The potential for export processing zones:

lessons from East Asia

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The experience of East and Southeast Asia confirms that the role of export processing zones in promoting manufactured exports is at best minor; the effective means of promoting exports is to ensure that the economic policy environment within the country is conducive to efficient production for export. This paper reviews the features of government policy most likely to contribute to export promotion. The potential for export processing zones in the Pacific island countries is reviewed in light of this background. It is concluded that the Pacific countries are unlikely to be able to attract internationally mobile, labour-intensive manufacturing firms to invest in the zones unless these firms are heavily subsidised and/or given access to highly protected domestic markets. Either of these outcomes would be undesirable.

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Many countries have set aside special tax-free areas within their industrial sectors to encourage manufacturing for export. These zones have been given a variety of names, including Tax Free Zones, Free Export Zones, and Free Trade Zones, but they are most commonly known as export processing zones. Some Pacific island countries are now expressing a strong interest in using zones to promote the development of their own manufactured exports. Notable examples include Papua New Guinea and Tonga. Fiji has already introduced closely related policies. This paper reviews the potential for export processing zones to contribute to the development of the Pacific island economies.

Export processing zones are special enclaves, effectively outside a nation's normal customs barriers. Within them firms, mostly foreign manufacturers, enjoy favoured treatment on the import of intermediate goods, company taxation, provision of infrastructure, and freedom from industrial regulations applying elsewhere in the country. Although the details of these provisions vary, a universal feature is the almost complete absence of taxation and regulation of imports of intermediate goods into the zones. These privileges are subject to the conditions that almost all the output of zone firms is exported and that all imported raw materials and intermediate goods are fully used within the zones or are re-exported.

The desire of the Pacific island countries to reduce their dependence on foreign aid and on imports of manufactured goods is understandable. Nevertheless, zones are not necessarily a cost-effective way of pursuing those objectives. It is argued here that the experience of countries which have already established export processing zones is highly relevant for the planning decisions of the Pacific island countries. This experience suggests that some of the hopes recently expressed for the benefits the zones may generate for the Pacific countries are unrealistic. Moreover, experience elsewhere has shown that the economic costs of establishing export processing zones are often much greater than initially expected.

The economics of export processing zones should therefore be evaluated carefully before large amounts of scarce public resources are committed to them. The creation of zones could lead to disappointment if the lessons available from other countries' experience are not considered.

The examples of countries attempting to use export processing zones as instruments of export promotion include both successfully developed export-oriented manufacturing sectors (Korea, Taiwan and Malaysia) and less successful efforts (India, Sri Lanka, the Philippines, several Latin American and Caribbean countries and some countries in Africa). Some of the countries which have become examples of successful export-led growth introduced export processing zones early in the development of their manufactured exports. It is significant that in all such cases the reliance on zones as vehicles for export promotion has subsequently fallen away. It is only in countries where the development of manufactured exports outside the zones has largely failed that the zones have continued to be seen as important instruments for export promotion.

Among the countries which have succeeded in manufactured export promotion the change in attitude toward export processing zones has reflected disappointment with the actual economic benefits in relation to the costs incurred in their establishment and operation. Upon re-evaluation of the zones' contributions to economic development there has been a recognition that successful promotion of manufactured exports has been overwhelmingly attributable to the general economic policy environment within which manufacturing firms normally operate and had very little to do with the operation of special enclaves.

The experience of East and Southeast Asia confirms that the role of export processing zones in promoting manufactured exports is at best minor; the most effective means of promoting exports is to ensure that the economic policy environment within the country is conducive to efficient production for export. This paper reviews both the potential for zones in the Pacific island countries and the features of government policy most likely to contribute to export promotion.

The nature of export processing zones

Many of the export processing zones operating today, especially those in Asia, were constructed in the early 1970s. By the early 1980s approximately 35 existed in Asia alone, with an aggregate employment of at least a quarter of a million (United Nations 1985). Globally, their importance was probably more than double this figure and is considerably larger today.

In its standard textbook form, international trade theory treats factors of production - capital, labour, land - as immobile internationally but mobile domestically. In contrast, final commodities are considered mobile, across as well as within international boundaries. This assumption is increasingly unrealistic in the modern world. Zones exploit the international mobility of capital goods owned by internationally 'footloose' manufacturing firms. Export processing zones are essentially devices for attracting these firms and their capital equipment into the host country where the capital goods are combined with domestic labour (relatively immobile internationally) to produce traded goods which the firm exports. The firm tries to move its capital equipment to countries in which they can earn the highest rate of return.

In essence this process can be viewed as an indirect form of labour export. The foreign firm producing within the zones receives the services of domestic labour. In return, the domestic workers receive wages and some training. Not surprisingly, many of the countries establishing zones have also engaged in the direct export of temporary labour to the Middle East and elsewhere. In the case of export processing zones, the capital goods move where the labour is; with direct labour export, the movements are reversed.

The economic activities occurring within zones have been primarily labour-intensive light manufacturing processes such as electronics assembly, garment production, and assembly of light electrical goods. A notable feature of the firms which choose to produce within the zones is their international mobility. Turnover is high and firms leaving an export processing zone in one country often migrate to a zone in another, in which conditions are more favourable.

Economic background

In the early 1970s, Japan's relaxation of restrictions on investment abroad led to competition among Asian countries hoping to attract these and similar foreign investments. Attracting investment in light manufacturing activities, intensive in the use of unskilled and/or semi-skilled labour was the target. These are activities in which low wage countries possess a potential cost advantage and which are capable of being transported internationally at low cost. The export processing zone was an economic environment specially designed to attract these 'footloose' activities.

Most of the potential host countries already possessed protected manufacturing sectors and had experimented unsuccessfully with import substitution-based industrialisation policies. It was becoming clear that these inward looking policies had discouraged export-oriented manufacturing and foreign investment. The potential gains of exchange earnings and employment creation from a more export-oriented strategy were being forgone.

Export processing zones appeared to provide the opportunity for some of the advantages of export promotion to be realised without threatening the position of the existing, politically powerful manufacturing sectors. This provided the second major attraction of the zones concept: it left the protection of domestic industries intact. Export-oriented firms were offered an economic environment free of many of the barriers to trade and industrial regulations characterising domestic environments, on condition that all their output was to be sold abroad. Production would take place within enclaves designed both to attract export-oriented light manufacturing firms and to shield domestic firms from competition.

Characteristics of export processing zones

The detailed characteristics of export processing zones vary, but four features are almost universal. The following account provides a simplified description of the 'typical' zone.

Duty-free import of raw materials

Raw materials required for the production of exports may be imported duty-free and without quantitative restrictions which apply within the domestic economy. Products may be exported without payment of export taxes or sales duties. Zones may be physically located anywhere within the host country, but the processing activities undertaken within them occur 'outside' the country in so far as the jurisdiction of normal customs provisions is concerned.

Although goods produced within zones normally may not be sold within the domestic economy, when consignments are rejected by foreign buyers or fail to meet delivery deadlines, permission can be given for domestic sale. Sales of this kind simply displace imports which could have occurred from other sources and they usually attract normal customs duties.

Zone firms' purchases of raw materials and intermediate goods from within the domestic economy are frequently subsidised in an attempt to encourage backward linkages with the domestic economy. The subsidies, commonly called 'rebates' or 'drawbacks', are intended to counteract the effects of domestic protection. The rates of subsidy are in principle equal to the tax (import duty, excise tax, sales tax) component of the domestic prices of these goods. In the early 1970s it was hoped that linkages of this kind would generate substantial benefits to the local economy both because the social cost of producing these goods was below their market prices and because commercial contact between domestic suppliers and zone firms would benefit the former through technology transfer.

Company income tax holidays

Temporary exemptions from normal income tax provisions are frequently offered, with an official duration of three to ten years. It is common for zone firms to negotiate successfully for continuation of these tax holidays long beyond their official expiration by threatening to relocate in another country. Once relocated, the firm's tax-free holiday begins again.

The Philippines offers a generous schedule of deductions instead of income tax holidays. Very little tax revenue has been raised from the Philippine export processing zones because most firms declare overall trading losses. Some firms have declared annual losses for over a decade while still producing and even expanding operations considerably. It is understood that vertically integrated firms utilise transfer pricing to relocate their profits internationally. Minimisation of global tax burdens and the avoidance of political risk motivate this behaviour. The Philippines' experience suggests that check-pricing methods to monitor transfer pricing are ineffective and that tax holidays are less important than they may appear.

Streamlined administration

Zone firms are usually provided with streamlined customs documentation requirements for imported raw materials and capital goods and exported final products. A separate adminstrative branch has often been created to mediate between zone firms and the government. The aim is to reduce zone firms' administrative costs and to prevent unnecessary delays. The degree to which these bodies are empowered to act on behalf of the government varies, but other departments can resent interference with their 'normal' functions and become uncooperative with the zone bodies.

Regulations applying within the domestic economy but from which zone firms are exempted typically include: restrictions on foreign ownership of firms (zone firms are usually allowed to be fully foreign-owned); restrictions on repatriation of profits; restrictions on the employment of foreign nationals in managerial, supervisory and technical roles; and requirements for special approvals for the importation and installation of labour-saving capital equipment. Zone firms also may be granted access to the host country's allocation of import quotas. This is very important for garment producers wishing to export to the European Economic Community.

Infrastructure and utilities

A zone consists of a heavily fenced area with a perimeter and gates policed by customs officials to prevent the smuggling of duty-free materials into the domestic economy. While infrastructure facilities such as roads, telephone and telex communications are normally superior to those outside, they are generally inferior to those found in the industrial areas of industrial countries.

Utilities are often subsidised. Electricity tariffs are especially important in this regard because light manufacturing enterprises are heavy users of electrical power. Rates charged within export processing zones are frequently below, and never above, industrial rates elsewhere in the host country. Export processing zones usually include standard-construction factory buildings, constructed and managed by government authorities, within which investing firms may rent floor space. Rental rates are generally lower than commercial industrial rates elsewhere within the country. Alternatively, firms may lease land within the zone and construct their own buildings. If they leave the zone, firms may sell or lease these buildings.

Zone performance in East Asia

At the time export processing zones were becoming popular, in the early 1970s, the governments establishing them almost invariably mentioned three objectives: foreign exchange earnings, employment and technology transfer. The following account of the performance of the zones in relation to these three objectives draws on the author's studies in four countries: Malaysia, Indonesia, the Philippines and Korea.

Competition among host countries for "footloose" processing activities meant that individual countries generally found it more difficult to attract this kind of investment than they had expected. Nevertheless, to the extent that firms were attracted, the first two objectives of the zones were met. The zones have contributed significantly to the employment of unskilled and semi-skilled workers. Moreover, the conversion of foreign exchange into the domestic currency that was necessary to pay these workers contributed to the host countries' foreign exchange earnings. Indirectly, zone workers were being paid in foreign exchange.

The export processing zones are generally isolated from the domestic economy. The substantial gains from 'technology transfer' that were initially sought have not occurred. It had been hoped that the commercial contacts between zone firms and the domestic economy would lead to externalities of this sort, and benefit domestic firms. The use of domestic raw materials by zones has not been significant however, and these linkages have generally been in areas where 'technology transfer' is not particularly likely.

Export processing zone firms have made little contribution to tax revenue. This has been equally true in countries which have granted company income tax holidays and those which have not. In the latter case (the Philippines) transfer pricing practices have been used to minimise the firms' global tax burdens.

The example of the Philippines shows that limited benefits can be extremely costly. The Philippines' first and largest zone, Bataan, was a vehicle for regional decentralisation. The infrastructure costs of construction in the isolated site chosen were very high. Moreover, to attract foreign firms into the zone, the government granted zone firms preferential access to the Philippines' capital market at suppressed interest rates and with government loan guarantees. Not surprisingly, most of the firms' investments in the zone - over 90% - were financed in this way (Warr 1987). The subsidy that was implicit in this policy led to a heavy social cost for the Philippines.

In contrast, the example of Malaysia shows that zones can be constructed and operated at relatively low cost. The Malaysian and Korean examples show that, viewed as public investments, zones can yield acceptable social rates of return.

In these benefit-cost calculations all other policy instruments, and in particular all other instruments of trade policy, are held constant. It is possible to analyse the zones in this partial manner, but this exercise raises the question of whether it would have been possible to achieve the benefits in another, more cost-effective way.

Duty free importation of raw materials and intermediate goods is not the only attraction of the zones. Reduced 'red tape', through the simplification of customs procedures, clarification or elimination of regulations, and the upgrading of industrial infrastructure are also important. There is no necessity to confine these provisions to export processing zones. A point that managers of foreign firms mention frequently is the importance of stable and clear domestic policies to their decision making. This obviously applies as much outside the zones as within. Most of the features that have enabled zones to attract foreign investment could be applied outside the zones, with similar effectiveness, and without establishing new special enclaves.

The features of the domestic economy which impede foreign investment, and which zones are intended partly to counteract, also impede the development of efficient domestic industries. To the extent that a liberalised environment within the zones deflects attention from these matters, the net outcome could be worse than what would have occurred in the absence of the zones.

The benefits from export processing zones are limited. They are definitely not 'engines of development'. For countries in the early stages of development, the zones can provide an efficient and productive means of absorbing surplus labour. Even then, the zones could never be expected to provide more than a modest part of the solution to the vast employment problems of these countries. Export processing zones also expose the domestic business community to examples of internationally competitive industrial enterprises and this demonstration effect is undoubtedly valuable, especially in the early stages of industrialisation, as are the externalities arising from the on-the-job training of local middle-level managers. In the early 1970s, when the zones were being founded, high expectations were often voiced for these kinds of external benefits. It is difficult to assemble hard evidence on these matters but close observers, including zone administrators themselves, generally consider that these expectations have been realised only partially at best.

As industrial development proceeds, and the surplus labour which characterised the earlier stages of industrialisation is absorbed, interest in zones tends to wane. Taiwan and Korea, having been pioneers in the establishment of export processing zones in the late 1960s and early 1970s, have more recently become considerably less interested in this type of enclave development. Perhaps in the next couple of decades a similar change of attitude can be expected in many of the developing countries now actively promoting zones. Other developing countries, currently thought of as being pre-industrial, will presumably replace them.

Zones and trade policy

Zones always permit the duty-free import of raw materials and intermediate goods. In recent years, several of the countries have extended this provision to firms producing for export but located outside the zones. Duty-free raw materials are held in bond on the factory site until required for production. The Philippines, Malaysia, and Korea each provide good examples and Fiji has already introduced a similar measure, called the Tax Free Factory scheme. This change of policy undermines the advantages of zones to some extent but it also reveals that construction of expensive special zones is not necessary for the duty-free characteristic of zones to be made available to other firms, whether they are producing for export or not.

Export processing zones can interact with trade policy in counterproductive ways. If an export processing zone is constructed and the subsequent flow of foreign investment into it proves to be less than expected, the zone can remain visibly underutilised for some time. This can become a political embarrassment for the planning authorities generating the temptation to provide whatever subsidies are required to induce foreign or domestic firms to occupy the zone. This is most likely to take the form of privileged access to the domestic market. 'Made-to measure' protective tariffs or import quotas may be introduced to ensure that production within the zone will be profitable.

There have been several examples of this chain of events in Southeast Asia and South Asia. When this happens the intended purpose of the zone is defeated and the zone turns out to be used for inward-looking import-substitution activities. Indeed, because protection of one sector impedes the development of exports elsewhere, in such cases the zone becomes an obstacle to the efficient development of exports, rather than a means of promoting them.

The policy environment of export promotion

How can government policy contribute to the efficient development of manufactured export capability?

Realistic exchange rates

Exchange rate policy directly affects the prices of internationally traded commodities, (tradables) relative to those commodities which are not traded internationally (non-tradables). For an industry competing in export markets, the exchange rate is critical. The prices received for exported outputs depend on international prices, export taxes, if any, and the exchange rate. Costs of production depend on these factors also, to the extent that traded intermediate goods are used in the production process, but they also depend on the prices of non-tradables.

Over-valuation of the exchange rate - the refusal to devalue the nominal exchange rate even though the present rate is producing unsustainable current account deficits - lowers the domestic price of tradables relative to non-tradables. This lowers the price received by exporting firms relative to cost. The capacity of export-oriented firms to compete in international markets is quickly destroyed by persistent exchange rate over-valuation (Siwatibau 1993).

Stable macroeconomic policies

Closely related to the role of exchange rate policy is the rate of inflation. If inflation is low and predictable, firms can plan and invest in the confidence that they have reasonable knowledge of the prices they will receive for future output relative to the costs they will face. High inflation puts great pressure on exchange rate policy. Nothing can destroy the competitiveness of exporters more quickly than high inflation domestically combined with a rigid exchange rate policy. High inflation raises costs, whereas exchange rate rigidity holds down returns.

A good example of the importance of macroeconomic stability is provided by the comparison of export-oriented manufacturing development in Thailand and the Philippines through the late 1970s and the 1980s. The two countries had similar economies and similar external opportunities in the mid-1970s. The governments of both countries were anxious to promote manufactured exports. Thailand succeeded handsomely and the Philippines largely failed. A major part of the explanation for the different outcomes is the more stable and predictable macroeconomic environment that was achieved in Thailand (low inflation and relative exchange rate stability) compared with macroeconomic chaos in the Philippines.

Free trade environment

When one segment of manufacturing is protected against competition from imports, the exporting segments, or those which are potential exporters, are disadvantaged. The mechanisms through which this effect operates include the familiar one of raising the costs of intermediate inputs used in export production. To the extent that imports of these goods are subject to tariff or quota barriers, their domestic prices are raised, to the disadvantage of exporters who depend on them. Duty exemptions and drawback schemes are designed to offset this problem. They are not identical. The speed and efficiency with which drawback schemes are administered is a key to their success.

It is important to realise that no matter how efficiently drawback or exemption schemes operate they are not equivalent to providing a free trade environment for exporters. The prices of non-tradable inputs are also affected indirectly by protection and so are the wages exporters must pay to attract labour. Input-output techniques are sometimes used to compute the first of these effects. This is done in both Taiwan and Korea, but as no allowance is made for the effect that protection has on wages, the 'compensation' of exporters for the effects of protection remains incomplete.

Competitive labour markets

Firms producing for export in China complain that restrictions on capacity to hire and fire labour reduce their flexibility, and impede their capacity to compete. Firms producing in Bataan in the Philippines also cite labour relations problems, and the difficulty of meeting labour regulations, as a major source of inefficiency. The effect is that, while the social opportunity cost of labour may be low, this does not translate into low labour costs for exporting firms. Thailand is an example of a country with competitive labour markets in the manufacturing sector. This feature of Thailand's economic environment has played a major role in its export success. Korea and Taiwan are countries with weak trade unions and limited job security in their manufacturing sector. Yet, as a result of rapid growth led by exports of manufactured goods, real wages in those countries have risen several times faster than in slower growing neighbouring countries.

Infrastructure

When infrastructure becomes congested, manufacturing for export is soon affected. Thailand in the late 1980s and early 1990s provides a good example. Congestion of roads, telecommunications and ports became critical as manufactured exports boomed, simultaneously with a slowdown in public expenditure on infrastructure. The slowdown in public spending was not without reason. By 1985 Thailand had a serious problem of an excessive budgetary deficit, coinciding with a current account deficit which Thailand's conservative economic managers judged to be unsustainable. The response was to cut public spending, particularly public investment spending, rather than to reform Thailand's inadequate tax system. As a result, in the early 1990s Thailand was losing investment, especially foreign investment, to

Malaysia, where public infrastructure was better.

Will export processing zones benefit the Pacific countries?

Many countries, in Asia and elsewhere, have now established export processing zones. Many of these countries have been disappointed with the results. In establishing zones and thereby attempting to attract internationally mobile, labour-intensive manufacturing firms into these zones, the Pacific island countries would be in competition with the low-wage 'surplus labour' economies of South and Southeast Asia, themselves competing fiercely with one another to attract these firms.

The shortages of skilled labour and high transport costs which have impeded manufacturing development in the Pacific would also be major obstacles in attracting these firms. The Pacific island economies are generally not low wage by Asian standards (World Bank 1991; Stein 1991). Their high rates of public investment combined with low growth rates suggest that this public investment has not been as efficient in the past as it might have been (Lim 1993). The Pacific countries would therefore be at a significant competitive disadvantage in attracting the inflows of foreign investment that are a precondition for the success of zones.

Moreover, the establishment of zones requires large 'up front' investments in infrastructure and administrative structures. There is a danger that the zones so established would be underutilized, thereby creating pressures for levels of subsidy and/or protection, at the expense of domestic taxpayers and consumers; levels that would have been considered unacceptable had the difficulties of filling the zones been anticipated when the zone proposals were first considered.

Rather than invest large sums of public funds in establishing export processing zones, the Pacific countries could promote development of their export sectors more effectively by reviewing critically the features of the current domestic policy environment impeding efficient expansion of exports.

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