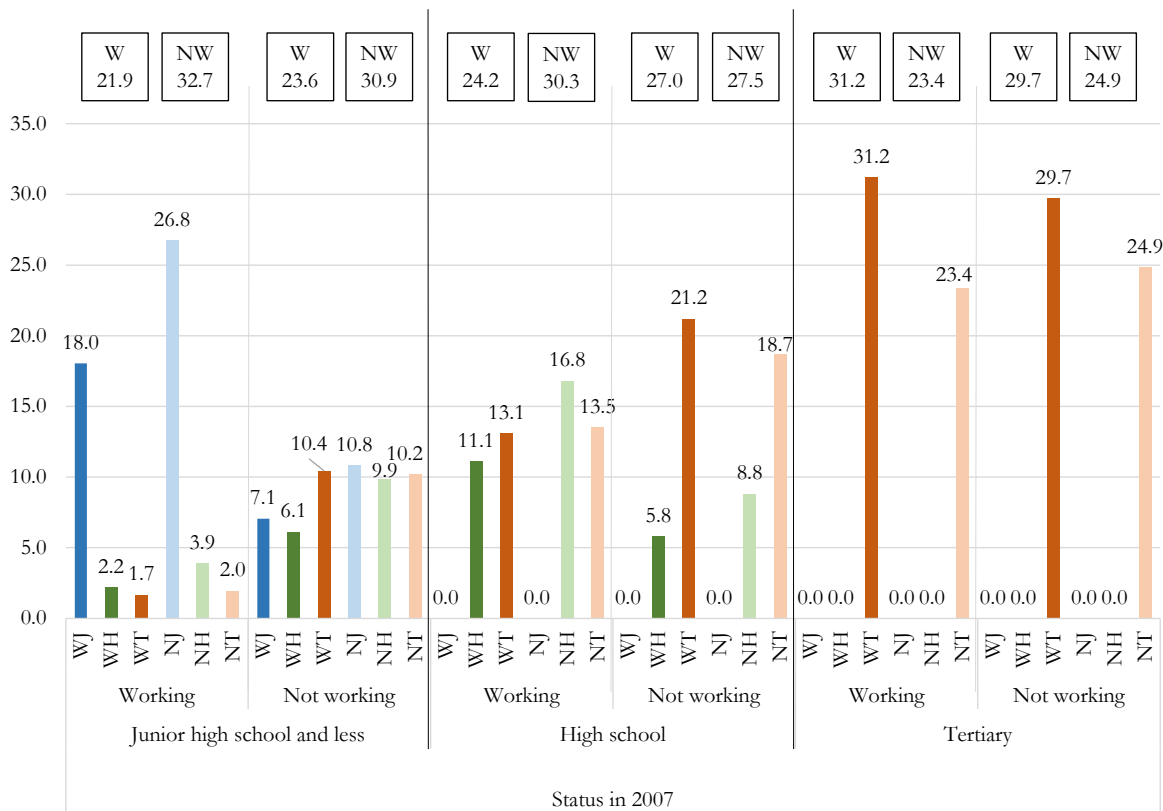
Second, lifetime *working* years of women with *tertiary* education in 2007 are longer than *not working* years regardless of their original working status in 2007. The difference of *working* years by the 2007 *working* women was 7.8 years (31.2 years – 23.4 years) which is longer than that of the 2007 *not working* group of 4.8 years (29.7 years – 24.9 years). The years of *not working* include the years after retirement age¹⁰ which is generally at 56 years in Indonesia (OECD 2017) but it would be different by working sectors and individual choices. Thus, a 20 year old woman in 2007 would spend a maximum of 36 years working if she retires at the age of 56. Based on the multistate life table results in this chapter, the life expectancy of Indonesian women is 74.6 years¹¹. While women with tertiary education would spend more working years than non-working years in their lifetime, that is not the case for women with less than tertiary education. For example, the 2007 *not working* and *high school* women would have 27.0 years *working* and in 27.5 years *not working*. Such differences become larger if they are *working* in 2007 and have less

¹⁰ The age of the working population defined by the United Nations is between 15 and 64 years old, however, many developing countries have a different retirement age. In Indonesia, the general pension age is at the age of 56 years old in the private sector while no retirement is required to receive the pension (OECD, 2013: 273). For the public sector, the government has started to increase civil servants' retirement age from 56 years old in 2016 to 65 years gradually by 2043 (OECD, 2017).

¹¹ The life table life expectancy is 74.6 years which is higher than the UN's official life expectancy of Indonesia at 71.6 years (United Nations, 2019). This is because the multistate life table used in this chapter does not include those aged 0-14 years old where the high mortality rate happens under 0-1 year old.

educational attainment. The largest difference is 10.8 years for the 2007 group of women who are *working* and have *junior high school and less* education. These figures indicate once again the positive influence of higher education qualifications for retention of employment. Another implication is that though starting work at an early age would seem to provide some advantage in securing longer employment periods and more work experience, this is counteracted by the loss of educational opportunities. Utomo et al. (2014) examined early school leavers in Indonesia and found that one-third of primary-level early school leavers were not working. Despite quitting schooling in order to work, this group of lower educated workers were not always able to contribute extra income to the family but lost educational opportunities as well. Only a small number of early school leavers returned to school (fewer women among them than men), while early school leavers still believe that returning to schooling is a key to improve their living standards.

Figure 6-3. Average years remaining in employment by educational attainment for women aged 20 years in 2007



Notes: W = Working, NW = Not working, J = Junior high school and less, H = High school, T = Tertiary

Source: Author’s calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

Third, a positive influence of previous work experience on longer lifetime employment duration is only seen for women with *tertiary* education, by 1.5 years longer than by *working* women. *Working* women in 2007 with *high school* and *junior high school and less* education had 2.8 years and 1.7 years shorter *working* years than their *not working* counterparts. By looking at the distributions of each status by their educational attainment within the same group, they would spend longer obtaining higher educational attainment later than 2007, except the 2007 *working* with *junior high school and less* education women. For example, the 2007 *not working* and *high school* group would spend 27.0 years of *working* in their life. During that time, they would spend 21.2 years with *tertiary* education and only 5.8 years at the same *high school* education level, meaning they obtained tertiary education qualification later and would work with the higher education

qualifications. The same trend is observed by the 2007 *working* and *high school* women and the 2007 *not working* and *junior high school and less* women. On the one hand, it indicates that Indonesian women have high education and career aspirations (Nilan et al. 2011). On the other hand, the 2007 *working* and *junior high school and less* women have substantially longer years remaining at the same educational attainment regardless of their *working* status. Their total *working* years are 21.9 years, which is the shortest among the six 2007 groups. This implies that women who were *working* and with *junior high school and less* education would not have the luxury to continue schooling because they would more likely to seek extra income for their families. Nevertheless, their expected *working* years in their life course is the shortest of all. At the same time, despite obtaining higher educational attainment by *not working*, there were no substantial differences in *working* years in the end. The difference is at 2.8 years for women with *high school* education and 1.7 years with *junior high school and less* education. This indicates that women with secondary education and lower faced challenges in their efforts to secure a longer working life.

In sum, the estimated years of working life expectancy show that women with *tertiary* education have the longest *working* years in their lifetime, and that the overall working years decrease as education levels decrease. The difference between *working* and *not working* is different from educational attainment. Women with *tertiary* education would have longer *working* years while women with *less than tertiary* had longer *not working* years. The difference between the groups increases as education levels decline. Previous work experience contributed relatively positively to women with *tertiary* education, but not for women with *less than tertiary* education. However, the *working* years were longer for the 2007 *not working* group for both types of educational attainment. The positive impact of previous work experience on prospects for longer *working* years for *tertiary* educated women was also observed in the previous chapter.

6.5 Conclusion

The results of this chapter show that the duration of working life expectancy diminishes with lower education. This confirms that educational attainment contributes to a longer duration of lifetime work, which in turn supports the human capital theory that investment in education contributes to future outcomes (Becker 1962). Aldobrandini (2012) found, however, that higher education qualifications led to longer school-to-work transition durations due to skill mismatches and young people's preference for finding better-paid jobs. The results of this

chapter show that higher educational attainment pays off for Indonesian women in terms of the prospects for a longer working life. Cameron and Suarez (2017) found that labour force participation in Indonesia by women with tertiary education is least affected by marriage or childbearing time. Tertiary educated women have strong attachments to work as they can achieve autonomy and high job satisfaction (Gaudet et al. 2011; Keene & Quadagno 2004) and they return to work more quickly after childbirth than lower-educated women (Elliott et al. 2001). They can afford to hire caregivers or childcare for their children from their better-paid jobs and are more likely to have better spousal income as well (Gaudet et al. 2011). Women with less than tertiary education, on the other hand, are more likely to have lower-paid jobs than tertiary educated women, and face more challenges in seeking work after childbirth.

In order to promote women's retention in work, Kenjoh (2005) analysed the periods of leave after childbirth and return to work for women in Sweden, Germany, the United Kingdom, Japan and the Netherlands. She argues the importance of family-friendly policies because short periods of maternity leave in the Netherlands, for example, impact on women's labour force participation by educational attainment. Women with higher education remain in work for five years after childbirth while women with low education stay at home during the same periods. This is because childcare services are mostly available in the private sector and women with higher education are more highly paid and can afford childcare after finishing short maternity leave. Family-friendly policies to support the combinations of motherhood and paid employment, especially for less than tertiary educated women, are effective generally in assisting new mothers to participate in the labour market (Kenjoh 2005). Such policies could be applied in Indonesia to support women, especially for those with less than tertiary education (Cameron & Suarez 2017). In Indonesia, maternity leave benefits are often provided by employers rather than social security insurance, and this situation discourages employers from hiring young married women because of their likely pregnancies in the near future. There is room for improvement in relevant policies including flexible work arrangements (flexitime, job sharing, working at home, compressed working week), part-time with the same career opportunities and benefits as full-time work, dependent care support (childcare support and care allowance) and parental leave (Cameron & Suarez 2017; Afrianty et al. 2015).

Past research in developed countries shows that an increase in female labour force participation rates is often concentrated among tertiary educated women, as is the case for Indonesia, and those with less than tertiary education are more likely have limited or low skills (OECD 2001). While there are gender challenges for tertiary educated women at workplaces including finding good jobs, suffering unequal wages and coping with work and family life balance (Purnastuti et al. 2015), the results of this chapter show the positive influence of tertiary educational attainment on their working life expectancy. Women with less than tertiary education are more at risk of economically vulnerability due to low educational attainment and skills even if they are keen to find jobs (OECD 2010). Judging by the levels of the *available for work* answer in the Indonesian 2010 Census, most women who selected this option were women with a less than tertiary education as presented in Table 6-1. This further illustrates the gaps between the actual engagements in economic activity and willingness to work among the less than tertiary educated women in Indonesia.

The results of this chapter also show that the contrasts in *working* years between the 2007 original status between *working* and *not working* with the same educational attainment is relatively similar, ranging from 1.5 to 2.8 years (1.7 years for *junior high school and less*, 2.8 years for high school and 1.5 years for *tertiary*). Although women with *working* status would start their career earlier and gain longer *working* experience, women in *not working* status would have similar *working* years. This indicates, on the one hand, that obtaining higher education, even while not working, ultimately helps to remain longer in employment and catch up at the end with the similar working durations of those who started working earlier.

On the other hand, the differences in the average *working* years among the three educational attainment levels are larger at 4.85 years between *tertiary* (30.45 years) and *high school* (25.6 years). This confirms that tertiary education is the privileged level for employment. The most challenging situation is confronted by those with *junior high school and less* who were *working* in 2007. Despite their early start in *working*, their lifetime *working* years was the shortest among the six 2007 groups. In order to have a better chance to reach the tertiary education level, it is important that women do not leave school early and delay their school completion age because Indonesia has gaps between gross and net school enrolment rates for primary and secondary levels as discussed before. The financial constraint on those who leave school early is the key reason that they face difficulties in covering registration fees, uniforms, textbooks and public

transportation (Utomo et al. 2014). The government should consider defraying these costs to assist children, especially from low-income families to stay in school because to do so would ultimately contribute to human capital improvement and national economic development which is important if Indonesia is to take full advantage of the upcoming demographic dividend.

The reality in the labour market, however, is that cheap labour is actually supported by low educated women and they are, ironically, important human resources for the government and companies for such labour-intensive work as manufacturing and textile industries (Gills 2002; Bamber & Leggett 2001). Although this could be a good entry point to the labour market for them, they are often marginalised from the development of their further occupational skills, and this is where policies and programs should support their human capital improvement for better incomes (Gallaway & Bernasek 2004). They have to quit jobs at the time of marriage or pregnancy due to pressure from employers who try to avoid the cost of paid maternity leave (Caraway 2005). Replacing job vacancies after employees' resignations, however, can more for companies than keeping employees by providing part-time positions or paid maternity leave which is often arranged mainly for tertiary educated or skilled women (McDonald et al. 2005). It is important that they improve their occupational skills for sustainable development regardless of their educational backgrounds to remain in work because that also contributes to national development in the long run (McDonald 2014). While the previous chapter shows that some women with junior high school and less education returned to work after marriage or childbirth, the results of this chapter reveal from the multistate technique that they still have the shortest estimated lifetime working years. Even if they have some work experience, it does not contribute to their longer lifetime working years unless they acquire tertiary education. Women with lower education levels need certain protections – for example, the right to increased job security if they have served a certain minimum period, and also they should be given opportunities to pursue higher degrees or occupational skill programs to enhance their profiles. It also helps to have better work attachment (Gallaway & Bernasek 2004) by not sacrificing their income or quitting their jobs, which also benefits employers. Cameron and Suarez (2017) argue the importance of providing work-based childcare for women with less than tertiary education especially in manufacturing, wholesale/retail, trade and hotel, where female retention rates are quite low for married women.

From the life course perspective, Indonesian young women are experiencing complex transitions by not only experiencing many critical life events in a limited time starting from their early 20s, but also facing challenges and dilemmas in a rapidly transforming society. They are under pressure to pursue traditional roles as mothers and wives as well as to bring extra incomes for their family and to enjoy life in a consumption-based society (Nilan 2008). Although young women have high aspirations in career and life, they also have to face reality. They are expected to be the primary caregivers by looking after family and children, or even if they work, they are only expected to be a secondary income earner. If they have tertiary educational attainment, they still have to compete with men. Thus it is important to construct good networks to find jobs, but networks are often stratified by family socio-economic backgrounds due to strong social capital culture in Indonesia (Utomo 2012; Nilan et al. 2011; Turner 2007; Sukarno 1999).

Results of this and previous chapters show that a large number of women are available for work and many of them have less than tertiary education. Women put more value than men on non-monetary rewards from paid work including learning new skills, utilising their talents or helping others (Staff et al. 2010). Nilan et al. (2011) argue that those Indonesian women are keener than men to seek well-paid jobs and high education, and keener than their mothers to add to the family income. Women clearly have the potential to increase their human capital capacity as productive workers through the acquisition of skills and work opportunities despite low educational attainment. Some existing policies already support these aspirations, but there is still much room to improve. For example, some technical training centres or skill development programs target young people or women who are out of work or have left school early (ILO 2017c). Utomo et al. (2014) argue for the importance of providing incentives for married women who left school early to improve their education by having a more accessible system to utilise informal return-to-school packages available in the country. These are mainly supported by the government and international organisation agencies. The government also needs to urge and assist companies to retain and provide in-house skill training for women, measures which are currently limited in Indonesia.

Appendix 6-1. Multistate life table for women aged between 15 and 65+ years in employment and educational attainment status in 2007 (i) and in 2004 (j) in Indonesia

Status in 2007 (i)	Age in 2007	m(x)	Status in 2014 (j)																								
			l _{ij}						L _{ij}						T _{ij}						e _{ij}						e(t+)
			1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	
1	15-19	100,000	0	0	0	0	0	341,796	4,808	1,603	141,026	9,615	0	2,137,474	223,474	168,205	2,805,976	401,054	195,843	21.4	2.2	1.7	28.1	4.0	2.0	59.3	
	20-24	36,719	1,923	641	56,410	3,846	0	176,506	13,110	4,660	278,027	22,775	1,049	1,795,678	218,667	166,603	2,664,950	391,439	195,843	18.0	2.2	1.7	26.8	3.9	2.0	54.6	
	25-29	33,884	3,321	1,223	54,800	5,264	419	171,450	20,363	7,165	263,280	27,408	3,057	1,619,171	205,557	161,942	2,386,923	368,663	194,795	16.4	2.1	1.6	24.1	3.7	2.0	49.9	
	30-34	34,696	4,825	1,643	50,512	5,699	803	179,977	25,271	9,842	238,600	30,332	4,616	1,447,722	185,194	154,778	2,123,643	341,256	191,738	14.7	1.9	1.6	21.6	3.5	2.0	45.3	
	35-39	37,295	5,284	2,294	44,928	6,434	1,043	196,128	29,012	13,865	207,889	31,229	5,335	1,267,745	159,922	144,936	1,885,043	310,924	187,122	13.0	1.6	1.5	19.4	3.2	1.9	40.7	
	40-44	41,156	6,321	3,252	38,227	6,058	1,091	204,161	29,787	20,315	187,082	29,872	5,336	1,071,616	130,911	131,071	1,677,154	279,695	181,786	11.2	1.4	1.4	17.5	2.9	1.9	36.1	
	45-49	40,508	5,594	4,874	36,606	5,890	1,044	196,118	29,999	29,042	183,357	24,627	3,895	867,455	101,123	110,756	1,490,072	249,823	176,450	9.2	1.1	1.2	15.8	2.6	1.9	31.7	
	50-54	37,939	6,405	6,742	36,737	3,960	515	176,129	24,374	28,445	189,199	25,686	9,998	671,337	71,124	81,714	1,306,715	225,196	172,555	7.3	0.8	0.9	14.2	2.4	1.9	27.4	
	55-59	32,512	3,344	4,636	38,943	6,314	3,485	140,839	10,962	16,360	205,394	36,641	24,855	495,208	46,750	53,269	1,117,516	199,510	162,556	5.5	0.5	0.6	12.5	2.2	1.8	23.3	
	60-64	23,823	1,041	1,908	43,215	8,342	6,457	99,765	7,128	9,154	217,699	40,223	32,721	354,368	35,788	36,909	912,122	162,869	137,701	4.2	0.4	0.4	10.8	1.9	1.6	19.3	
	65+	16,083	1,810	1,753	43,865	7,747	6,631	254,603	28,660	27,755	694,423	122,645	104,979	254,603	28,660	27,755	694,423	122,645	104,979	3.3	0.4	0.4	8.9	1.6	1.3	15.8	
2	15-19	0	100,000	0	0	0	0	372,087	17,606	0	98,592	10,563	0	#####	1,322,414	0	1,772,456	1,356,961	0.0	14.8	13.2	0.0	17.7	13.6	59.3		
	20-24	0	48,835	7,042	0	39,437	4,225	0	199,044	61,042	0	207,867	28,173	0	#####	1,304,808	0	1,673,865	1,346,398	0.0	11.1	13.1	0.0	16.8	13.5	54.6	
	25-29	0	30,783	17,375	0	43,710	7,044	0	153,506	96,686	0	201,722	40,809	0	909,063	1,243,766	0	1,465,998	1,318,225	0.0	9.2	12.6	0.0	14.8	13.3	49.9	
	30-34	0	30,619	21,300	0	36,979	9,280	0	147,837	111,250	0	176,963	52,589	0	755,558	1,147,079	0	1,264,276	1,277,416	0.0	7.7	11.7	0.0	12.9	13.0	45.3	
	35-39	0	28,515	23,200	0	33,806	11,756	0	139,499	130,921	0	156,208	56,831	0	607,721	1,035,829	0	1,087,313	1,224,828	0.0	6.2	10.6	0.0	11.2	12.6	40.7	
	40-44	0	27,284	29,168	0	28,677	10,976	0	121,844	166,692	0	137,666	50,352	0	468,222	904,908	0	931,105	1,167,997	0.0	4.9	9.4	0.0	9.7	12.2	36.1	
	45-49	0	21,454	37,509	0	26,390	9,165	0	114,819	212,320	0	107,195	32,704	0	346,378	738,217	0	793,440	1,117,645	0.0	3.7	7.8	0.0	8.4	11.8	31.7	
	50-54	0	24,474	47,420	0	16,488	3,917	0	91,323	191,333	0	99,539	71,637	0	231,559	525,896	0	686,245	1,084,940	0.0	2.5	5.7	0.0	7.4	11.8	27.4	
	55-59	0	12,055	29,114	0	23,327	24,738	0	39,600	102,750	0	126,961	165,740	0	140,236	334,563	0	586,706	1,013,303	0.0	1.6	3.7	0.0	6.6	11.4	23.3	
	60-64	0	3,785	11,986	0	27,457	41,558	0	21,897	57,494	0	121,982	205,318	0	100,636	231,813	0	459,745	847,563	0.0	1.2	2.7	0.0	5.4	10.0	19.3	
	65+	0	4,974	11,011	0	21,336	40,569	0	78,739	174,319	0	337,763	642,246	0	78,739	174,319	0	337,763	642,246	0.0	1.0	2.2	0.0	4.3	8.2	15.8	
3	15-19	0	0	100,000	0	0	0	0	0	498,848	0	0	0	0	0	3,606,753	0	0	2,325,273	0.0	0.0	36.1	0.0	0.0	23.3	59.3	
	20-24	0	0	99,539	0	0	0	0	0	452,849	0	0	43,278	0	0	3,107,906	0	0	2,325,273	0.0	0.0	31.2	0.0	0.0	23.4	54.6	
	25-29	0	0	81,601	0	0	17,311	0	0	387,536	0	0	105,187	0	0	2,655,057	0	0	2,281,996	0.0	0.0	26.8	0.0	0.0	23.1	49.9	
	30-34	0	0	73,414	0	0	24,764	0	0	345,628	0	0	143,010	0	0	2,267,521	0	0	2,176,809	0.0	0.0	23.1	0.0	0.0	22.2	45.3	
	35-39	0	0	64,838	0	0	32,440	0	0	333,748	0	0	149,711	0	0	1,921,892	0	0	2,033,799	0.0	0.0	19.8	0.0	0.0	20.9	40.7	
	40-44	0	0	68,661	0	0	27,444	0	0	356,753	0	0	119,801	0	0	1,588,145	0	0	1,884,088	0.0	0.0	16.5	0.0	0.0	19.6	36.1	
	45-49	0	0	74,040	0	0	20,476	0	0	396,572	0	0	70,466	0	0	1,231,392	0	0	1,764,287	0.0	0.0	13.0	0.0	0.0	18.7	31.7	
	50-54	0	0	84,589	0	0	7,710	0	0	322,851	0	0	130,981	0	0	834,820	0	0	1,693,821	0.0	0.0	9.0	0.0	0.0	18.4	27.4	
	55-59	0	0	44,552	0	0	44,682	0	0	157,235	0	0	277,817	0	0	511,968	0	0	1,562,841	0.0	0.0	5.7	0.0	0.0	17.5	23.3	
	60-64	0	0	18,342	0	0	66,445	0	0	87,981	0	0	318,710	0	0	354,734	0	0	1,285,024	0.0	0.0	4.2	0.0	0.0	15.2	19.3	
	65+	0	0	16,850	0	0	61,039	0	0	266,753	0	0	966,313	0	0	266,753	0	0	966,313	0.0	0.0	3.4	0.0	0.0	12.4	15.8	

Notes: W = Working, N = Not working, 1 = Working/Junior high school and less, 2 = Working/High school, 3 = Working/Tertiary, 1 = Not working/Junior high school and less, 5 = Not working/High school, 6 = Not working/Tertiary

Appendix 6-1 (continued)

Status in 2007 (i)	Age in 2007	m(x)	Status in 2014 (j)																								e(+)
			l _{ij}						L _{ij}						T _{ij}						e _{ij}						
			1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	
4	15-19	0.0632	0	0	0	100,000	0	0	26,756	51,839	27,313	316,295	62,152	14,493	729,400	663,042	1,065,959	1,395,374	1,046,681	1,031,572	7.3	6.6	10.7	14.0	10.5	10.3	59.3
	20-24		10,702	20,736	10,925	26,518	24,861	5,797	58,674	90,657	70,759	122,948	122,174	30,915	702,644	611,202	1,038,645	1,079,079	984,529	1,017,079	7.1	6.1	10.4	10.8	9.9	10.2	54.6
	25-29		12,767	15,527	17,378	22,661	24,009	6,569	66,241	80,363	91,112	107,412	111,035	36,560	643,970	520,545	967,886	956,132	862,355	986,164	6.5	5.3	9.8	9.7	8.7	10.0	49.9
	30-34		13,729	16,618	19,066	20,304	20,405	8,055	71,489	81,320	96,385	95,695	98,609	45,141	577,729	440,183	876,775	848,719	751,320	949,604	5.9	4.5	8.9	8.6	7.7	9.7	45.3
	35-39		14,867	15,910	19,488	17,974	19,039	10,001	78,247	79,181	106,842	83,121	88,511	47,556	506,240	358,863	780,389	753,025	652,711	904,463	5.2	3.7	8.0	7.7	6.7	9.3	40.7
	40-44		16,432	15,763	23,249	15,275	16,366	9,021	81,525	71,032	129,666	74,742	78,866	40,722	427,993	279,682	673,548	669,903	564,200	856,907	4.5	2.9	7.0	7.0	5.9	8.9	36.1
	45-49		16,178	12,650	28,618	14,622	15,181	7,267	78,328	67,743	160,090	73,240	61,941	25,697	346,467	208,650	543,881	595,161	485,334	816,186	3.7	2.2	5.8	6.3	5.1	8.6	31.7
	50-54		15,153	14,447	35,418	14,674	9,596	3,011	70,347	54,098	141,300	75,570	58,632	53,885	268,140	140,907	383,792	521,921	423,392	790,489	2.9	1.5	4.2	5.7	4.6	8.6	27.4
	55-59		12,986	7,192	21,102	15,554	13,857	18,543	56,253	23,618	74,474	82,037	76,325	122,345	197,792	86,809	242,492	446,352	364,760	736,604	2.2	1.0	2.7	5.0	4.1	8.3	23.3
60-64		9,515	2,255	8,688	17,261	16,673	30,395	39,847	13,486	41,672	86,952	75,335	149,398	141,539	63,191	168,018	364,314	288,435	614,259	1.7	0.7	2.0	4.3	3.4	7.2	19.3	
65+		6,424	3,140	7,981	17,520	13,461	29,364	101,692	49,705	126,346	277,362	213,100	464,860	101,692	49,705	126,346	277,362	213,100	464,860	1.3	0.6	1.6	3.6	2.7	6.0	15.8	
5	15-19	0.0632	0	0	0	100,000	0	0	63,830	99,291	0	302,039	33,688	0	645,108	2,209,262	0	1,181,092	1,896,565	0.0	6.5	22.1	0.0	11.8	19.0	59.3	
	20-24		0	25,532	39,716	0	20,816	13,475	0	104,176	212,140	0	109,445	70,365	0	581,278	2,109,971	0	879,053	1,862,877	0.0	5.8	21.2	0.0	8.8	18.7	54.6
	25-29		0	16,139	45,140	0	22,962	14,671	0	80,516	225,383	0	105,944	80,880	0	477,102	1,897,831	0	769,608	1,792,512	0.0	4.8	19.2	0.0	7.8	18.1	49.9
	30-34		0	16,068	45,013	0	19,415	17,681	0	77,587	219,017	0	92,905	99,130	0	396,585	1,672,448	0	663,664	1,711,632	0.0	4.0	17.0	0.0	6.8	17.4	45.3
	35-39		0	14,967	42,594	0	17,747	21,971	0	73,221	225,647	0	82,000	102,590	0	318,998	1,453,431	0	570,759	1,612,502	0.0	3.3	14.9	0.0	5.9	16.6	40.7
	40-44		0	14,322	47,665	0	15,053	19,065	0	63,957	256,014	0	72,265	84,318	0	245,777	1,227,784	0	488,759	1,509,912	0.0	2.6	12.8	0.0	5.1	15.7	36.1
	45-49		0	11,261	54,740	0	13,853	14,662	0	60,270	299,429	0	56,269	51,070	0	181,820	971,771	0	416,494	1,425,594	0.0	1.9	10.3	0.0	4.4	15.1	31.7
	50-54		0	12,847	65,031	0	8,655	5,766	0	47,937	253,662	0	52,250	99,982	0	121,550	672,342	0	360,225	1,374,524	0.0	1.3	7.3	0.0	3.9	14.9	27.4
	55-59		0	6,328	36,434	0	12,245	34,227	0	20,787	128,584	0	66,645	219,036	0	73,613	418,679	0	307,975	1,274,542	0.0	0.8	4.7	0.0	3.5	14.3	23.3
60-64		0	1,987	15,000	0	14,413	53,387	0	11,494	71,949	0	64,031	259,217	0	52,826	290,095	0	241,330	1,055,506	0.0	0.6	3.4	0.0	2.8	12.4	19.3	
65+		0	2,611	13,780	0	11,199	50,299	0	41,332	218,146	0	177,299	796,289	0	41,332	218,146	0	177,299	796,289	0.0	0.5	2.8	0.0	2.3	10.2	15.8	
6	15-19	0.0632	0	0	0	100,000	0	0	166,667	0	0	332,181	0	0	3,124,440	0	0	2,807,587	0.0	0.0	31.2	0.0	0.0	28.1	59.3		
	20-24		0	0	66,667	0	0	32,872	0	0	350,614	0	0	145,513	0	0	2,957,773	0	0	2,475,406	0.0	0.0	29.7	0.0	0.0	24.9	54.6
	25-29		0	0	73,579	0	0	25,333	0	0	359,857	0	0	132,866	0	0	2,607,159	0	0	2,329,893	0.0	0.0	26.4	0.0	0.0	23.6	49.9
	30-34		0	0	70,364	0	0	27,813	0	0	335,175	0	0	153,463	0	0	2,247,302	0	0	2,197,027	0.0	0.0	22.9	0.0	0.0	22.4	45.3
	35-39		0	0	63,706	0	0	33,572	0	0	328,984	0	0	154,474	0	0	1,912,127	0	0	2,043,564	0.0	0.0	19.7	0.0	0.0	21.0	40.7
	40-44		0	0	67,888	0	0	28,218	0	0	353,917	0	0	122,637	0	0	1,583,143	0	0	1,889,090	0.0	0.0	16.5	0.0	0.0	19.7	36.1
	45-49		0	0	73,679	0	0	20,837	0	0	395,331	0	0	71,707	0	0	1,229,226	0	0	1,766,454	0.0	0.0	13.0	0.0	0.0	18.7	31.7
	50-54		0	0	84,453	0	0	7,846	0	0	322,407	0	0	131,425	0	0	833,894	0	0	1,694,746	0.0	0.0	9.0	0.0	0.0	18.4	27.4
	55-59		0	0	44,510	0	0	44,724	0	0	157,087	0	0	277,965	0	0	511,487	0	0	1,563,322	0.0	0.0	5.7	0.0	0.0	17.5	23.3
60-64		0	0	18,325	0	0	66,462	0	0	87,898	0	0	318,793	0	0	354,400	0	0	1,285,357	0.0	0.0	4.2	0.0	0.0	15.2	19.3	
65+		0	0	16,834	0	0	61,055	0	0	266,502	0	0	966,564	0	0	266,502	0	0	966,564	0.0	0.0	3.4	0.0	0.0	12.4	15.8	

Notes: W = Working, N = Not working, 1 = Working/Junior high school and less, 2 = Working/High school, 3 = Working/Tertiary, 1 = Not working/Junior high school and less, 5 = Not working/High school, 6 = Not working/Tertiary

Sources: Author's calculations based on the data of IFLS 2007 and 2014 from RAND, and the mortality data from United Nations (2017b)

Chapter 7. Conclusion

High youth unemployment in Indonesia is a concern for the economic boost that can be provided by the demographic dividend. This is expected to occur in the current decade between 2015 and 2025 when the country will temporarily have the largest proportion of working-age population supported by a growing number of youth (Adioetomo 2016; Hayes and Setyonaluri 2015). The country is experiencing a large number of unemployed young people despite their willingness to work and a rapid improvement in school enrolment. Young men with high school or higher education have the highest unemployment rate, mainly because they often stay out of work until finding work in the popular service sector. Gender gaps in educational attainment between men and women no longer exist (UIS 2019). Women, however, as indicated throughout this thesis, have gender-associated obligations (UNFPA 2015a). They make critical life decisions after completing their education including employment and family formation, often starting from their early 20s (Moen and Han, 2001; Rindfuss, 1991). Life course transitions have become more dynamic, complex and prolonged because of longer school times, higher educational attainment and more choices for lifestyles, individualisation and an unpredictable labour force market (Cuervo and Wyn, 2011; Walther, 2006).

This research uses three main questions on employment transition pathways in order to understand how youth education and employment are changing in the context of demographic changes in Indonesia. These questions are answered by looking at the employment transition pathways of men and women separately, with a focus on the changes in their economic activity levels by following groups according to their socio-demographic backgrounds. Although there are various studies on youth employment in Indonesia, little detail is known about complex employment transition pathways by following specific groups. This chapter summarises the main findings for each research question and concludes by describing the theoretical and policy implications, followed by the research contribution, and then suggestions for future research.

7.1 Summary of findings

The main finding of this research is that Indonesian young people's transition pathways to employment were long and various for both men and women between 1997 and 2014. The different patterns by group seem to depend on their socio-demographic backgrounds. Educational attainment is more influential than previous work experience for their later employment status. Young men frequently moved industry sectors and many sought and achieved job experience in the service sector. This indicates the popularity of the service sector, the exception being *low-educated* men. Women have more complicated pathways including keeping a balance between family and work (Moen & Han 2001). Women with *tertiary* education normally retained high employment status and did not experience many interruptions from work. Women with *less than tertiary* education often quit work either temporarily or permanently at the time of marriage but have different transition patterns by group. Women with *less than tertiary* education face challenges to find work or remain in the labour force market. Providing support to them is important, especially those who are married, because a large number are interested in working but remain out of the labour force market, according to the Indonesian 2010 Census (BPS 2010).

7.1.1 Pathways of young men in service sector

Young Indonesian men undertake long career development processes in Indonesia (Naidoo et al. 2015; Manning & Junankar 1998), not only job searching but also changing jobs across different industry sectors. The results of Chapter 4 show that their economic activities including sector movements were quite varied. This indicates that their transition pathways to employment are not completed after obtaining their first jobs, but continue. The results show that most young men aged between 15 and 29 years in 1997 had relatively high unemployment in 1997 and 2000, which is most likely due to the Asian Financial Crisis that started in mid-1997. Working in the service sector was popular and educated men moved into it steadily, showing their preference, and where their educational attainment is an advantage (UNFPA 2014b; Aldobrandini 2012; ILO 2007; Dhanani 2004), while *low-educated* men had fluctuations. Those who ended up working in *non-service* sectors in 2014 also had a relatively high percentage of work experience in the *service* sector previously, again except for *low-educated rural* men. The results also indicated the risks of being unemployed limiting their future employment opportunities (Aldobrandini 2012; Arulampalam 2001). Their career development pathways are thus long and dynamic.

7.1.2 Pathways of young women

Unlike young men who remain in employment after completing their education, young women experience more diversified life courses by gaining family responsibilities (Gaudet et al. 2011). They face critical life events around their early 20s including completion of education, employment, marriage, children, taking care of families and finding a life and work balance (Moen & Han 2001). The results of Chapter 5 show that there were four transition patterns found. However, the combinations of patterns were different even within the same groups based on their age, initial economic activity and education. The most common pattern was the continuous increase of working levels. Those groups who had initial *schooling* status and with *tertiary* education shared this pattern. However, the working levels were different within educational attainment in 2014. There was no difference in working levels in 2014 by women with *junior high school and less* overall education, meaning their initial schooling status had no effect on their later employment. *High school* educated women had the highest employment levels in 2014. Those who were initially working in 1997 dropped employment significantly in 2007, most likely after marriage. By 2014, their employment level was less than the *schooling* group. *Tertiary* educated women, however, kept high employment levels regardless of their initial status but those who were working in 1997 had the highest working level. This shows the positive advantages of previous working status.

The results also show that if women *married* before the age of 18 years, there was normally a negative influence on their later employment. This implies their challenges in finding jobs were more likely due to their limited work experience and low educational attainment. A large number of women, more than four million (see Table 5-1) answered 'available for work' or 'looking for work' in the latest Indonesian 2010 Census and the number in these categories with *less than tertiary* education was particularly high (see Figure 5-1). This means that there are gaps between women's willingness to work and their actual engagement in the labour market. Providing job training or employment programs would be important for those who have *less than tertiary* education, especially if they do not have previous employment experience. Skill improvement is necessary to enter and/or remain in the labour market. Additionally, women find a challenge in keeping a balance between work and family, and this is common for women in almost any country. Past studies mostly in developed countries show that childcare support and flexible contracts including working hours and location arrangements have a good impact,

but this is not yet well established in Indonesia (Cameron & Suarez 2017; Afrianty et al. 2015; Kenjoh 2005).

7.1.3 Working life expectancy for young women

The results in Chapter 6 of estimating the average years remaining in employment in their lifetime (working life expectancy) for women aged 20 years show that *tertiary* educated women have the longest working life expectancy regardless of their initial employment status in 2007. The lower the educational attainment, the lower the working life expectancy. The total working life expectancy by *high school* educated women in 2007 was longer for those who obtained *tertiary* education later while not working than for those who were working in 2007. This further indicates the positive influence of higher education for lifetime employment durations. The women with *junior high school and less* education in 2007 faced more challenges. They were unlikely to obtain higher education levels if they were working and their working life expectancy was the shortest of all. They were most likely to face financial constraints and started to work early after completing schooling before the age of 16 years. These show that higher educational attainment has positive effects on getting and remaining in work, more than having previous working experience with low education. This also confirms the importance of employment and family-friendly policies, programs or incentives for women with less than tertiary education including married women and drop outs to make their paths to employment easier (Utomo et al. 2014).

7.2 Theoretical implications

The results of this research show that the human capital theory applies differently to the employment transition pathways of young men and women. For men, the theory does not apply much to the situation where most unemployed are educated young men. However, the theory provides deeper insights to recognise that it is actually linked with their preference for finding jobs in the service sector (UNFPA 2014). Their unemployment status is not because they cannot find jobs, but rather they prefer to wait until finding satisfactory better-paid jobs due to the pressure for a stable life (Naafs 2013; ILO 2007). Service sector jobs are popular for that reason (UNFPA 2014). The findings of Chapter 4 show that many young men experienced work in the service sector, confirming the popularity of service sector jobs except for low-educated rural men. Having higher educational attainment is an advantage in finding jobs in the

service sector. Despite having long transition periods to employment, the income return of educated youth is higher in the long run than those with low education (Aldobrandini 2012; Patrinos et al. 2009; Deolalikar 1993). In this sense, the human capital theory fits young educated Indonesian men.

Confirming the application of the human capital theory for young Indonesian women is that those with tertiary education obtained jobs and remained in employment longer without much break for marriage or childbirth, than those with less than tertiary education. Women with low education started to work earlier, but the results of estimating the working life expectancy show that tertiary educated women remained employed the longest. This indicates that higher education attainment is more important than previous working experience.

However, lesser labour force participation rates occur among medium-educated women relative to women with lower or higher education levels in Indonesia. Such a phenomenon is referred as a J-curve pattern (Setyonaluri 2013; Utomo 2008; Ogawa & Akter 2007; Widarti 1998). This is because those with medium education (high school) often get married to a husband with similar or above education backgrounds and their husbands' incomes can cover basic needs, but are not enough to hire additional domestic helpers to care for children or conduct house chores. They are reluctant to work in low-status jobs. But low-educated women often have to work for survival. Women with tertiary education often find better-paid jobs and face a high opportunity cost if not working (Utomo 2008; Widarti 1998). This research shows that human capital theory applies to some aspects and provides deeper insights into young people's labour force situations in Indonesia.

The life course theory provides useful guidance to formulate different factors of complex life course transitions into one framework, although Hansen (1999) emphasises the difficulty of conceptualising school-to-work transitions due to the involvement of at least three actors, youth, school and employer. There are four main elements representing the life course, namely *human agency*, *location in time*, *timing* and *linked lives* (Giele & Elder 1998). In the Indonesian context, this research shows that young people make decisions based on their personal goals and wills (*human agency*), such as the preference for jobs in the service sectors for men, and getting married, having children, then working (or not working) for women. They are experiencing these critical and diverse life events (*timing*) in a limited demographically dense

time (Rindfuss 1991). The results of Chapter 5 show that most women experienced marriage by the age of 30 years in 2007 but the patterns of pathways are various according to their educational attainment. They live in a rapidly transforming society (*location in time*) where marked improvements in school enrolments or technological developments are occurring. Women especially face pressure to take family responsibilities as primary caregivers based on the strong influence of cultural norms and expectations (*linked lives*). A strong gender role no doubt influences the stagnated female labour force participation rate which has remained at around 50% for the past three decades. The gaps between women's willingness for employment and actual employment, especially for the less than tertiary educated, is clarified by the Indonesian 2010 Census (Moen and Han 2001). The multistate life table technique, as presented in Chapter 6 with the results of women's working life expectancy, increases our understanding of the complexity of the life course pathways. As such, the life course theory fits an understanding of young people's life course in Indonesia.

Other theories relate to school-to-work transitions as presented in Table 2-3. One of the critical elements during the transition periods in Indonesia would be strong social networks or social capital culture (Turner, 2007; Sukarno, 1999). Finding jobs through personal networks is the most common method in Indonesia (Sziraczki & Reerink 2004). For young people jobs are influenced strongly by family socio-economic backgrounds, as supported by social reproductive theory and social stratification theory (Utomo 2012; Nilan et al. 2011; Turner 2007; Sukarno 1999). Manning and Junankar (1998) argue the importance of having more transparent recruitment processes, especially for public positions. This promises to provide better job access for young people regardless of their backgrounds. In order to minimise the loss of young and educated productive workers from the labour market, reducing the long job search periods is critical through collaboration between school and industry connections. Having such systems would also help young people achieve better job access not depending on their family and social networks.

7.3 Policy implications

This research presents various transition pathways of young people including long job search periods and frequent industry sector movements for men, and different transition patterns and the gaps between willingness to work and engaging in work for women. Several researchers

argue that long job search periods are not an issue because young people would find jobs eventually in their late 20s, especially men (Freeman & Wise 1982; Jones 1997). However, long employment transition periods still represent a loss of valuable human resources because it deprives the subjects of longer work experience and income opportunities. It is important to reduce job search periods to minimise such a loss. Examples from other countries, such as Japan, indicate ways of minimising job search periods through establishing better collaboration between schools and industries by better information sharing on job vacancies and market demand (Gaston & Kishi 2005; Genda & Kurosawa 2001; Rosenbaum & Kariya 1989). This is what policy or employment programs should promote, because shorter job search periods will contribute to household income growth and the national economy as a result.

The Indonesia 2010 Census shows a potential seven million men and women looking for work or available for work who could be engaged in economic activities, as presented in Table 5-1. Employment policies and programs would help to enhance their skills to enter the labour market. It is especially important for women to work in more flexible environments due to their family obligations. Promoting a more family-friendly work environment including part-time or flexible work hour environments, childcare support and parental leave both in the public and private sectors, would be beneficial, especially for women with children (Cameron & Suarez 2017; Afrianty et al. 2015; Kenjoh 2005). Providing support through the existing systems, such as the successful government-driven family planning program in Indonesia, would be one of the possibilities to be utilised. The program which had an important role in the success of reducing fertility in Indonesia started in 1968 (Hull 1987), and both men and women, at the village level, were involved in the program. For women, especially married women's labour force participation, it is important to have their husbands' and family support. Promoting and sharing issues and opportunities for women's employment would help them to bridge the gaps. Many policies and programs are in place to assist young people in obtaining jobs, however, implementation is an issue, and the government needs to initiate more diligent monitoring processes to create better implementation outcomes (Aldobrandini 2012).

7.4 Research contribution

There are four main contributions presented in this research. First, it provides a better understanding of transition pathways to employment of young individuals through following their life course by using longitudinal IFLS data. It analyses men and women separately by following smaller groups according to their backgrounds within each cohort. The first analytical chapter (Chapter 4) found that many young men shifted industrial sectors and most of them had service sector work experience regardless of their final work industry in 2014, except, as noted, rural low-educated men. This confirms not only young men's preference for the service sector but also their mobile and long career development processes. It also helps to reveal that there are differences by their socio-demographic backgrounds and that they did not necessarily end up in the service sector. In Chapter 5, four transition patterns were found for women's pathways. The most common pattern was a continuous increase in working levels; the next was decrease then increase, the third was continuous decrease, and the fourth involved increase then decrease. Although tertiary educated women had the first pattern, those with less than tertiary education had a mix of all four patterns, indicating their complex and various life course transitions. Women experience critical life events including marriage and childbirths, various life choices and opportunities, but clarifying their patterns according to their backgrounds would be helpful to identify the support women need if they face challenges in participating in the labour force market.

Second, previous research on young people's transitions to employment was often focused on specific periods between school-to-work transitions (Salas-Velasco 2007; Warner et al. 1980). This research covers subjects' experience before and after these periods in order to understand transition patterns over time which have had little attention in Indonesia (Naidoo et al. 2015; Manning & Junankar 1998). The results of Chapter 4 confirm the popularity of working in *service* sectors but show frequent movements between industrial sectors even after completing schooling. Indonesian young men undertake long career development processes, which is hard to capture accurately only by looking at employment status, but which can be followed through tracing the same respondents with longitudinal data. As for women in Chapter 5, most of them were married in IFLS 2007 when they reached the age of 25-30 years. But they went through four different pathway patterns. This research follows 17 years of their transition periods by following the same individuals over time across the four different IFLS waves. It thus provides a longitudinal element of the analysis which is unique and different from the previous studies.

Such an approach enables the recognition of their dynamic transition pathways both for men and women and identifies the differing patterns involved.

Third, this research extends women's life course pathways by estimating their working life expectancy by using the multistate life table technique in Chapter 6. Understanding women's working life expectancy provides useful insights into their long-term labour force participation levels and identifies gaps where good policy could enhance the economic outcomes for individuals (Fullerton & Byrne 1976). The results show clear differences between the presence or absence of tertiary educational attainment for Indonesian young women's ability to improve their working life expectancy. Comparing their working life expectancy in years enables us to clarify that women, especially those with junior high school and less education, have very limited opportunities to obtain higher education. They would have the shortest working life expectancy if they are working for family survival. They are the group that needs most support, which is important because women are potential productive workers, and as women live longer than men, with appropriate support they can greatly contribute to the demographic dividend.

Fourth, this research has illustrated theoretical and analytical frameworks as a guidance for better recognition of young people's complex transition pathways. Many factors are involved in the transitions pathways as presented in the Analytical Framework (see Figure 2-7). The two main factors of demographic and human capital (educational attainment) are used for group analysis to examine young people's economic activity changes. The human capital theory provides better insights to understand their transition differences by educational attainment. Other factors include policy, demand and social capital factors which are used to explain the environment surrounding young people in Indonesia. The life course theory provides important but invisible factors that young people experience such as personal goals or preferences and decisions they have to make on critical life events, in a strong gender role culture and a rapidly changing society. In effect, these provide useful frameworks to conceptualise their transition pathways.

7.5 Future research

Five main areas of future research based on this thesis can be suggested. First, the main challenge of using IFLS is the large survey year gaps between three and seven years, with the last three waves conducted every seven years. Since young people experience many life events in a concentrated time, it would be beneficial to have longitudinal data collected consistently and more frequently. Longitudinal surveys for young people by the United Kingdom¹² and Australia¹³, for example, are conducted annually through interviews. Both have employed telephone interviews (Longitudinal Surveys of Australian Youth 2020; Lynn 2009). For some topics, annual interviews are difficult to obtain if subjects change jobs frequently. Further, information may not change much over time (Lynn 2009). In developing countries, conducting annual longitudinal surveys at the national level could be difficult due to security problems, limited infrastructure or lack of registered vital information to follow the respondents. It is usually preferable to conduct such surveys by focusing on specific locations or topics to understand young people's employment behaviours. One good example is the Indonesian Adulthood Study in Greater Jakarta (Utomo et al. 2018). This longitudinal survey collected data in Jakarta and the two surrounding cities of Bekasi and Tangerang in 2009, 2013 and 2017. The survey used mixed methods to gather quantitative and qualitative data with a paper-based questionnaires and in-depth interviews. It collected a wide range of information on socio-demographics, education, work experiences, health and wellbeing and attitudes regarding social, political and family issues. New technology may also be used to obtain information. The previously mentioned Australian Youth Survey has an optional online interview format. Recently, it has become easier and more common to conduct online surveys for better access, distribution and frequent reminders through using the Monkey survey or other popular online survey systems without requiring special IT programming skills. However, online surveys need to be carefully designed including the length of the questionnaire, screen design and ways to deal with indirect answers or lower response rates to sensitive questions including those on incomes and personal attributes, e.g., body weight (Varela et al. 2016).

¹² Longitudinal Study of Young People in England (LSYPE) started in 2004.

¹³ Longitudinal Surveys of Australian Youth (LSAY) started in 1995

Second, this research follows cohorts by groups according to the main demographic variables and educational attainment to understand young people's transition pathways over time. Using other variables would be beneficial to deepen the topic for providing different aspects, such as occupations, work hours, wages, contract types (informal employment or not), working while in school or having multiple activities, ethnicity, religion, childbirth and subjective variables including job satisfaction levels, also areas of subjects' interests.

Third, one of the recent features of young people's employment and transition pathways is the influence of urbanisation and migration (UNFPA 2014). Many come to big cities like Jakarta in search of education and jobs. They sometimes do not live close to their work area but commute from nearby areas for specific days or during the daytime. The undercounting of young people as the feature of such trends among young people was also revealed during the data collection process of the Indonesian Census 2000 (Jones et al. 2016). Examining such movements or migration aspects including daily or interstate migration would be another area worthy of further investigation because they may not be captured by major surveys, as shown during the operation of the Census 2000.

Fourth, this research used cross-tabulation analysis and multistate life table methods to provide insights into transition pathways. Alternatively, regression analyses (survival or event history analysis, and multinomial or multivariate logistic regression), sequence-cluster analysis, or optimal matching analysis (Pollard et al. 2017; Barbieri et al. 2016; Brzinsky-Fay & Solga 2016; Vuolo et al. 2014; Dorsett & Lucchino 2014; Robette 2010) could be used for further investigations to include a time-varying measure (such as educational attainment or location), other related variables and variable categories with aspects of the young people's transition pathways.

Fifth, there are many policies and programs in place, but implementation and monitoring are the issues (Aldobrandini 2012). Research on mapping and evaluating current and past policies and programs including these outcomes and timeframes would be beneficial to understanding functioning systems or approaches. These help to maximise the impact of the inputs, *inter alia* through identifying areas of overlap or lack of coverage.

While it may take time to implement all these suggestions, Indonesia has the potential to benefit from the demographic dividend. However, time is limited because it is expected to have this low dependency ratio only between 2015 and 2025. It is clear that many young men and women try to find jobs, and many policies and programs are in place to assist them in creating better employment opportunities. Although Indonesia collects survey data relatively better than other developing countries, longitudinal data on youth would provide more insights to identify areas of improvement for young people's future, by analysing their behaviour and employment transition pathways in a rapidly transforming society. Indonesia has the largest population in the Southeast Asian region and has important economic roles both regionally and globally. The use of individual-based data can strengthen the country's economic opportunities.

References:

- Aaron, C., Kenward, L., Bird, K., Desai, M., Aswicahyono, H., Basri, C. M., & Tubagus, C. (2004). Strategic Approaches to Job Creation and Employment in Indonesia. *Report prepared for the United States Agency for International Development, Jakarta Mission, February, 4.*
- AbouZahr, C., de Savigny, D., Mikkelsen, L., Setel, P. W., Lozano, R., & Lopez, A. D. (2015). Towards universal civil registration and vital statistics systems: the time is now. *The Lancet*, *386*(10001), 1407-1418. doi: 10.1016/S0140-6736(15)60170-2
- Adams, A. V. (2007). *The role of youth skills development in the transition to work: A global review*. Children & Youth, World Bank.
- Adioetomo, S. M. (2016). Demographic Dividend A Powerful Tool for Advocacy, Indonesia's Example Retrieved 30/08/2019, from https://www.gatesinstitute.org/sites/default/files/Toening_DD%20advocacy%20in%20Indon
- Adioetomo, S. M., Widarti, D., Suprobo, T. B., & Pratama, A. (2015). School to work transition: An overview of youth employment and a case study in Lampung and Karawang Retrieved 16/03/2019, from <http://asiapacific.anu.edu.au/blogs/indonesiaproject/files/2015/07/FKP-2015-05-12-Sri-Moertiningsih-School-to-Work-Transition.pdf>
- Afrianty, T. W., Burgess, J., & Issa, T. (2015). Family-friendly support programs and work family conflict among Indonesian higher education employees. *Equality, Diversity and Inclusion: An International Journal*, *34*(8), 726-741.
- Agung, A. I., Mukhadis, A., & Sutadji, E. (2018). *Embedding Entrepreneurs in Improving The Skills Of Entrepreneurs of Technology-Based Vocational School In Indonesia*. Paper presented at the IOP Conference Series: Materials Science and Engineering.
- Ainsworth, J. W., & Roscigno, V. J. (2005). Stratification, School-Work Linkages and Vocational Education. *Social Forces*, *84*(1), 257-284.
- Aldobrandini, V. (2012). Understanding children's work and youth employment outcomes in Indonesia: Understanding Children's Work (UCW) Programme, International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), the World Bank, the United States Department of Labor.
- Allen, E. R. (2016). Analysis of trends and challenges in the Indonesian labor market. *DigitalCommons@ILR, Cornell University ILR School*(3-2016).
- Anh, N. N., Thuong, N. T., Ha, N. T., Nga, T. T. T., & Thuy, N. V. (2015). Labour market transitions of young women and men in Viet Nam. Geneva, ILO: Work4Youth, Youth Employment Programme, Employment Policy Department, ILO.

- Arif, G. M., & Chaudhry, N. (2008). Demographic transition and youth employment in Pakistan. *The Pakistan Development Review*, 27-70.
- Arndt, H., & Sundrum, R. (1980). Employment, unemployment and under-employment. *Bulletin of Indonesian Economic Studies*, 16(3), 61-82.
- Arrow, K. J. (1973). Information and economic behavior (Vol. NR-47-004). MA, USA: Harvard University.
- Arulampalam, W. (2001). Is unemployment really scarring? Effects of unemployment experiences on wages. *The Economic Journal*, 111(475), 585-606.
- Bahramitash, R. (2004). Myths and realities of the impact of political Islam on women: Female employment in Indonesia and Iran. *Development in Practice*, 14(4), 508-520.
- Bamber, G. J., & Leggett, C. J. (2001). Changing employment relations in the Asia-Pacific region. *International Journal of Manpower*, 22(4), 300-317.
- Bandura, A., & McClelland, D. C. (1977). Social learning theory. Retrieved 12/02/2015, from http://www.esludwig.com/uploads/2/6/1/0/26105457/bandura_sociallearningtheory.pdf
- Barbieri, P., Cutuli, G., & Passaretta, G. (2016). Institutions and the school-to-work transition: disentangling the role of the macro-institutional context. *Socio-Economic Review*, 16(1), 161-183.
- Becker, B. E., & Hills, S. M. (1980). Teenage Unemployment: Some Evidence of the Long-Run Effects on Wages. *The Journal of Human Resources*, 15(3), 354-372. doi: 10.2307/145288
- Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5), 9-49. doi: 10.2307/1829103
- Bedi, A. S., & Garg, A. (2000). The effectiveness of private versus public schools: The case of Indonesia. *Journal of Development Economics*, 61(2), 463-494.
- Bell, D., & Blanchflower, D. (2010). Youth unemployment: déjà vu? (Stirling Economics Discussion Paper 2010-04). Retrieved 08/10/2014, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1545132
- Bennington, L., & Habir, A. D. (2003). Human resource management in Indonesia. *Human Resource Management Review*, 13(3), 373-392.
- Bernardi, F., Gangl, M., & Van de Werfhorst, H. G. (2004). *The from-school-to-work dynamics: Timing of work and quality of work in Italy, the Netherlands and the United States, 1980-1998*: Instituto Juan March de Estudios e Investigaciones Madrid.
- Biggeri, L., Bini, M., & Grilli, L. (2001). The transition from university to work: a multilevel approach to the analysis of the time to obtain the first job. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 164(2), 293-305.

- Billari, F. C., Manfredi, P., & Valentini, A. (2000). Macro-demographic effects of the transition to adulthood: Multistate stable population theory and an application to Italy. *Mathematical Population Studies*, 9(1), 33-63.
- Birdsall, N., Kelley, A. C., & Sinding, S. (2001). *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World: Demographic Change, Economic Growth, and Poverty in the Developing World*: Oxford University Press.
- Blanchflower, D. G., & Freeman, R. B. (2000). The declining economic status of young workers in OECD countries *Youth employment and joblessness in advanced countries* (pp. 19-56): University of Chicago Press.
- Bloom, D. E., Canning, D., & Sevilla, J. (2003). *The demographic dividend: A new perspective on the economic consequences of population change*: Rand Corporation.
- Bloom, D. E. (2011). 7 billion and counting. *Science*, 333(6042), 562-569.
- Bloom, D. E., Canning, D., Fink, G., & Finlay, J. E. (2009). Fertility, female labor force participation, and the demographic dividend. *Journal of Economic growth*, 14(2), 79-101.
- Bloom, D. E., & Williamson, J. G. (1998). Demographic transitions and economic miracles in emerging Asia. *The World Bank Economic Review*, 12(3), 419-455.
- Bongaarts, J. (2009). Human population growth and the demographic transition. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1532), 2985-2990.
- Bonus-Hammarth, M. (2000). Pathways to success: Affirming opportunities for science, mathematics, and engineering majors. *Journal of Negro Education*, 92-111.
- Bourdieu, P. (1977). Cultural reproduction and social reproduction. In J. K. a. A. H. Halsey (Ed.), *Power and Ideology in Education* (pp. 56-68). New York, NY: Oxford University Press.
- BPS. (1990). Indonesia - National Labor Force Survey (SAKERNAS) 1990: Complete data files accessed via the Australian Data Archive (ADA), the Australian National University (ANU).
- BPS. (2000). Indonesia - National Labor Force Survey (SAKERNAS) 2000: Complete data files accessed via the Australian Data Archive (ADA), the Australian National University (ANU).
- BPS. (2010). Indonesia - National Labor Force Survey (SAKERNAS) 2010: Complete data files accessed via the Australian Data Archive (ADA), the Australian National University (ANU).
- BPS. (2010). Indonesian Population 2010 Census: Complete data files accessed via the Australian Data Archive (ADA), the Australian National University (ANU).

- BPS. (2015). Indonesia - National Labor Force Survey (SAKERNAS) 2015: Complete data files accessed via the Australian Data Archive (ADA), the Australian National University (ANU).
- BPS. (2017). Indonesia - National Socio-Economic Survey (SUSENAS) 2010, March Retrieved 14/05/2019, from <https://www.ilo.org/surveydata/index.php/catalog/1411/sampling>
- BPS. (2018). Statistical Year Book of Indonesia 2018 (Vol. Catalog: 1101001). Jakarta, Indonesia: Badan Pusat Statistik (BPS)-Statistics Indonesia.
- Bradley, S., & Nguyen, A. N. (2004). The school-to-work transition *International handbook on the economics of education* (pp. 484).
- Brata, A. G. (2010). Vulnerability of urban informal sector: street vendors in Yogyakarta, Indonesia. *Theoretical and empirical researches in urban management*, 5(14), 47-58.
- Breen, R. (2005). Explaining cross-national variation in youth unemployment market and institutional factors. *European sociological review*, 21(2), 125-134.
- Brodjonegoro, B., & Asanuma, S. (2000). Regional autonomy and fiscal decentralization in democratic Indonesia. *Hitotsubashi Journal of Economics*, 111-122.
- Brzinsky-Fay, C., & Solga, H. (2016). Compressed, postponed, or disadvantaged? School-to-work-transition patterns and early occupational attainment in West Germany. *Research in Social Stratification and Mobility*, 46, 21-36. doi: 10.1016/j.rssm.2016.01.004
- Bynner, J., & Parsons, S. (2002). Social exclusion and the transition from school to work: The case of young people not in education, employment, or training (NEET). *Journal of Vocational Behavior*, 60(2), 289-309.
- Cameron, L., & Suarez, D. C. (2017). Women's Economic Participation in Indonesia: Study of gender inequality in employment, entrepreneurship, and key enablers for change: In a collaboration between AIPEG, the Australian Department of Foreign Affairs and Trade (DFAT) and Monash University's Centre for Development and Sustainability (CDES).
- Cameron, L., & Suarez, D. C. (2017). Women's Transitions in the Labour Market around Marriage and Childbearing: The Australia Indonesia Partnership for Economic Governance.
- Caraway, T. L. (2005). The political economy of feminization: From "cheap labor" to gendered discourses of work. *Politics & Gender*, 1(3), 399-429.
- Carmichael, G. A. (2016). *Fundamentals of demographic analysis: Concepts, measures and methods*: Springer International Publishing Switzerland 2016.
- Centre for Longitudinal Studies. (2016). About Centre for Longitudinal Studies Retrieved 2/5/2016, from <http://www.cls.ioe.ac.uk/page.aspx?&sitesectionid=724&sitesectiontitle=Welcome+to+the+1958+National+Child+Development+Study>

- Chen, D. (2009). Vocational schooling, labor market outcomes, and college entry. *World Bank Policy Research Working Paper Series, Vol, Policy Research Working Paper 4814*. Retrieved 12/07/2012, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1327283
- CIA. (2018). The World Factbook: Indonesia. *Median age: People and Society* Retrieved 27/09/2019, from <https://www.cia.gov/library/publications/the-world-factbook/geos/id.html>
- Clark, D. H. (1983). How Secondary School Graduates Perform in the Labor Market: A Study of Indonesia *World Bank Staff Working papers Number 615*: World Bank.
- Clignet, R. (1980). Education and employment after independence. In J. Simmons (Ed.), *The Education Dilemma: Policy Issues for Developing Countries in the 1980s* (pp. 165-178): Oxford: Pergamon Press.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American journal of sociology*, S95-S120.
- Côté, J. E. (1996). Sociological perspectives on identity formation: The culture–identity link and identity capital. *Journal of adolescence*, 19(5), 417-428.
- Coxhead, I. (2014a). Indonesia: returns to occupations, education and ability during a resource export boom. *Trade, development and Political Economy in East Asia: Essays in Honor of Hal Hill*. Singapore: ISEAS.
- Coxhead, I. (2014b). Did Indonesia's boom leave its poor behind? Adverse labor market trends in the postcrisis era. *University of Wisconsin-Madison, Madison*, 1-38.
- Cremin, P., & Nakabugo, M. G. (2012). Education, development and poverty reduction: A literature critique. *International Journal of Educational Development*, 32(4), 499-506. doi: 10.1016/j.ijedudev.2012.02.015
- Cuaresma, J. C., Lutz, W., & Sanderson, W. (2014). Is the demographic dividend an education dividend? *Demography*, 51(1), 299-315.
- Cuervo, H., & Wyn, J. (2011). Rethinking youth transitions in Australia: A historical and multidimensional approach: Youth Research Centre, Melbourne Graduate School of Education, University of Melbourne.
- Cuevas, S., Mina, C., Barcenas, M., & Rosario, A. (2009). Informal Employment in Indonesia *ADB Economics Working Paper Series* (Vol. No. 156): Asian Development Bank.
- De Grip, A. (2006). Evaluating human capital obsolescence (Vol. ROA-W-2006/2E): Research Centre for Education and the Labour Market, Faculty of Economics and Business Administration, Universiteit Maastricht.

- Deolalikar, A. B. (1993). Gender differences in the returns to schooling and in school enrollment rates in Indonesia. *Journal of Human Resources*, 899-932.
- Dhanani, S. (2004). *Unemployment and Underemployment in Indonesia, 1976-2000: Paradoxes and Issues*. ILO.
- Di Gropello, E., Kruse, A., & Tandon, P. (2011). *Skills for the labor market in Indonesia: trends in demand, gaps, and supply*. World Bank Publications.
- Doeve, W. L. J. (1982). Multistate Demography: Population Projections Secondary Cities Thailand. In N. E. a. S. D. Board (Ed.): Population And Manpower Planning Division, Office Of The Prime Minister.
- Dong, S. X. (2016). Consistency between Sakernas and the IFLS for Analyses of Indonesia's Labour Market: A Cross-Validation Exercise. *Bulletin of Indonesian Economic Studies*, 52(3), 343-378.
- Dong, S. X. (2018). Does economic crisis have different impact on husbands and wives? Evidence from the Asian Financial Crisis in Indonesia. *Review of Development Economics*, 22(4), 1489-1512.
- Dorsett, R., & Lucchino, P. (2014). Explaining patterns in the school-to-work transition: An analysis using optimal matching. *Advances in Life Course Research*, 22, 1-14. doi: 10.1016/j.alcr.2014.07.002
- Dowrick, S. (2002). Investing in the Knowledge Economy: implications for Australian economic growth. Retrieved 26/11/2015, from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.4694&rep=rep1&type=pdf>
- Duff, P., Kusumaningrum, S., & Stark, L. (2016). Barriers to birth registration in Indonesia. *The Lancet Global Health*, 4(4), e234-e235. doi: 10.1016/S2214-109X(15)00321-6
- Duflo, E. (2001). Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment. *American Economic Review*, 91(4), 795-813. doi: 10.1257/aer.91.4.795
- Duggan, V., Rahardja, S., & Varela, G. (2013). *Service sector reform and manufacturing productivity: evidence from Indonesia*. The World Bank.
- Durlauf, S. N. (2002). Bowling Alone: a review essay. *Journal of Economic Behavior & Organization*, 47(3), 259-273. doi: 10.1016/S0167-2681(01)00210-4
- Elder, G. H. J. (1994). Time, human agency, and social change: Perspectives on the life course. *Social psychology quarterly*, 4-15.

- Elder, S. (2009a). ILO School-to-Work Transition Survey: A methodological guide - Module 1: Basics concepts, roles and implementation process *ILO school-to-work transition survey: A methodological guide*. Geneva: Youth Employment Programme, International Labour Office.
- Elder, S. (2009b). ILO School-to-Work Transition Survey: A methodological guide - Module 2: SWTS Questionnaires. Geneva: Youth Employment Programme, International Labour Office.
- Elder, S., De Haas, H., Principi, M., & Schewel, K. (2015). Youth and rural development: Evidence from 25 school-to-work transition surveys.
- Eliason, S. R., Mortimer, J. T., & Vuolo, M. (2015). The transition to adulthood: Life course structures and subjective perceptions. *Social psychology quarterly*, 78(3), 205-227.
- Elliott, J., Dale, A., & Egerton, M. (2001). Returning to work after childbirth: a longitudinal analysis of the role of qualifications in facilitating mothers' return to paid employment. In A. Averma (Ed.), *Restructuring Work and the Life Course* (Vol. Part Three. Biography and Social Structure: Stability and Change, pp. 505-524). Tronto: University of Toronto Press.
- Espenshade, T. J., & Braun, R. E. (1982). Life course analysis and multistate demography: An application to marriage, divorce, and remarriage. *Journal of Marriage and the Family*.
- European Commission. (2016). European Labour Force Survey. *Eurostat: Your key to European Statistics* Retrieved 11/02/2019, from <http://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>
- Euwals, R., Knoef, M., & Van Vuuren, D. (2011). The trend in female labour force participation: what can be expected for the future? *Empirical Economics*, 40(3), 729-753.
- Fahmi, M. (2009). School choice and earnings: A case of indonesia: Department of Economics, Padjadjaran University.
- Federman, M., & Levine, D. I. (2003). Does Industrialization=" Development"? The Effects of Industrialization on School Enrollment and Youth Employment in Indonesia. *Working Paper No. C03-132*. Retrieved 09/05/2016 from, <https://escholarship.org/content/qt3t10238h/qt3t10238h.pdf>
- Fields, G. S. (2009). Segmented labor market models in developing countries. *The Oxford handbook of philosophy of economics*, 476-510.
- Firman, T. (2004). Demographic and spatial patterns of Indonesia's recent urbanisation. *Population, Space and Place*, 10(6), 421-434.
- Fitzsimons, P. (1990). Human capital theory and education. *Encyclopaedia of Philosophy of Education*.
- Ford, M., & Parker, L. (2008). *Women and work in Indonesia* (Vol. 5). New York: Routledge Taylor & Francis Group.

- Fortin, N. M. (2005). Gender role attitudes and the labour-market outcomes of women across OECD countries. *oxford review of Economic Policy*, 21(3), 416-438.
- Frankenberg, E., Hamilton, P., Polich, S., Suriastini, W., & Thomas, D. (2000). User's Guide for the Indonesia Family Life Survey, Wave 2: RAND.
- Frankenberg, E., & Karoly, L. A. (1995). The 1993 Indonesian Family Life Survey: Overview and Field Report (Vol. DRU-1195/1-NICHD/AID): RAND.
- Freeman, R. B., & Wise, D. A. (1982). The Youth Labor Market Problem: Its Nature Causes and Consequences *The youth labor market problem: Its nature, causes, and consequences* (pp. 1-16): University of Chicago Press.
- Fullerton, H. N., & Byrne, J. J. (1976). Length of working life for men and women, 1970. *Monthly Lab. Rev.*, 99, 31.
- Gallaway, J. H., & Bernasek, A. (2004). Literacy and women's empowerment in Indonesia: implications for policy. *Journal of economic issues*, 38(2), 519-525.
- Gangl, M. (2002). Changing labour markets and early career outcomes: labour market entry in Europe over the past decade. *Work, Employment & Society*, 16(1), 67-90.
- Gaston, N., & Kishi, T. (2005). Labour market policy developments in Japan: following an Australian lead? *Australian Economic Review*, 38(4), 389-404.
- Gaudet, S., Cooke, M., & Jacob, J. (2011). Working after childbirth: A lifecourse transition analysis of Canadian women from the 1970s to the 2000s. *Canadian Review of Sociology/Revue canadienne de sociologie*, 48(2), 153-180.
- Genda, Y., & Kurosawa, M. (2001). Transition from school to work in Japan. *Journal of the Japanese and International Economies*, 15(4), 465-488.
- Gerke, S. (2002). Global lifestyles under local conditions: The new Indonesian middle class *Consumption in Asia* (pp. 151-174): Routledge.
- Giele, J. Z., & Elder, G. H. (1998). Life course research: Development of a field *Methods of life course research: Qualitative and quantitative approaches* (pp. 5-27). Thousand Oaks: SAGE Publications, Inc.
- Gills, D.-S. S. (2002). Globalization of production and women in Asia. *The ANNALS of the American Academy of Political and Social Science*, 581(1), 106-120.
- Ginting, E., Manning, C., & Taniguchi, K. (2018). *Indonesia: Enhancing Productivity through Quality Jobs*: Asian Development Bank.
- Goldstein, H. (2009). Handling attrition and non-response in longitudinal data. *Longitudinal and Life Course Studies*, 1(1).
- Goujon, A. (2008). Report on projections by the level of education (Future human capital: Estimates and projections of education transition probabilities). *Deliverable D3 in Work Package, 1*.

- Granovetter, M. (1983). The strength of weak ties: A network theory revisited. *Sociological theory*, 1(1), 201-233.
- Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360-1380. doi: 10.2307/2776392
- Gribble, J. N., & Bremner, J. (2012). Achieving a demographic dividend. *Population Bulletin*, 67(2), 16.
- Hannan, D. F., Raffe, D., & Smyth, E. (1996). *Cross-national research on school to work transitions: An analytical framework*. Paper presented at the Background paper prepared for the Planning Meeting for the Thematic Review of the Transition from Initial Education to Working Life.
- Hansen, L. S. (1999). Beyond school to work: Continuing contributions of theory and practice to career development of youth. *The Career Development Quarterly*, 47(4), 353-358.
- Hayes, A., & Setyonaluri, D. (2015). Taking Advantage of the Demographic Dividend in Indonesia: A Brief Introduction to Theory and Practice. In UNFPA (Ed.). Jakarta, Indonesia: UNFPA Indonesia.
- Heckhausen, J. (2002). Introduction: Transition from School to Work; Societal Opportunities and Individual Agency. *Journal of Vocational Behavior*, 60(2), 173-177. doi: 10.1006/jvbe.2001.1862
- Heuer, M., Cummings, J. L., & Hutabarat, W. (1999). Cultural stability or change among managers in Indonesia? *Journal of International Business Studies*, 30(3), 599-610.
- Hill, J. E., Yang, C., Hawkins, A. J., & Ferris, M. (2004). A cross-cultural test of the work-family interface in 48 countries. *Journal of marriage and family*, 66(5), 1300-1316.
- Hirschman, C., & Guest, P. (1990). The emerging demographic transitions of Southeast Asia. *Population and Development Review*, 121-152.
- Hofstede, G. H. (1997). *Cultures and organizations: Software of the mind*. McGraw-Hill New York.
- Honda, Y. (2004). The formation and transformation of the Japanese system of transition from school to work. *Social Science Japan Journal*, 7(1), 103-115.
- Hull, T. H. (2001). First results from the 2000 population census. *Bulletin of Indonesian Economic Studies*, 37(1), 103-111.
- Hull, T. H. (2010). Estimates of Indonesian population numbers: First impressions from the 2010 census. *Bulletin of Indonesian Economic Studies*, 46(3), 371-375.
- Hull, T. H. (2012). Census Analysis Strategy (CAS): Australian Demographic and Social Reserach Institute (ADSRI), The Australian National University.
- Hull, T. H., & Jones, G. W. (1994). Demographic perspectives *Indonesia's New Order: The Dynamics of Socio-Economic Transformation* (pp. 123-144).

- Hussmanns, R., Mehran, F., & Varmā, V. (1990). *Surveys of economically active population, employment, unemployment, and underemployment: An ILO manual on concepts and methods*. Geneva: International Labour Office.
- Hynes, K., & Clarkberg, M. (2005). Women's employment patterns during early parenthood: A group-based trajectory analysis. *Journal of Marriage and Family*, 67(1), 222-239.
- ILO. (1982). Resolution concerning statistics of the economically active population, employment, unemployment and underemployment *Adopted by the Thirteenth International Conference of Labour Statisticians (October 1982)*: International Labour Organization.
- ILO. (2003). International training compendium on labour statistics *Module 1-Statistics of employment, unemployment, underemployment: economically active population*. Turin, Italy: Bureau of Statistics, Policy Integration Department, International Labour Office.
- ILO. (2006). Indonesia's youth labor market and the impact of early school drop out and child labor. Indonesia: International Labour Organization.
- ILO. (2007). Country Review on Youth Unemployment in Indonesia. Jakarta: ILO Jakarta Office.
- ILO. (2010). Global Employment Trends for Youth: Special issue on the impact of the global economic crisis on youth. Geneva: International labour Office.
- ILO. (2014). Main statistics (annual) - Unemployment Retrieved 13/11/2014, from <http://laborsta.ilo.org/applv8/data/c3e.html>
- ILO. (2017a). Global Employment Trends for Youth 2017: Paths to a better working future. Geneva: International Labour Office.
- ILO. (2017b). Indonesia - Labour Force Survey (SAKERNAS) 2015, August. *ILO Microdata Repository* (Version 01). Retrieved 30/05/2018, from <http://www.ilo.org/surveydata/index.php/catalog/1565/overview>
- ILO. (2017c). Indonesia Jobs Outlook 2017: Harnessing technology for growth and job creation: ILO Office for Indonesia and Timor-Leste.
- ILO. (2019a). Work4Youth project publications Retrieved 08/30/2019, from <https://www.ilo.org/employment/areas/youth-employment/work-for-youth/publications/lang--en/index.htm>
- ILO. (2019b). School-to-Work Transition Survey (STWT) Retrieved 30/07/2019, from https://www.ilo.org/employment/areas/youth-employment/work-for-youth/WCMS_191853/lang--en/index.htm
- ILO. (2019c). Unemployment rate Retrieved 07/03/2019, from https://www.ilo.org/ilostat-files/Documents/description_UR_EN.pdf
- Jaumotte, F. (2004). Labour force participation of women. *OECD Economic studies*, 2003(2), 51-108.

- Jekielek, S., Brown, B., & Trends, C. (2005). The transition to adulthood: Characteristics of young adults ages 18 to 24 in America. *Baltimore, MD: Annie E. Casey Foundation.*
- Jellinek, L. (1991). *The wheel of fortune : the history of a poor community in Jakarta.* Sydney Asian Studies Association of Australia
- Jensen, R., & Thornton, R. (2003). Early female marriage in the developing world. *Gender & Development, 11*(2), 9-19.
- Johnson, M. K., Berg, J. A., & Sirotzki, T. (2007). Differentiation in self-perceived adulthood: Extending the confluence model of subjective age identity. *Social Psychology Quarterly, 70*(3), 243-261.
- Jones, G., Rangkuti, H., Utomo, A., & McDonald, P. (2016). Migration, Ethnicity, and the Education Gradient in the Jakarta Mega Urban Region: A Spatial Analysis. *Bulletin of Indonesian Economic Studies, 1*-36. doi: 10.1080/00074918.2015.1129050
- Jones, G. W. (1997). Population dynamics and their impact on adolescents in the ESCAP region. *Asia-Pacific population journal/ United Nations, 12*(3), 3-30.
- Jones, G. W. (2004). Not “when to marry” but “whether to marry”: The changing context of marriage decisions in East and Southeast Asia. In G. W. Jones & K. Ramdas (Eds.), *Untying the knot: ideal and reality in Asian marriage* (pp. 3-58). Singapore: Asian Research Institute, National University of Singapore.
- Juárez, F., & Gayet, C. (2014). Transitions to Adulthood in Developing Countries. *Annual Review of Sociology, 40*(1), 521-538. doi: 10.1146/annurev-soc-052914-085540
- Keene, J. R., & Quadagno, J. (2004). Predictors of perceived work-family balance: Gender difference or gender similarity? *Sociological Perspectives, 47*(1), 1-23.
- Kenjoh, E. (2005). New mothers' employment and public policy in the UK, Germany, the Netherlands, Sweden, and Japan. *Labour, 19*, 5-49.
- Kim, K., Sumner, A., & Yusuf, A. A. (2017). How Inclusive Is Structural Change? The Case of Indonesia. *ESTC GPID Research Network Working Paper*(3).
- Kinugasa, T. (2013). *Populations in Transition: Second Dividend Holds Promise of Sustained Rewards.* Paper presented at the East Asia Forum Quarterly.
- Klerman, J. A., & Karoly, L. A. (1994). Young men and the transition to stable employment. *Monthly Lab. Rev., 117*, 31.
- Kovacheva, S., & Pohl, A. (2007). Disadvantage in youth transitions: constellations and policy dilemmas. In H. Colley, P. Boetzelen, B. Hoskins & T. Parveva (Eds.), *Social inclusion for young people: breaking down the barriers* (pp. 31-42).
- Kring, S. A. (2014). Findings from the Indonesia: Review of youth employment policies. *ILO Tripartite workshop: What works for youth employment: Sharing Policies from Asia and the Pacific.*

- Kristiansen, S., & Ramli, M. (2006). Buying an income: The market for civil service positions in Indonesia. *Contemporary Southeast Asia*, 207-233.
- Krumboltz, J. D., & Worthington, R. L. (1999). The School-to-Work Transition From a Learning Theory Perspective. *The Career Development Quarterly*, 47(4), 312-325.
- Lam, D., & Levison, D. (1991). Declining inequality in schooling in Brazil and its effects on inequality in earnings. *Journal of Development Economics*, 37(1), 199-225.
doi: 10.1016/0304-3878(91)90088-D
- Ledent, J. (1978). Some methodological and empirical considerations in the construction of increment-decrement life tables. RM-78-25. Retrieved 21/02/2019, from <http://pure.iiasa.ac.at/id/eprint/972/1/RM-78-025.pdf>
- Lippmann, S. (2008). Rethinking risk in the new economy: Age and cohort effects on unemployment and re-employment. *Human Relations*, 61(9), 1259-1292.
- Longitudinal Surveys of Australian Youth. (2020). About LSAY Data Retrieved 10/10/2020, from <https://www.lsay.edu.au/data/scope>
- Lopez, A., & Thomason, J. (2013). Civil registration and vital statistics—everybody's business but nobody's business. *The Lancet*, 381(9874), 1275-1276. doi: 10.1016/S0140-6736(13)60838-7
- Luschei, T. F., Dimiyati, S., & Padmo, D. (2008). Maintaining e3-learning while transitioning to online instruction: The case of the Open University of Indonesia. *Distance Education*, 29(2), 165-174.
- Lutz, W., & Samir, K. (2010). Dimensions of global population projections: what do we know about future population trends and structures? *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1554), 2779-2791.
- Lynn, P. (2009). *Methods for longitudinal surveys*: Wiley Online Library.
- Mahirda, K., & Wahyuni, H. (2016). Returning to general and vocational high-schools in Indonesia. *Review of Economic and Business Studies*, 9(2), 9-28.
- Malo, M. A., & Muñoz-Bullón, F. (2003). Employment status mobility from a lifecycle perspective: A sequence analysis of work-histories in the BHPS. *Demographic Research*, 9(7), 471-494.
- Mangundjaya, W. L. (2013). Is there cultural change in the national cultures of Indonesia?
- Manning, C. (1996). Regional labour markets during deregulation in Indonesia: have the outer islands been left behind?
- Manning, C. (2003). Labor Policy and Employment Creation: An Emerging Crisis. *Partnership of Economic Growth-USAID, Report(110)*.

- Manning, C. (2010). 10 The Political Economy of Reform: Labour after Soeharto. *Soeharto's new order and its legacy*, 151.
- Manning, C., & Junankar, P. N. (1998). Choosy Youth or Unwanted Youth? A Survey of Unemployment. *Bulletin of Indonesian Economic Studies*, 34(1), 55-93.
doi: 10.1080/00074919812331337280
- Margolis, D. N., Plug, E., Simonnet, V., & Vilhuber, L. (1999). The role of early career experiences in determining later career success: An international comparison. *TEAM-Université de Paris*, 1.
- Marks, G., Hillman, K., & Beavis, A. (2003). Dynamics of the Australian youth labour market: the 1975 cohort, 1996-2000. *LSAY Research Reports*, (8-1-2003). Retrieved 01/10/2014, from http://research.acer.edu.au/cgi/viewcontent.cgi?article=1109&context=lsay_research
- Martins, M. O., Rodrigues, I., & Rodrigues, T. (2014). Multistate projections by level of education for Portugal, 2011–2031. *Journal of Population Research*, 31(4), 317-343.
- Mason, A. (2005). *Demographic transition and demographic dividends in developed and developing countries*. Paper presented at the United Nations expert group meeting on social and economic implications of changing population age structures, Mexico City, 31 August-2 September 2005.
- Mathers, C. D., Ma Fat, D., Inoue, M., Rao, C., & Lopez, A. D. (2005). Counting the dead and what they died from: an assessment of the global status of cause of death data. *Bulletin of the world health organization*, 83, 171-177c.
- Matsumoto, M., & Elder, S. (2010). Characterizing the school-to-work transitions of young men and women: Evidence from the ILO school-to-work transition surveys: International Labour Organization.
- McClelland, A., & MacDonald, F. (1999). Young adults and labour market disadvantage?: The situation of young adults not in education or full-time employment. Retrieved 18/06/2015, from http://dusseldorp.org.au/wp-content/uploads/1999/04/09YAdultsDisadvantage_APR99.pdf
- McDaniel, A. (2010). Cross-national gender gaps in educational expectations: The influence of national-level gender ideology and educational systems. *Comparative Education Review*, 54(1), 27-50.
- McDonald, P. (2014). The demography of Indonesia in comparative perspective. *Bulletin of Indonesian Economic Studies*, 50(1), 29-52.
- McDonald, P., Brown, K., & Bradley, L. (2005). Explanations for the provision-utilisation gap in work-life policy. *Women in Management Review*, 20(1), 37-55.
- McDonald, P., Utomo, I. D., Utomo, A., Reimondos, A., & Hull, T. (2013). Migration and Transition to Adulthood. *Asian Population Studies*, 9(1), 4-27.
doi: 10.1080/17441730.2012.736700

- McVicar, D., & Anyadike-Danes, M. (2002). Predicting successful and unsuccessful transitions from school to work by using sequence methods. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 165(2), 317-334.
- Mehra, R. (1997). Women, empowerment, and economic development. *The Annals of the American Academy of Political and Social Science*, 554(1), 136-149.
- Mikkelsen, L., Phillips, D. E., AbouZahr, C., Setel, P. W., De Savigny, D., Lozano, R., & Lopez, A. D. (2015). A global assessment of civil registration and vital statistics systems: monitoring data quality and progress. *The Lancet*, 386(10001), 1395-1406.
- Mills, M. (2011). The fundamentals of survival and event history analysis. *Introducing Survival Analysis and Event History Analysis*. London: SAGE Publications, 1-17.
- Moen, P., & Han, S.-K. (2001). Gendered Careers: A Life-Course Perspective. In R. Hartz & N. L. Marshall (Eds.), *Working families: The transformation of the American home* (pp. 42-57): University of California Press.
- Mroz, T. A., & Savage, T. H. (2006). The long-term effects of youth unemployment. *Journal of Human Resources*, 41(2), 259-293.
- Muhidin, S. (2002). *The population of Indonesia: regional demographic scenarios using a multiregional method and multiple data sources*. Amsterdam, The Netherlands: Rozenberg Publishers.
- Naafs, S. (2012). Navigating School to Work Transitions in an Indonesian Industrial Town: Young Women in Cilegon. *The Asia Pacific Journal of Anthropology*, 13(1), 49-63. doi: 10.1080/14442213.2011.636067
- Naafs, S. (2013). Youth, Gender, and the Workplace: Shifting Opportunities and Aspirations in an Indonesian Industrial Town. *The ANNALS of the American Academy of Political and Social Science*, 646(1), 233-250. doi: 10.1177/0002716212469927
- Naafs, S., & White, B. (2012). Intermediate generations: reflections on Indonesian youth studies. *The Asia Pacific Journal of Anthropology*, 13(1), 3-20.
- Naidoo, D., Packard, T. G., & Auwalin, I. (2015). Mobility, scarring and job quality in Indonesia's labor market. *S Labor Market (November 9, 2015)*. *World Bank Policy Research Working Paper*(7484).
- Nakai, M., & Ke, W. (2011). Review of the methods for handling missing data in longitudinal data analysis. *International Journal of Mathematical Analysis*, 5(1), 1-13.
- National Institute of Statistics. (2015). Labour Market Transitions of Young Women and Men in Cambodia 2014. Phnom Penh, Kingdom of Cambodia: National Institute of Statistics, Ministry of Planning, Cambodia; International Labour Organization.
- National Research Council and Institute of Medicine. (2005). The Transition to Work. In C. B. Lloyd (Ed.), *Growing up global: The changing transitions to adulthood in developing countries*. Washington D.C.: The National Academies Press.

- Newhouse, D., & Suryadarma, D. (2011). The value of vocational education: High school type and labor market outcomes in Indonesia. *The World Bank Economic Review*, 25(2), 296-322.
- Nilan, P. (2008). Youth transitions to urban, middle-class marriage in Indonesia: faith, family and finances. *Journal of youth studies*, 11(1), 65-82.
- Nilan, P., Parker, L., Bennett, L., & Robinson, K. (2011). Indonesian youth looking towards the future. *Journal of Youth Studies*, 14(6), 709-728.
- Nurminen, M. (2012). Working-life expectancy in Finland: Trends and differentials 2000–2015. A multistate regression modeling approach *Finnish Centre for Pensions, Reports*. Helsinki: Finnish Centre for Pensions.
- OECD. (2000). From Initial Education to Working Life. Paris: Organisation for Economic Co-Operation and Development (OECD).
- OECD. (2001). Balancing Work and Family Life: Holding Parents into Paid Employment *Employment Outlook* (pp. 129-172). Paris: OECD.
- OECD. (2010). Education at a Glance 2010: OECD Indicators.
- OECD. (2012). *OECD Employment Outlook 2012*.
- OECD. (2016). Marriage and divorce rates *OECD Family Database: OECD - Social Policy Division - Directorate of Employment, Labour and Social Affairs*.
- OECD. (2017). Pensions at a glance 2017: Country profiles - Indonesia *OECD and G20 Indicators*.
- OECD, & ADB. (2015). Education in Indonesia: Rising to the Challenge *Reviews of National Policies for Education*. Paris: OECD, ADB.
- O'Higgins, N. (2001). Youth unemployment and employment policy: A global perspective. Geneva: International Labour Office.
- Ogawa, K., & Akter, M. (2007). Female Labor Force Participation in Indonesia. *Journal of International Cooperation Studies*, 14(3), 71-108.
- Ortiz, I. (2008). Social Policy *In National Development Strategies, Policy Notes*. New York: United Nations.
- Pampaka, M., Hutcheson, G., & Williams, J. (2016). Handling missing data: analysis of a challenging data set using multiple imputation. *International Journal of Research & Method in Education*, 39(1), 19-37.
- Pastore, F. (2019). Why so slow? The school-to-work transition in Italy. *Studies in Higher Education*, 44(8), 1358-1371. doi: 10.1080/03075079.2018.1437722
- Patrinos, H. A., Ridao-Cano, C., & Sakellariou, C. (2009). A note on schooling and wage inequality in the public and private sector. *Empirical Economics*, 37(2), 383-392.

- Phillips, D. E., AbouZahr, C., Lopez, A. D., Mikkelsen, L., de Savigny, D., Lozano, R., Wilmoth J., Setel, P. W. (2015). Are well functioning civil registration and vital statistics systems associated with better health outcomes? *The Lancet*, 386(10001), 1386-1394. doi: 10.1016/S0140-6736(15)60172-6
- Pocock, B. (2005). Work-life 'balance' in Australia: Limited progress, dim prospects. *Asia Pacific Journal of Human Resources*, 43(2), 198-209.
- Pollard, E., Williams, M., Huxley, C., Green, M., & Martin, A. (2017). Capturing school-to-work transitions with longitudinal data sources *ies Report* (Vol. Report 512): Institute for Employment Studies.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24, 1-24.
- Purnastuti, L., Miller, P. W., & Salim, R. (2013). Declining rates of return to education: evidence for Indonesia. *Bulletin of Indonesian Economic Studies*, 49(2), 213-236. doi: 10.1080/00074918.2013.809842
- Purnastuti, L., Salim, R., & Joarder, M. A. M. (2015). The returns to education in Indonesia: Post reform estimates. *The Journal of Developing Areas*, 49(3), 183-204.
- Qibthiyah, R., & Utomo, A. J. (2016). Family Matters: Demographic Change and Social Spending in Indonesia. *Bulletin of Indonesian Economic Studies*, 52(2), 133-159. doi: 10.1080/00074918.2016.1211077
- Quintini, G., Martin, J. P., & Martin, S. (2007). The changing nature of the school-to-work transition process in OECD countries. *WDA-HSG discussion paper*(2007-2).
- Raffe, D. (2008). The concept of transition system. *Journal of education and work*, 21(4), 277-296.
- RAND. (2000). IFLS1 Household Codebook-Introduction. *DRU1195.4.intro*. Retrieved 14/05/2019, from <https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS/download.html>
- RAND. (2014a). National Labor Force Survey Retrieved 30/10/2014, from <http://www.rand.org/labor/bps/sakernas.html>
- RAND. (2014b). National Socio-Economic Household Survey Retrieved 10/09/2014, from <http://www.rand.org/labor/bps/susenas.html>
- RAND. (2014c). The Indonesia Family Life Survey (IFLS) Retrieved 11/03/2014, from <http://www.rand.org/labor/FLS/IFLS.html>
- RAND. (2019). IFLS Data and Documentation Retrieved 09/11/2019, from <https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS/download.html>

- Rao, C., Soemantri, S., Djaja, S., Suhardi, Adair, T., Wiryawan, Y., Pangaribuan, L., Irianto, J., Kosen, S., Lopez, A. D. (2010). Mortality in Central Java: results from the Indonesian mortality registration system strengthening project. *BMC Research Notes*, 3(1), 325. doi: 10.1186/1756-0500-3-325
- Reich, M., Gordon, D. M., & Edwards, R. C. (1973). A theory of labor market segmentation. *The American Economic Review*, 359-365.
- Riley, M. W., & Riley Jr, J. W. (1994). Structural lag: Past and future. In R. L. K. M. W. Riley, A. Foner, & K. A. Mack (Ed.), *Age and structural lag: Society's failure to provide meaningful opportunities in work, family, and leisure* (pp. 15-36). Oxford, England: John Wiley & Sons.
- Rindfuss, R. R. (1991). The Young Adult Years: Diversity, Structural Change, and Fertility. *Demography*, 28(4), 493-512. doi: 10.2307/2061419
- Robette, N. (2010). The diversity of pathways to adulthood in France: Evidence from a holistic approach. *Advances in Life Course Research*, 15(2-3), 89-96. doi: 10.1016/j.alcr.2010.04.002
- Rogers, A. (1973). The multiregional life table. *Journal of Mathematical Sociology*, 3(1), 127-137.
- Rogers, A. (1980). Introduction to multistate mathematical demography. *Environment and Planning A*, 12(5), 489-498.
- Rogers, A. (1986). Parameterized multistate population dynamics and projections. *Journal of the American Statistical Association*, 81(393), 48-61.
- Rogers, A. (1995). *Multiregional demography: Principles, methods and extensions*. England: John Wiley & Sons.
- Rogers, A. (2008). Demographic modeling of the geography of migration and population: A multiregional perspective. *Geographical Analysis*, 40(3), 276-296.
- Rogers, M., & Creed, P. (2000). School-to-work Transition: From theory to Practice. *Australian Journal of Career Development*, 9(3), 20-26.
- Rogers, R. G., Rogers, A., & Belanger, A. (1989). Active life among the elderly in the United States: multistate life-table estimates and population projections. *Milbank Quarterly*, 67(3-4), 370-411.
- Rokhman, W., & Omar, A. (2008). The effect of Islamic work ethics on job satisfaction, organizational commitment and turnover intention: a study on Islamic microfinance institutions in Central Java, Indonesia. *Jurnal Bisnis & Manajemen*, 4(1), 20-28.
- Roksa, J., & Velez, M. (2010). When studying schooling is not enough: Incorporating employment in models of educational transitions. *Research in Social Stratification and Mobility*, 28(1), 5-21. doi: 10.1016/j.rssm.2009.03.001
- Rosenbaum, J. E., & Kariya, T. (1989). From high school to work: Market and institutional mechanisms in Japan. *American journal of Sociology*, 94(6), 1334-1365.

- Rosenbaum, J. E., Kariya, T., Settersten, R., & Maier, T. (1990). Market and network theories of the transition from high school to work: Their application to industrialized societies. *Annual review of sociology*, 16(1), 263-299.
- Rothenberg, A. D., Gaduh, A., Burger, N. E., Chazali, C., Tjandraningsih, I., Radikun, R., Sutera, C., Weilant, S. (2016). Rethinking Indonesia's Informal Sector. *World Development*, 80, 96-113. doi: 10.1016/j.worlddev.2015.11.005
- Ryan, P. (2001). The School-to-Work Transition: A Cross-National Perspective. *Journal of Economic Literature*, 39(1), 34-92. doi: 10.2307/2698454
- Salas-Velasco, M. (2007). The Transition from Higher Education to Employment in Europe: The Analysis of the Time to Obtain the First Job. *Higher Education*, 54(3), 333-360. doi: 10.2307/29735116
- Samarakoon, S., & Parinduri, R. A. (2015). Does education empower women? Evidence from Indonesia. *World Development*, 66, 428-442.
- Schafer, J. L., & Graham, J. W. (2002). Missing data: our view of the state of the art. *Psychological methods*, 7(2), 147.
- Scherer, S. (2005). Patterns of labour market entry—long wait or career instability? An empirical comparison of Italy, Great Britain and West Germany. *European Sociological Review*, 21(5), 427-440.
- Schmidt, M., Pedersen, L., & Sørensen, H. T. (2014). The Danish Civil Registration System as a tool in epidemiology. *European journal of epidemiology*, 29(8), 541-549.
- Schneider, J. A. (2000). Pathways to opportunity: The role of race, social networks, institutions, and neighborhood in career and educational paths for people on welfare. *Human Organization*, 72-85.
- Schoen, R. (1988). Practical uses of multistate population models. *Annual Review of Sociology*, 14(1), 341-361.
- Schoeni, R. F., & Blank, R. M. (2000). What has welfare reform accomplished? Impacts on welfare participation, employment, income, poverty, and family structure *NBER Working Paper Series*. Massachusetts, USA: National bureau of economic research.
- Setyonaluri, D. (2013). *Women Interrupted: Determinants of Women's Employment Exit and Return in Indonesia*. The Australian National University. Retrieved 01/05/2017, from https://www.researchgate.net/profile/Diahhadi_Setyonaluri2/publication/301345987_Women_Interrupted_Determinants_of_Women's_Employment_Exit_and_Return_in_Indonesia/links/5713a21208aeebe07c0636df.pdf
- Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. *Annual review of sociology*, 26(1), 667-692.
- Sharma, S. D. (2018). *The Asian financial crisis: Crisis, reform and recovery*. Manchester and New York, USA: Manchester University Press.

- Shrestha, R., & Coxhead, I. (2018). Export boom, employment bust? The paradox of Indonesia's displaced workers, 2000-2014.
- Silvey, R., & Elmhirst, R. (2003). Engendering Social Capital: Women Workers and Rural–Urban Networks in Indonesia's Crisis. *World Development*, 31(5), 865-879.
doi: 10.1016/S0305-750X(03)00013-5
- Singh, G. K. G., & Singh, S. K. G. (2008). Malaysian graduates' employability skills. *UNITAR e-Journal*, 4(1), 15-45.
- Staff, J., Harris, A., Sabates, R., & Briddell, L. (2010). Uncertainty in early occupational aspirations: Role exploration or aimlessness? *Social forces*, 89(2), 659-683.
- Stigler, G. J. (1961). The economics of information. *Journal of political economy*, 69(3), 213-225.
- Strauss, J., Witoelar, F., & Sikoki, B. (2016a). The fifth wave of the Indonesia Family Life Survey: Overview and Field Report (Vol. Volume 1): RAND Corporation.
- Strauss, J., Witoelar, F., Sikoki, B., & Wattie, A. (2016b). *User's Guide for the Indonesia Family Life Survey, Wave 5* (Vol. Volume 2): RAND Santa Monica.
- Strauss, J., Witoelar, F., & Sikoki, B. (2016c). Household Survey Questionnaire for the Indonesia Family Life Survey, Wave 5. In RAND (Ed.): RAND Corporation.
- Suharti. (2012). Trends in Education in Indonesia. In D. Suryadarma & G. W. Jones (Eds.), *Education in Indonesia* (pp. 15-52). Canberra: Singapore: Institute of Southeast Asian Studies.
- Suharti. (2013). *Schooling and destiny: Behind the Inequality in Education Performance in Indonesia*. Doctor of Philosophy, The Australian National University, Canberra, Australia.
Retrieved 06/04/2017, from
<https://openresearch-repository.anu.edu.au/handle/1885/150656>
- Sukarno, M. (1999). *The transition from school to work and job-seeking behaviour among youth in three cities of Java*. PhD, The Australian National University.
- Suryadarma, D., Suryahadi, A., & Sumarto, S. (2007). *Reducing Unemployment in Indonesia: Results from a Growth-Employment Elasticity Model*. SMERU Research Institute.
- Suryadarma, D., Widyanti, W., Suryahadi, A., & Sumarto, S. (2012). From access to income: Regional and ethnic inequality in Indonesia. In A. Booth, C. Manning & T. K. Wie (Eds.), *Land, Livelihood, the Economy and the Environment in Indonesia: Essays in Honour of Joan Hardjono* (pp. 103-123). Jakarta, Indonesia: Yayasan Obor Indonesia.
- Suryahadi, A., Hadiwidjaja, G., & Sumarto, S. (2012). Economic growth and poverty reduction in Indonesia before and after the Asian financial crisis. *Bulletin of Indonesian Economic Studies*, 48(2), 209-227.
- Swanson, J. L., & Fouad, N. A. (1999). Applying Theories of Person-Environment Fit to the Transition From School to Work. *The Career Development Quarterly*, 47(4), 337-347.

- Sziraczki, G., & Reerink, A. (2004). *Report of survey on the school-to-work transition in Indonesia*. Geneva: Gender Promotion Programme, International Labour Office.
- Tambunan, T. T. (2010). The Indonesian experience with two big economic crises. *Modern Economy*, 1(03), 156.
- Thomas, D., Frankenberg, E., & Smith, J. (2001). Lost but not forgotten: Attrition and follow-up in the Indonesia Family Life Survey *On-Line Working Paper Series* (Vol. UCLA CCPR Population Working Papers): California Center for Population Research, University of California-Los Angeles.
- Tobias, J., Wales, J., & Syamsulhakim, E. (2014). *Toward Improving Education Quality: Indonesia's promising path*: Department of Economics, Padjadjaran University.
- Tripney, J. S., & Hombrados, J. G. (2013). Technical and vocational education and training (TVET) for young people in low-and middle-income countries: a systematic review and meta-analysis. *Empirical Research in Vocational Education and Training*, 5(1), 3.
- Turner, S. (2007). Small-scale enterprise livelihoods and social capital in eastern Indonesia: ethnic embeddedness and exclusion. *The professional geographer*, 59(4), 407-420.
- UIS. (2011). Educational attainment Retrieved 08/09/13, from <http://uis.unesco.org/en/glossary-term/educational-attainment-0>
- UIS. (2019a). Participation in Education: Indonesia Retrieved 26/06/2019, from <http://uis.unesco.org/country/ID#slideoutmenu>
- UIS. (2019b). Indonesia: Education system Retrieved 23/04/2019, from <http://uis.unesco.org/country/ID>
- UNECE. (2007). *Register-based Statistics in the Nordic Countries: Review of Best Practices with Focus on Population and Social Statistics*. Yew York and Geneva: United Nations Economic Commission for Europe (UNECE).
- UNESCO Bangkok. (2000). *Girls' and Women's Education in Indonesia*.
- UNFPA. (2014a). *State of World Population 2014: The Power of 1.8 Billion: Adolescents, youth and the transformation of the future*. In R. Kollodge (Ed.): UNFPA.
- UNFPA. (2014b). *Youth in Indonesia*. In P. P. McDonald (Ed.), *UNFPA Indonesia Monograph Series: No.2*. Jakarta, Indonesia: UNFPA Indonesia.
- UNFPA. (2015a). *Women and Girls in Indonesia: Progress and Challenges UNFPA Indonesia Monograph Series: No.5*: UNFPA Indonesia.
- UNFPA. (2015b). *Urbanization in Indonesia UNFPA Indonesia Monograph Series: No.4*: UNFPA Indonesia.
- UNFPA. (2015c). *Internal Migration in Indonesia UNFPA Indonesia Monograph Series No3*: UNFPA Indonesia.

- United Nations. (2013a). Definition of Youth. *Fact Sheet*. Retrieved 04/03/2019, from <http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf>
- United Nations. (2013b). Legal age for marriage. *UN Data: A world of information* Retrieved 7/6/2018, from <http://data.un.org/DocumentData.aspx?id=336>
- United Nations. (2015). Population Facts: Department of Economic and Social Affairs Population Division, United Nations.
- United Nations. (2017a). World Marriage Data 2017 Retrieved 07/06/2018, from <http://www.un.org/en/development/desa/population/theme/marriage-unions/WMD2017.shtml>
- United Nations. (2017b). Mortality indicators, World Population Prospects: The 2017 Revision, Online Edition Retrieved 03/04/2019, from <https://esa.un.org/unpd/wpp/Download/Standard/Mortality/>
- United Nations. (2019a). Population indicators, World Population Prospects 2019, Online Edition Retrieved 21/08/2019, from <https://population.un.org/wpp/Download/Standard/Population/>
- United Nations. (2019b). Fertility data, World Population Prospects 2019, Online Edition Retrieved 21/08/2019, from <https://population.un.org/wpp/Download/Standard/Fertility/>
- US Bureau of Labor Statistics. (2014). National Longitudinal Surveys Retrieved 11/11/2014, from <http://www.bls.gov/nls/overview.htm>
- USAID. (2013). Investing in Indonesia: A stronger Indonesia advancing national and global development: USAID Strategy for Indonesia 2014 – 2018 *USAID Indonesia*: United States Agency for International Development (USAID).
- Utomo, A. (2008). *WOMEN AS SECONDARY EARNERS: The Labour Market and Marriage Expectations of Educated Youth in Urban Indonesia*. PhD Thesis, The Australian National University. Retrieved 27/03/2014 from https://openresearch-repository.anu.edu.au/bitstream/1885/10801/1/Utomo_A.J._2088.pdf
- Utomo, A., Reimondos, A., Utomo, I., McDonald, P. F., & Hull, T. H. (2014). What happens after you drop out? Transition to adulthood among early school-leavers in urban Indonesia. *Demographic Research*, 30, 1189-1218.
- Utomo, A., Utomo, I., & McDonald, P. (2018). The other millennials. *Inside Indonesia*, (Edition 134: Oct-Dec 2018). Retrieved 30/11/2018, from <https://www.insideindonesia.org/the-other-millennials>
- Utomo, A. J. (2012). Women as secondary earners: Gendered preferences on marriage and employment of university students in modern Indonesia. *Asian Population Studies*, 8(1), 65-85.

- Van der Klaauw, B., Van Vuuren, A., & Berkhout, P. H. (2004). Labor market prospects, search intensity and the transition from college to work. *A service of SBW, Working Paper, No. 2005:9*. Retrieved from <https://www.econstor.eu/bitstream/10419/78639/1/490476600.pdf>
- Van der Lippe, T., Jager, A., & Kops, Y. (2006). Combination pressure: The paid work-family balance of men and women in European countries. *Acta Sociologica, 49*(3), 303-319.
- Varela, C., Ruiz, J., Andrés, A., Roy, R., Fusté, A., & Saldaña, C. (2016). Advantages and Disadvantages of using the website SurveyMonkey in a real study: Psychopathological profile in people with normal-weight, overweight and obesity in a community sample. *E-methodology, 2016*(3), 77-89.
- Vuolo, M., Mortimer, J. T., & Staff, J. (2014). Adolescent Precursors of Pathways From School to Work. *Journal of Research on Adolescence, 24*(1), 145-162. doi: 10.1111/jora.12038
- Walther, A. (2006). Regimes of youth transitions: Choice, flexibility and security in young people's experiences across different European contexts. *Young, 14*(2), 119-139.
- Warner, J. T., Poindexter Jr, J. C., & Fearn, R. M. (1980). Employer-employee interaction and the duration of Unemployment. *The Quarterly Journal of Economics, 94*(2), 211-233.
- Warren, J. R., & Lee, J. C. (2003). The impact of adolescent employment on high school dropout: Differences by individual and labor-market characteristics. *Social Science Research, 32*(1), 98-128. doi: 10.1016/S0049-089X(02)00021-2
- WHO. (2013). Every woman, every child: strengthening equity and dignity through health: the second report of the independent Expert Review Group (iERG) on Information Accountability for Women's and Children's health. Geneva: World Health Organization (WHO).
- Widarti, D. (1998). Determinants of labour force participation by married women: the case of Jakarta. *Bulletin of Indonesian Economic Studies, 34*(2), 93-120.
- Willekens, F. J. (1980). Multistate analysis: tables of working life. *Environment and Planning A, 12*(5), 563-588.
- Willekens, F. J., Shah, I., Shah, J. M., & Ramachandran, P. (1982). Multi-state analysis of marital status life tables: Theory and application. *Population Studies, 36*(1), 129-144.
- Wolbers, M. H. (2007). Patterns of labour market entry A comparative perspective on school-to-work transitions in 11 European Countries. *Acta sociologica, 50*(3), 189-210.
- Wolfbein, S. L. (1949). The length of working life. *Population Studies, 3*(3), 286-294.
- Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The world bank research observer, 15*(2), 225-249.

- World Bank. (2006). World Development Report 2007: Development and the Next Generation Retrieved 11/02/2018, from http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2006/09/13/000112742_20060913111024/Rendered/PDF/359990WDR0complete.pdf
- World Bank. (2010). Indonesia Jobs Report: Towards Better Jobs and Security for All (Vol. 56348 v2). Jakarta, Indonesia: Kingdome of the Netherlands, The World Bank.
- World Bank. (2019a). Population growth (annual %). *World Development Indicators* Retrieved 08/03/2019, from <https://data.worldbank.org/indicator/SP.POP.GROW>
- World Bank. (2019b). GDP (current US\$) Retrieved 22/07/2019, from <https://data.worldbank.org/indicator/ny.gdp.mktp.cd>
- World Bank. (2019c). The World Bank in Indonesia: Overveiw Retrieved 25/07/2019, from <https://www.worldbank.org/en/country/indonesia/overview>
- World Bank. (2019d). Fertility rate, total (births per woman) Retrieved 18/06/2019, from https://data.worldbank.org/indicator/sp.dyn.tfrt.in?name_desc=false
- World Bank. (2019e). Labor force participation rate, female (% of female population ages 15+)(national estimate) Retrieved 03/06/2019, from <https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS>
- World Bank. (2019f). Labor force participation rate, male (% of male population ages 15+) (national estimate) Retrieved 03/06/2019, from <https://data.worldbank.org/indicator/SL.TLF.CACT.MA.NE.ZS>
- World Bank. (2019g). Unemployment, youth total(% of male labor force ages 15-24) (modeled ILO estimate) Retrieved 18/06/2019, from <https://data.worldbank.org/indicator/SL.UEM.1524.MA.ZS>
- Zhao, Z. (2013). Population change shaping Asia's future. *Eastasiaforum*, 5(1), 3-4.
- Zucker, L. G. (1987). Institutional theories of organization. *Annual review of sociology*, 13, 443-464.