



Urban unemployment in Papua New Guinea—it's criminal

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Much has been said about the enormous unemployment problem in Papua New Guinea's urban centres and the terrible crime situation which it has generated. The gravity of these problems is profound yet little is really known about the extent of unemployment and crime. This article reports on a survey carried out in 1995 on unemployment and crime in Papua New Guinea. Over 32,000 people in urban centres depend on crime as their main source of income, representing 14.8 per cent of the urban workforce. Prostitution accounts for 13.6 per cent of the female urban workforce. The survey found that the earnings of criminals do not differ significantly from the relatively high wages of unskilled labour in the formal sector. With this in mind the remedy to the crime problem is not so much job creation, but an attack on the incentives for crime.

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The unemployment rate in Papua New Guinea's urban centres, at 29.3 per cent, is extraordinary. At least that is the case according to the results of the 1990 Census, and this is the 'official' unemployment rate as no other survey is undertaken. Since 1990, slow employment growth has ensured no relief from this apparent crisis. But are we to believe that this is an accurate indication of the unemployment rate? The general consensus seems to be that the unemployment problem in Papua New Guinea is acute. But what is meant by unemployment? Most macroeconomic

textbooks define an unemployed person as one who '...is able and willing to work and is available for work but does not have work' (Parkin and Bade 1986:84). The concept of unemployment for developing countries is often clouded by the various interpretations of the concept 'work.' Are we to consider a person earning income from the informal sector of the economy as employed or unemployed. The answer lies in whether we are to consider the income earning activity as 'work.' Often, people are forced into informal earning activities through necessity due to difficulties in



finding formal sector employment. This characteristic of the labour market is especially important in developing countries because, unlike industrial nations, it is not usual for there to be in force a government-provided social security system for the unemployed, and Papua New Guinea is no exception. Informal income-earning opportunities are thereby taken up as a 'second best' option to formal employment. Those in informal employment are therefore part of the excess supply of labour to formal employment, but it is a common error to define those in informal employment as unemployed (or under-employed). It would be nonsensical to exclude informal employment from the category of 'work' on the basis that the participants have a preference for formal sector employment.

A reasonable definition of 'work' would be any activity such that a person's time is utilised for the purposes of returning an income. This is normally the manner in which we consider the supply of labour in microeconomics. A person operating a street stall selling peanuts would therefore quite reasonably be considered to be employed under this definition—albeit self employed. As reasonable and logical as this definition is, however, it allows for activities to be embraced under the definition of 'work' that could hardly be thought of as work. In particular, consider illegitimate earning activities. For example, a thief, a prostitute or a drug dealer uses their own time for the purpose of obtaining financial reward, so should such activities be considered as 'work'? Illegitimate activities are undertaken in opposition to the state, but the underlying motivation for engaging in such activities is to earn income (see, for example, Becker 1968). No economic reasoning can be used to argue for the exclusion of illegitimate activities as 'work.'

If these interpretations of 'work' and 'unemployment' in Papua New Guinea are accepted, then there is a problem when it comes to international comparisons. Indeed, this interpretation of unemployment is inconsistent with that accepted by the national statisticians of other nations. It is usual in unemployment surveys for respondents to state whether they are employed, and if not, whether they have been actively seeking work. While in economics we might consider illegitimate activities as work, it would be usual for members of the general community to define such activities otherwise. It is therefore inevitably the case that those involved exclusively in illegitimate activities will state that they are not employed and so be classified as unemployed or external to the labour force. This does not provide a hindrance so long as the proportion of people solely engaged in illegitimate livelihoods does not vary significantly across nations and over time. Papua New Guinea, however, has an absolutely exceptional crime problem (see Levantis 1997a:Chapter 3 for an overview of Papua New Guinea's crime problem). If illegitimate activities are included under the banner of 'work' then a realistic measure of unemployment can be derived, but one that is understated compared to our usual interpretations. On the other hand, if this category were to be excluded, as is usually the case, then the unemployment problem may be overstated in relation to other nations because of Papua New Guinea's unusually bad crime problem.

To gain a proper understanding of the unemployment statistic for 1990 we need to examine the manner in which such information was elicited in the census. The Urban Census Form comprised 21 questions and Question 15 asked for the respondent's 'principal economic activity during the last 7 days' (National Statistics Office 1994:393).



One of the following 11 options had to be circled

1. Worked at a wage job (including on leave and temporarily absent)
2. Business with paid help
3. Self employed (including unpaid help)
4. Farming or fishing for food and money
5. Farming or fishing for subsistence only
6. Student
7. Housework
8. Too old or sick
9. Handicapped/disabled
10. Unemployed
11. Others

The census form asked no other questions relating to unemployment or whether the respondent was indeed involved in any economic activity to begin with. Clearly, this manner of determining unemployment was prone to great discrepancies with the economic interpretation of unemployment. This is naturally the case when the onus is on respondents to determine whether they consider themselves to be unemployed. First, disenchanted job seekers are likely to consider themselves unemployed despite no longer actively seeking work. While such people are clearly stating a preference to work, they should be excluded from any labour force statistics. Second, those engaged in some kind of informal activity, whether legitimate or illegitimate, and with a preference for formal employment are prone to consider themselves unemployed. A person with legitimate informal employment should in fact circle the third category, however, this is not likely to be clear to the respondents.

A survey of Papua New Guinea's urban unemployed

To interpret unemployment statistics produced in the 1990 Census properly, a survey was undertaken of those in urban centres who considered themselves to be unemployed. In this way, the survey would capture those that would circle 'unemployed' amongst the choices given in the Census form. The main objective of the survey was to understand the composition of the 'unemployed' by determining the proportions occupied in legitimate or illegitimate informal activity, the proportion that were indeed unemployed in the economic sense, and the proportion not even part of the labour force. The survey was carried out on an interview basis and the method adopted in obtaining respondents was to prearrange community meetings or to approach people randomly on the streets. It was decided to restrict the sample to Port Moresby, Papua New Guinea's largest urban settlement. The sample of 337 was drawn evenly from respondents throughout Port Moresby. The sample, as closely as possible, resembled those that circled the 'unemployed' category of the census. Before participating in the survey respondents were asked if they considered themselves 'unemployed', as was essentially the question asked in the Census. Furthermore, it was reaffirmed that the participants were not full-time students or principally engaged in farming or fishing—categories that were separately stated in the Census.

Questions in the survey probed motivations for migration, period of unemployment and whether work was actively sought. Participants were also asked whether they were a member of a *raskol* gang. Typically, criminals are members of these gangs. *Raskol* gang members were then asked to reveal their



illegal earnings. Earnings information for non-*raskols* was requested, as was the value of weekly family support (or support from *wantoks*), and earnings from informal work. The final question set up a hypothetical scenario for the *raskols* to try and establish how committed they were to being a *raskol*; in particular it was asked what response would be made to a job offer providing a basic unskilled wage.

Results of the survey of urban unemployed

The composition of the unemployed

The estimates derived from the survey results of the true composition of the 'unemployed' (as defined by the 1990 Census) is presented for males and females at Tables 1 and 2. The 'unemployed' by the Census definition is recategorised in these tables according to whether they were truly unemployed by the economic definition, employed in the legitimate informal sector, employed in the illegitimate sector as a prostitute or *raskol*, or not in the workforce at all. All the data in these tables are

adjusted for potential sample biases. Notably, allowances were made to ensure fair representation by suburb and appropriate representation of each age group. The proportions detailed in Tables 1 and 2 of the break up of 'unemployment' by sex are applied to the unemployment results from the 1990 Census for Papua New Guinea's urban centres, and reported at Table 3. An obvious deficiency in applying our results to those of the 1990 Census is that our survey was performed mid-1995. Of course, this problem cannot be overcome so long as there is an absence of more up-to-date unemployment data, so we assume that the proportional break up of the unemployed has not altered since 1990.

A staggering 69.2 per cent of males who considered themselves to be unemployed were in fact earning a livelihood through criminal activities (Table 1). This translates to 19.4 per cent of the entire male urban workforce (Table 3). Not surprisingly, crime was found to have a greater attraction for male youth, comprising 77.7 per cent of the unemployed under the Census definition. A further revelation is that, despite considering themselves to be unemployed,

Table 1 Survey findings of the actual composition of Census defined urban unemployment, males

	< 21 years (per cent)	> 21 years (per cent)	Weighted aggregate
Not in workforce	8.7	3.8	6.1
Unemployed	9.3	19.5	14.7
Informal employment	4.3	15.1	10.1
not formal job seeking	-	5.2	2.8
formal job seeking	4.3	9.9	7.3
<i>Raskols</i>	77.7	61.7	69.2
not formal job seeking	67.1	34.7	49.9
formal job seeking	10.6	27.0	19.3

Source: Author's survey.



Table 2 Survey findings of the actual composition of Census defined urban unemployment, females

	< 21 years (per cent)	> 21 years (per cent)	Weighted aggregate (per cent)
Not in workforce	25.2	5.5	16.4
Unemployed	16.2	18.4	17.2
Informal employment	13.2	38.9	24.7
not formal job seeking	9.9	14.5	11.9
formal job seeking	3.3	24.4	12.7
Prostitutes	42.1	33.5	38.3
not formal job seeking	32.2	16.5	25.2
formal job seeking	9.9	17.0	13.1
<i>Raskols</i>	3.3	3.7	3.5
not formal job seeking	1.7	2.5	2.0
formal job seeking	1.7	1.2	1.5

Source: Author's survey.

less than a third of *raskols* were active in seeking a wage job, and of *raskol* youth, this fell to just 14 per cent. This is particularly insightful when seen against the results of a formal labour market survey performed by Levantis (this issue). In recent years, distorting regulated wages in the formal labour market have been sharply reduced and this was found to have led to strong declines in real wages for unskilled labour. In light of falling wages and the relatively high returns for *raskols*, which we will see in the next section, formal employment is clearly not as attractive a proposition as it used to be. As for the finding that few *raskol* youth are active job seekers, this is consistent with the finding in Levantis (this issue) that, unless they are well educated, youth are faced with very few opportunities in the formal labour force.

A stark finding in these results is the dramatic dichotomy between the activities of 'unemployed' males and females. This is an inevitable consequence of the

continuation of the traditions of pre-contact Papua New Guinea, the implication being that labour activities remain segregated between the sexes and to cross the boundaries of activities established would not normally be socially acceptable. Only 3.5 per cent of females who considered themselves to be unemployed embraced the *raskol* way of living, which translates to just 1.3 per cent of the female urban workforce (Table 3). Crime as a way of living is almost purely a male domain. Prostitution is purely a female domain, being chosen by 38.3 per cent of 'unemployed' females.¹ This translates to 13.6 per cent of the female labour force, but to qualify this, the urban female workforce is still very small, with formal employment for females still gaining acceptance. At 24.7 per cent of female 'unemployment', the other important activity is the various forms of informal employment. Whereas prostitution was the more dominant



Table 3 Aggregate composition of reported urban unemployment

	Males		Females		Total	
	Derived no. 1990	% of workforce	Derived no. 1990	% of workforce	Derived no. 1990	% of workforce
Not in workforce	2,774	n.a.	3,294	n.a.	6,068	n.a.
Unemployed	6,700	4.1	3,449	6.1	10,149	4.6
Informal employment	4,588	2.8	4,958	8.8	9,545	4.4
not formal job seeking	1,261	0.8	2,397	4.3	3,658	1.7
formal job seeking	3,326	2.1	2,561	4.5	5,887	2.7
Prostitutes	-	-	7,686	13.6	7,686	3.5
not formal job seeking	-	-	5,064	9.0	5,064	2.3
formal job seeking	-	-	2,622	4.7	2,622	1.2
<i>Raskols</i>	31,538	19.4	706	1.3	32,243	14.8
not formal job seeking	22,741	14.0	408	0.7	23,149	10.6
formal job seeking	8,797	5.4	297	0.5	9,094	4.2
Total 'unemployed' as reported in 1990 Census	45,600	26.4	20,093	29.8	65,693	27.3
Informal employment, Census	9,176	n.a.	8,902	n.a.	18,078	n.a.
Total informal employment	13,764	8.5	13,860	24.6	27,623	12.6
Urban workforce, 1990 Census	164,939	n.a.	59,668	n.a.	224,607	n.a.
True workforce size, 1990	162,165	n.a.	56,374	n.a.	218,538	n.a.

Notes: 1. The disaggregation of reported male and female unemployment is calculated by applying the proportions for each category at Tables 1 and 2 to 1990 Census data.
 2. The true workforce size is calculated by deducting from the workforce size reported in the 1990 Census the number found to be misclassified as belonging to the workforce.
 3. The unemployment rate reported in the 1990 Census was 29.3 per cent. The number in this table is different as it is the reported unemployment as a percentage of the adjusted workforce size.

Source: Author's survey.

activity amongst young females, older females were more inclined to take on livelihoods in the legitimate informal sector. The informal activities stated included the sale of betel nut, plastic bags, ice blocks, kerosene, vegetables, scones, and the collection of bottles and aluminium cans. Only 10.1 per cent of 'unemployed' males, predominantly older than 21, participated in informal activities. Even then there seemed to be segregation of activities with street vending of foods and betel nut normally a female task and collection of bottles and cans a male task.

In aggregate, 4.4 per cent of the urban workforce were people in informal employment but misclassified as unemployed in the Census. The Census form in fact had provision to allow people to state whether they were in informal employment, however, this was prone to error, as evidenced by the extent of misclassification. Informal employment reported in the Census is added to the amount considered to be incorrectly classified as unemployed to obtain total informal employment (Table 3). In all, 12.6 per cent of the urban workforce was found



to be in legitimate informal employment, which is still less than the level of participation in crime.

In all, 24.7 per cent of those surveyed stated that they did not have any means of earning income apart from the support of *wantoks*. Many of these, particularly female youth, also indicated that they were not actively seeking work. But people who state a preference for work but do not actively seek work would not normally be considered part of the workforce. Out of those that considered themselves unemployed, this leaves just 17.2 per cent of females and 14.7 per cent of males classified as unemployed by the economic definition, the remainder being misclassified. The overall unemployment rate will therefore be just 4.6 per cent (Table 3), in stark contrast to the 29.3 per cent reported by the National Statistics Office. This unemployment rate is normally associated with full employment, a finding that for many would be difficult to accept. But in the absence of a social security system, this should be the only logical finding and confirms that the need to find income will drive people to find whatever alternative means are available in the event that formal employment cannot be attained.

A second reason why this unemployment rate will be difficult to understand is that it is not usual for the layperson (or the economist) to consider those engaged in illegitimate means of earning income as employed. Under an alternative interpretation with actively job-seeking *raskols* and prostitutes added to the unemployment numbers, the unemployment rate for Papua New Guinea would be 11.5 per cent.² A possible justification for quoting this as the unemployment rate is that we are excluding activities that are unproductive and merely redistributive, and/or create strong negative externalities. To be consistent with most reported unemployment statistics, however,

we would even exclude informal employment from our definition in which case the unemployment rate would be 14.9 per cent. Herein lies the dilemma—the unemployment rate differs dramatically according to the definition followed. Table 4 summarises the unemployment rate in Papua New Guinea's urban centres across the various definitions.

The earnings of the unemployed

A feature of the survey is the inclusion of questions probing the earnings of the respondents. Once the good intentions of the survey were established the respondents, rather surprisingly one might add, seemed all too eager to divulge such information, particularly if one was to sympathise with the prevailing 'anti politician' sentiments. For information on earnings of 'non-*raskols*' by sex see Table 5, while Table 6 details the earnings of *raskols*, disaggregated according to age group. Earnings from *wantoks*, which predominantly comprised support from parents, and earnings for those involved in income generating activities are shown at Table 5. A complication arises for *wantok* earnings, particularly for those earning additional money from prostitution or informal activities, because it is not clear whether these are gross or net of reciprocal payments to *wantoks*. It would be reasonable to assume that the earnings referred to are gross since the theme of the survey question is to reveal information with respect to how much income is received to the exclusion of questions as to how this income is spent.

A clear pattern emerges in these results where the average earnings of those active in seeking formal employment tend to be lower than for those that are not active. This is to be expected as the better-off one is in their current activity relative to formal employment, the less incentive there would be to seek a formal job. Genuinely



Table 4 Unemployment in Papua New Guinea's urban centres by unemployment definition (per cent)

Definition of unemployment	Rate (per cent)
1. Those searching any legal or illegal employment	4.6
2. Those searching any legal employment (exclude illegal sector as form of work)	11.5
3. Those searching formal employment (exclude illegal and informal sector as form of work)	14.9
4. Census definition	29.3

Source: Author's survey.

unemployed people, for example, receive *wantok* support of K29.77³ per week on average, compared with K34.27 for those not in employment and not in the workforce. The contrast is even greater among those active in earning an income. Average earnings for job seekers exceed those for people not job seeking by K10.17 per week for prostitutes and K16.92 for the informally employed. Particularly interesting is the earnings of non-*raskols* compared to the new national minimum wage of K22.96 introduced by the 1992 Minimum Wages Board and discussed in Levantis (this issue). Even for the genuinely unemployed, average earnings due to transfers from *wantoks* exceed this minimum. It is no wonder then that the adjustments to the formal wage rates discussed in Levantis (this issue) came nowhere near the new minimum so that it is far from a binding rate. Average earnings in informal employment are K41.17 per week, far in excess of the national minimum. The average wage for formal unskilled labour was more than double the national minimum at K56.02 per week for 1995. Whereas this rate is also significantly higher than the average earnings in the informal sector, the informally employed that were not job

seekers earned K51.81 per week, just a little less than that available in the formal sector (Table 5). It is hardly surprising then that this group of people were not motivated to search for formal employment. Between males and females in informal employment there is a clear dichotomy in earnings. Whereas, on average, K44.99 is earned by males, this falls to just K32.52 for females. The lower earnings of females were countered to some degree by the greater support received from *wantoks*. Average earnings for prostitutes (K39.83) were found to be less than that for informally employed people in aggregate, though a little higher than for informally employed females. Nevertheless, one would have expected a larger premium would be commanded for prostitutes, not only because of the unpalatable nature of the profession, but the occupational hazards, such as the health concerns and the risks of violence, and the risks of state reprisal.

Ascertaining the earnings for *raskols* was complicated by the fact that such earnings inevitably include a combination of cash (due to theft of cash and goods which are sold) and commodities (kept and not sold). Revelations from some indicated that clothes, food and household



appliances were common targets that were normally kept. If it is preferred that stolen goods be sold then an appropriate black market is apparently active. In fact, it was revealed that many thefts were carried out 'by order'. Such is the development of the *raskol* gangs as units of organised crime that it seems that international orders for things such as jewellery or cars (for parts) are filled (see Harris 1988 for an insightful discussion on the workings of *raskol* gangs in Papua New Guinea). It was asked of the *raskols* in the survey to estimate separately their average weekly cash earnings and earnings in kind. Particular difficulty was anticipated with the latter question because respondents were implicitly asked to price the items stolen and kept. Does one price at replacement cost, second hand market prices, or black market prices? The onus was on respondents to decide what they thought the value of such goods were. The earnings in kind were found to average K30.57 per week (Table 6), but the pricing problem means that one should interpret this result with some caution, particularly

as it was found that respondents would typically encounter difficulty in answering this question.

It is apparent that those over 21 tend to earn more from *raskol* activities than those under 21 and this should not be surprising. What is unexpected, however, is the proximity of the earnings of job seekers to those not searching for formal employment opportunities. The gap between these two categories tended to be much larger for non-*raskols*. Nevertheless, we still have the sensible result that job seekers are those that are less successful as criminals. Cash earnings in all averaged K37.70 per week bringing total earnings to K68.27 per week. This is significantly higher than the earnings in informal activities and for prostitutes, and is even significantly higher than the average formal wage of K56.02. This seemingly high return for *raskols* is likely to be reflective of a premium required to compensate for such factors as the risk associated with the activity and the negative implications for one's self esteem and status for participating in unpalatable

Table 5 Average earnings of non-*raskols* (kina per week)

	Females			Males			Weighted total		
	Wantoks	Other	Total	Wantoks	Other	Total	Wantoks	Other	Total
Not in workforce	28.37	-	28.37	36.87	-	36.87	34.27	-	34.27
Unemployed	27.53	-	27.53	30.76	-	30.76	29.77	-	29.77
Informal, not job seeking	20.67	32.00	52.67	10.16	60.54	70.70	13.38	51.81	65.19
Informal, job seeking	11.39	31.46	42.85	8.71	36.40	45.11	9.53	34.89	44.42
Total informal employment	16.00	32.52	48.52	10.42	44.99	55.41	12.13	41.17	53.30
Prostitutes, not job seeking	11.99	42.48	54.47	-	-	-	11.99	42.48	54.47
Prostitutes, job seeking	1.51	32.31	33.82	-	-	-	1.51	32.31	33.82
Total prostitutes	10.42	39.83	50.25	-	-	-	10.42	39.83	50.25

Note: the 'other' columns refer to earnings from income generating activities, which in this table includes prostitution and informal employment.

Source: Author's survey.

Table 6 Average earnings of *raskols* (kina per week)

	Under 21			Over 21			Weighted average		
	Money	In kind	Total	Money	In kind	Total	Money	In kind	Total
Non-job seekers	35.54	27.52	63.06	41.29	32.10	73.39	38.59	29.95	68.54
Job seekers	34.17	24.84	59.01	36.35	33.18	69.53	35.33	29.26	64.59
Weighted total	36.30	28.32	64.62	38.93	32.57	71.50	37.70	30.57	68.27

Source: Author's survey.

acts. In any case, with good rewards relative to formal employment, it is understandable why crime has become a popular activity in Papua New Guinea's urban centres and why so few *raskols* actively seek formal employment. This is a telling story as it suggests to policymakers that the only way to properly deal with the crime problem is to impact upon the rewards for *raskols*.

The choice of formal employment for *raskols*

The final question of the survey form set up a hypothetical scenario where *raskols* were asked to state their response in the event that employment was offered paying K60 per week. This was approximately the prevailing rate paid in urban centres for formal unskilled labour. So determining the

extent to which *raskols* would accept the alternative legitimate means of income provided for an interesting question. The results are disaggregated between those earning more and earning less than K70 per week as a *raskol* (Table 7). This cut-off point was used because there were few respondents earning less than K60 per week.

At 71.7 per cent, by far the majority of *raskols* stated that they would give up criminal activity if a job paying K60 per week was received. It is reasonable to infer that an alternative informal activity offering K60 would also be accepted. This is at odds with the findings from Table 1 that by far the majority of *raskols* are not active in seeking formal employment and lends great credence to the notion that crime is prevalent because of the lack of

Table 7 Response of *raskols* to a job offer of 60 kina per week (per cent)

	<i>Raskols</i> earning less than K70 p/w	<i>Raskols</i> earning more than K70 p/w	<i>Raskols</i> in total
Take job and give up <i>raskol</i> activities	81.5	67.0	71.7
Take job and continue <i>raskol</i> activities	11.1	11.6	11.4
Not take job	7.4	21.4	16.9

Source: Author's survey.



alternative opportunities, not just in formal employment, but in the informal sector too. The respondents were often keen to let it be known that blame for their involvement in crime should be directed towards the government for not providing alternative means of income. It has already been suggested that a *raskol* would require a premium in expected returns because of the risks involved and the unpalatable nature of the activity. For this reason it should not be surprising to find *raskols* preferring employment at K60 even when it is less than their current earnings. But there is likely to be some bias in these results due to people preferring to portray themselves as good citizens who are driven into crime by necessity. Put another way, it is suggested that bias has emerged because the outwardly moral view, on which the response to the survey is probably based, is likely to exaggerate the reality within. Despite the presumed presence of this bias we nevertheless see a clear pattern in Table 7 with those earning beyond K70 per week less likely to forego *raskol* activities for formal employment. Particularly enlightening in these results is that, of those choosing to maintain their *raskol* activities, 60 per cent preferred to keep it as their exclusive activity rather than use it as a sideline along with formal employment. This lends support to the presumption here that *raskol* activities constitute an employment category of its own.

Concluding remarks

The results of this survey confirm the horrific crime problem that Papua New Guinea faces. One should not be complacent and interpret the results in a positive light. This is easy to do, after all, *raskols* are doing what the government is unable to do and are redistributing income to the less fortunate who are unable to find

formal employment. Indeed, the market has found a way of supporting those in excess supply to the formal labour market, but the negative externalities associated with this form of social security are enormous. Not only are there the mental and sometimes physical costs the victims sustain, but this level of crime also has the impact of stifling any potential growth in output or employment. With the increase in the crime problem in Papua New Guinea, the environment has become less and less conducive to good business. Many have left, others baulked at the prospect of setting up businesses in Papua New Guinea, with devastating consequences for Papua New Guinea's prospects for employment growth. In the 27 years from 1968 to 1995, private sector employment in urban centres grew just 6.5 per cent in aggregate, and most of that was after the 1992 labour market deregulations (Levantis, this issue). The situation could be described as a spiral of disaster. As crime increases, the business environment deteriorates, formal employment prospects are affected causing increases in labour surplus to formal employment and further increases in crime, and so on. It would seem from our results that crime is now so well established that, despite the extraordinary level of participation, it could hardly be thought of as labour in excess of supply to the formal labour market.

So what can be done? Clearly the creation of new employment opportunities will do little to stifle crime so long as the returns to crime are so high. If the policymakers' objective is to deal with the twin issues of stagnation in employment growth and crime, then the remedy must be to attack crime directly, that is, impact upon the attractiveness of crime as a way to earn a living. The most obvious way of doing this is to dramatically increase police and penal resources and efficiency as suggested in Levantis and Chand (1997). With the increased probability of



sanction, the expected benefits for criminals will decline. Only then will people move out of crime and the direction within the spiral of disaster can be reversed.

Notes

Further information on the survey form is available from the author.

- ¹ On *Witness*, an Australian current affairs program (9 July 1996), it was claimed that Port Moresby alone had 15,000 prostitutes. Although the valid point is made that this is an environment where prostitution is widespread, the claim is clearly an exaggeration as it is nearly double the number reported at Table 3 for all of Papua New Guinea's urban centres.
- ² Calculated by adding to unemployment *raskols* and prostitutes actively job seeking, and subtracting from the workforce *raskols* and prostitutes not job seeking.
- ³ The exchange rate is approximately A\$0.95/kina.

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