Export-Led Growth: Evidence of Developing Country Crowding-out

Abstract

Over the last two decades there has been a dramatic shift in the stance of development policy with import-substitution being replaced by the export-led growth. A significant concern with this latter model is that it may risk turning global growth into a zero-sum game. This can happen if one country's export growth comes by poaching of domestic demand elsewhere or by displacing exports of other countries. This paper tests the export displacement hypothesis by analyzing the changing pattern of U.S. imports. The evidence shows that there is significant cross-country crowding out, with exports to the U.S. from the four East Asian tiger economies (Taiwan, South Korea, Hong Kong, Singapore) being subject to a large crowding out effect from China. Japanese exports to the U.S. have also become subject to a large crowding out effect from Mexico.

Key words: Export-led growth, export displacement.

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Thomas I. Palley
Director, Globalization Reform Project
Open Society Institute
Washington, DC 20036
e-mail: tpalley@osi-dc.org

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I Introduction: the rise and possible fall of the export-led growth model

Over the last two decades there has been a dramatic shift in the stance of development policy. Through to the mid-1970s development policy rested on the import-substitution model which encouraged countries to build up their own domestic manufacturing capacity and substitute domestically produced goods for imports. In the period since policy has shifted in favor of the export-led growth model which recommends the exact opposite. Rather than focusing on production for domestic markets, countries are now advised to focus on production for export.

This shift away from import-substitution toward the export-led growth was driven significantly by the economic troubles that emerged in the 1970s. At that time many developing countries, who had prospered under regimes of import-substitution, began to experience slower growth and accelerated inflation. This led to claims that the import-substitution model had exhausted itself, and that the easy possibilities for growth by substitution had been used up.[1] A second factor fostering adoption of the export-led model was the shift in intellectual outlook amongst economists in favor of market directed economic activity. Import-substitution requires government provided tariff and quota protections, and economists increasingly came to portray these measures as economic distortions that contribute to productive inefficiency and rent-seeking. Finally, the shift in policy stance was also propelled by the empirical fact of Japan's spectacular success in growing its economy in the twenty five years after World War II, and by the subsequent growth success of the four east Asian "tiger" economies - South Korea, Taiwan, Hong Kong, and Singapore. All of these economies relied on increased exports, and their success is evidenced in table 1 which shows the rapid growth rates they achieved into the mid-1990s.[2]

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[1]. The intellectual shift away from import substitution has parallels with the shift away from the negatively sloped Phillips curve. In developing countries, the problems unleashed by the oil price increase were interpreted as proof of the failure of import substitution. In industrialized countries, the inflationary dislocations caused by the oil price shocks were interpreted as proof of the non-existence of a Phillips curve trade-off. The Phillips curve is now making a revival in industrialized countries. A revival of the import-substitution model may be just around the corner.

[2]. Though export-led growth is proclaimed as the cause of success of the four east Asian tigers,

As a result of these factors, export-led growth has become the standard model of development that the IMF recommends to all its client countries. With seventy-five developing countries (Sachs 1998) now subject to permanent IMF programs, this means it has become the *de facto* global development model. Yet, even as the export-led growth model has been increasingly applied around the world, world economic growth has slowed - and this is especially so in low and middle income countries. This can be seen from inspection of table 2 which shows that world growth in the period 1990 - 1996 was slower than the period 1980 - 1989, which in turn was slower than the period 1965 - 1980.

This deterioration in economic performance has opened the export-led growth model to challenge, just as it had earlier challenged the import-substitution model. The current paper explores the theoretical critiques of the model, and provides some new empirical evidence that supports these critiques. The core theoretical criticism is that the export-led growth model suffers from a fallacy of composition whereby it assumes that all countries can grow by relying on demand growth in other countries. When the model is applied globally in a demand-constrained world, there is a danger of a beggar-thy-neighbor outcome in which all try to grow on the backs of demand expansion in other countries, and the result is global excess supply and deflation. In this connection, it is not exporting *per se* that is the problem, but rather making exports the focus of development. Countries will still need to export to pay for their imported capital and intermediate goods needs, but exporting should be organized so as to maximize its contribution to domestic development and not viewed as an end in itself.

The arguments in the paper are linked to the Prebisch (1950) - Singer (1950) controversy over declining commodity terms of trade. Recent studies, surveyed in Sapsford and Singer (1998), report that the Prebisch - Singer hypothesis continues to be supported by recent data. In a sense

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the reality is that these countries used an export-led growth strategy in conjunction with industrial policies that targeted specific sectors for development and had elements of import substitution. Amsden (1989) forcefully documents the case of Korea, but the claim holds equally for Japan before that. And in the 19th century, the successful industrialization of both Germany and the U.S. was founded on regimes of protection that privileged domestic manufacturers.

the current study is a quantity dual of the terms of trade debate. In the terms of trade framework attempts by a single small country to increase exports need have no impact on commodity prices. However, when all countries try to increase exports, this generates general equilibrium impacts that lower commodity prices. This is the price level fallacy of composition critique of export-led growth. The quantities fallacy of composition works through export displacement, with export growth of one country displacing exports of rivals.

With regard to empirical evidence, the paper analyses the growth of U.S. imports by country and finds significant inter-country crowding out. Exports to the U.S. from the four East Asian tiger economies of Taiwan, South Korea, Hong Kong, and Singapore, are subject to large crowding out effects from China. Japanese exports to the U.S. have become subject to a large crowding out effect from Mexico. These crowding-out effects reveal the downside of the export-led growth model when applied on a global basis.

II Some possible pathologies of export-led growth

The problem of export-led growth is readily understandable from a standard Keynesian perspective. Keynesian economics emphasizes demand determined equilibrium, and maintains that the level of economic activity adjusts to equal the level of aggregate demand. Within a Keynesian framework, export-led policy suffers from an inherent fallacy of composition whereby one country's attempts to boost domestic aggregate demand by increasing exports results in a reduction of domestic aggregate demand in the country it is exporting to.[3]

This logic of static Keynesian theory also applies to Keynesian growth theory in which the rate of economic growth is influenced by the rate of demand growth.[4] Export growth represents a means of growing demand, and thereby raising economic growth. However, if export growth comes at the expense of foreign demand growth, it may just shift the country composition of

[3]. The logic of the two country Keynesian macroeconomic model is explored in Palley (1990). Blecker (2000) provides a comprehensive survey of the literature on export-led growth.

[4]. Palley (1996) articulates the logic of Keynesian growth theory, and contrasts it with the logic of neo-classical growth theory.

growth without raising overall world growth.

A two country construction of the export led growth problematic would emphasize that one country's exports are another's imports. Such a construction applies to the industrialized world (i.e. the economies of Western Europe and North America), and in this context export-led growth results in "poaching of domestic demand." However, among developing countries the problem of export-led growth is subtly different. These countries compete with one and other to capture market share in the developed countries, and the problem of export-led growth therefore manifests itself in the form of "export displacement." Developing countries are commonly placed in a rivalrous situation vis-a-vis each other, and when one country manages to increase its exports it often does so by crowding out the exports of another developing country. This is the fallacy of composition as it applies to the developing world. Viewed in this light, export-led development may work when adopted by one or even a few countries, but it takes on a zero-sum dimension when all adopt the strategy.[5]

In addition to the export-displacement problem, globally applied export-led development may partake of a number of other pathologies.[6] One pathology is the "race to the bottom." Here the argument is that to gain competitive advantage in international markets developing countries are led to compete across every dimension, including work conditions and the environment. To the extent that good working conditions and maintenance of a clean environment are seen as increasing costs, firms have an incentive to minimize requirements by seeking their repeal or by shifting production to countries where requirements are least burdensome. This risks encouraging a political dynamic, both within countries and across countries, aimed at lowering standards.

A second pathology concerns the impact of export-led development on terms of trade. The

[5]. Muscatelli et al. (1994) estimate export demand functions for Asia's Newly Industrialized Economies and find significant negative cross-price elasticities. This is a price manifestation of the same problem. The current study focuses on inter-country export growth displacement.

[6]. These pathologies are drawn from Palley (1999).

export-led growth model prompts countries to shift ever more output onto global markets, and in doing so aggravates the long-standing trend deterioration in developing country terms of trade. This pattern partakes of a vicious cycle since declining terms of trade and falling prices compel developing countries to export even more, thereby compounding the downward price pressure. This vicious cycle has long been visible for producers of primary commodities. However, as a result of the transfer of manufacturing capacity to developing countries who lack the consumer markets to buy their own output, the same process may now be present in all but highest-end manufacturing. Evidence to this effect is reported in Sarkar and Singer (1991).

A third possible pathology concerns the impact of export-led growth on financial instability. First, developing countries borrow in hard currency, and as their terms of trade deteriorate it becomes even harder to earn the currency needed to service their debts. Second, export-led growth results in the unintended creation of excess capacity in the manufacturing export sector as countries seek to export their way growth. Kaplinsky (1993) argues that this occurred in the Dominican Republic and the Carribean region where countries targeted export-led development based on labor - intensive textile production. Ertuk (1999) suggests a similar over-investment boom may have occurred in East Asia, with the initial success of the tiger economies attracting more and more export oriented production capacity in Thailand, Malaysia, and Indonesia.. The net result was the emergence of over-capacity which undermined the financial soundness of investments. From this perspective, East Asia's financial crisis had an underlying cause located in the real economy, and was not just the result of financial speculations.

A fourth and final pathology concerns issues of the quality of development and dependency. Here, the argument is that export-led growth, especially when associated with export-processing zones, leads to shallow development with weak linkages into the rest of the economy. Export-led growth therefore replicates patterns of development associated with the earlier "plantation" model of development. This pattern is associated with failure to develop robust domestic consumption markets, failure to generate widely shared rising incomes, and failure to develop autonomously sustainable growth. Instead, the rate of growth depends on the growth rate of

countries to which the developing country is exporting as this determines the growth of export demand. Consequently, developing countries are vulnerable to slow-downs originating in their export markets, which also makes the global economy more volatile as a whole. This can be understood through the logic of portfolio theory. When there are many autonomous centers of growth, the likelihood of a global economic slowdown is reduced as such an outcome depends on a slow-down simultaneously hitting all centers. However, if the growth of a large segment of the global economy (i.e. the developing country bloc) is dependent on growth in another segment (i.e. the developed country bloc), then all that is needed for a global slow-down is for the leader bloc to slow.

III Empirical evidence on the export displacement hypothesis

The above theoretical arguments stand in stark contrast to the existing empirical literature on export-led. Blecker (2000) documents how studies by Balassa (1978, 1985), Michaely (1977), and Sachs and Warner (1995) all report a positive association between export growth and output growth.[7] These findings are robust across a wide array of econometric specifications using different measures of export growth and development. Moreover, studies by Chow (1978) and Darrat (1987) also find, for the most part, significant causal effects of exports on output growth. At the individual country level, an exception to these studies is a recent study by Rodriguez and Rodrik (2000) who find little positive connection between the removal of trade barriers by countries and subsequent economic growth. From their standpoint successful export performance may then be the result of successful development rather than cause.

Prima facie country studies reporting a positive correlation between export and output growth represent a challenge to the Keynesian critique of export-led development. However, this is not necessarily the case. Individual countries can grow under an export-led strategy, especially when only a few adopt such a strategy. Problems only emerge as more countries start adopting

[7].Blecker (1999) also surveys some related literature on the role of trade openness and balance of payments constraints on growth and development.

the strategy, at which stage export displacement comes to be felt ever more strongly.

The U.S. market provides an ideal candidate for testing for the presence of export displacement. It is the largest integrated consumer market in the world and has relatively few obstacles to imports. Consequently, exports to the U.S. have figured prominently in export-led development strategies. Table 3 provides a breakdown of U.S. merchandise imports by country share over the period 1978 - 1999. Each country's share of U.S. imports is calculated using total U.S. merchandise imports excluding merchandise imports from OPEC countries. The table reveals significant volatility over relatively short time periods. Between 1978 and 1988 Canada and the rest of the world lost market share, while Japan and the four east Asian tigers gained share. Between 1988 and 1999 Japan and the east Asian tigers lost significant market share, while China and Mexico made large gains. Western Europe has consistently lost market share.

These trends are visible in figures 1 - 3 which show the evolution of region and country market shares from 1978 to 1999. Figure 1 shows how since the mid 1980s developing countries have gained U.S. market import share at the expense of industrialized countries.[8] Figure 2 shows the import shares of the four tigers and China. Through to 1987 the four tigers' share rose rapidly, but it has since fallen off equally rapidly. China's share has continuously grown from a negligible base. Beginning in 1987 there appears to have been an acceleration in the growth of China's share. Lastly, figure 3 shows the import shares of Japan and Mexico. Japan entered the 1980s with a significant share of U.S. merchandise imports, and this share increased rapidly through to 1987. Since then, there has been a precipitous drop.

Figures 1 - 3 indicate the rapidly changing country composition of U.S. merchandise imports. The country source can change very rapidly, indicating the scale and flexibility of global production. Developing countries's share of U.S. merchandise imports jumped from 31.8% in 1986 to 46.3% in 1999. Japan's share fell from 20.9% in 1988 to 13.0% in 1999, while

[8]. The industrialized countries are defined as Canada, Western Europe (including Scandinavia), and Japan. The developing countries are defined as all other countries.

China's share rose from 2.0% to 8.1% over the same period. However, though suggestive of export displacement, use of import shares is inconclusive the arithmetic of shares is constrained to sum to one, so that any country's gain must by definition imply another's loss. A country's loss may therefore be just the product of arithmetic rather than export displacement.

To control for this, the following empirical model was estimated using annual time series data

(8) $GM_{j,t} = a_0 + a_1 GUS_t + a_2 WTGM_{i,t} + u_t \qquad i = j$

where GM = growth in period t of real U.S. merchandise imports from country j
GUS = growth in period t of total real U.S. non-OPEC merchandise imports
WTGM = period t weighted growth of real U.S. merchandise imports from country i where the weights are country i's share of U.S. non-OPEC imports

The WTGM variable is defined as

(9) $WTGM_{i,t} = s_{i,t-1} GM_{i,t}$

where s = country i share of total U.S. non-OPEC merchandise imports excluding imports. The important feature of the model is its specification in terms of import growth rates rather than import shares, thereby testing for cross-country crowding from import growth. The logic is as follows. Import growth from each country depends on overall U.S. import growth, reflecting the impact of both U.S. macroeconomic factors and long term structural factors associated with globalization and growing U.S. imports. However, import growth from one country may be negatively impacted by import growth from a rival. This is the export displacement hypothesis, and it is captured in the coefficient a_2. The measure of export displacement is constructed by weighting the rival country's import growth rate by its lagged share of the U.S. market. This weighting reflects the fact that the extent of displacement will depend jointly on how fast a rival country's U.S. exports are growing and how large a market share it has. Thus, a newcomer to the U.S. market may have rapidly growing sales, but it will exert little displacement effect because its market share is negligible initially. If the export displacement hypothesis holds, the coefficient a_2 should be statistically significant and negative.

Table 3 reports the results of the regressions estimated using two stage least squares with a correction for first order serial correlation. Current U.S. real non-oil merchandise import growth was instrumented by its own lag, lagged U.S. real GDP growth, and two lags of the Federal Reserve Board's trade weighted real exchange rate. The regressions (1.1 - 1.6) using Canadian import growth as the dependent variable show that Canadian imports are strongly influenced by overall U.S. import growth, but Canadian imports are not crowded out by imports from another region or country. The same holds for imports from Western Europe (regressions 2.1 - 2.6), except that there is some evidence of a weak displacement by the rest of the world (WTROW).[9]

For Japan (regressions 3.1 - 3.4), the story is different. In regressions including just Mexico or just China, both countries appear to crowd out growth of Japanese imports. When both countries are included in the regression, the Mexico effect dominates and remains statistically significant. The same holds for the impact of the growth of ROW imports on Japanese imports. When just WTROW is included, its coefficient is negative and statistically significant at the 10% level. However, when WTMEX is also included, the effect of Mexico dominates and is statistically significant at the 1% level. The conclusion is that Mexican imports into the U.S. are displacing Japanese imports, likely reflecting the build-up of productive capacities in Mexico's *maquilladora* border region. This build-up includes considerable investment by Japanese multi-national firms who have shifted production there.

Finally, regressions for the four tigers (4.1 - 4.2) show that growth of Chinese imports is displacing growth of imports from the four tiger countries. Again there is some uncertainty as to whether it is China or Mexico that is doing the displacing. However, when both WTCH and WTME are included in a regression, the coefficient on WTCH remains large and statistically significant, while that of WTME falls and is statistically insignificant at the 10% level.

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[9]. Merchandise imports from the rest of the world are defined as total U.S. non-OPEC merchandise imports - Canadian merchandise imports - Western European merchandise imports - Japanese merchandise imports - Chines merchandise imports - Mexican merchandise imports - Four Tiger merchandise imports.

The regressions reported in table 3 use the market share weighted growth of country imports as an explanatory variable. Country market shares have been subject to considerable variation. Canadian and Western European shares have trended persistently downward over the sample period, while Mexican and Chinese shares have trended persistently upward. This means that these variables register as non-stationary over the sample period, opening the possibility that the regression findings are a product of spurious correlation. In light of this possible critique the following second regression was estimated

(3) $GM_{j,t} = a_0 + a_1GUS_t + a_2GM_{i,t} + a_3[GM1_{i,t}] + u_t$

where GM1 = DUMMY * GM , with the dummy variable being 0 for the period 1978 - 88 and 1 for the period 1989 - 99. This regression uses pure import growth rates as independent variables rather than market share weighted import growth rates. Once again the regression was estimated using TSLS with the same instruments as before for GUS.

Equation (3) tests whether country import growth rates had different displacement impacts across the two halves of the sample. Such a split allows for the cross-country displacement impact of a given import growth rate to change as a country gains larger market share. Table 4 reports the regression results. Regression 1.1 reports the impact of merchandise import growth from developing countries (GDEVCO) on merchandise import growth from industrialized countries (GINDCO).[10] The coefficient of GDEVCO1 is negative and statistically significant at the 5% level, showing that import growth from developing countries negatively impacted import growth from industrialized countries in the second half of the sample (1989 - 99).

Regressions 2.1 - 2.6 examine the extent of displacement of U.S. imports from Canada by other countries. There is no evidence that Canada's exports to the U.S. are displaced by any country. Indeed, there is evidence that Canadian sales grow with Mexican sales into the U.S., though this effect declined in the second half of the sample period. This positive association

[10]. Industrialized countries are Canada, Western Europe, and Japan. Developed countries are all other countries excluding OPEC members.

likely reflects NAFTA and its forerunner agreements. Regressions 3.1 - 3.6 examine the extent of displacement of U.S. imports from Western Europe. Regression 3.6 suggests that there may be a weak crowding out from ROW countries, but this crowding out effect has not strengthened over the sample period. Regression 3.4 suggests that there may also have been a change in the relation between U.S. imports from Western Europe and China. In the first half of the sample period U.S. imports from Western Europe and China grew together, but in the second half this positive relationship disappeared.

Regressions 4.1 - 4.6 examine import growth from Japan. Regression 4.1 suggests that import growth from Japan is displaced by import growth from Mexico, with this effect being significant and strong in the second half of the sample. Regression 4.2 suggests that a similar effect may have operated from China. Regression 4.3 includes both China and Mexico to try and distinguish whether it is China or Mexico that is displacing Japan. None of the coefficients are statistically significant because of considerable multi-collinearity of import growth from Mexico and China, but it is noteworthy that the Mexican coefficient (GMEX1) remains negatively signed while that of China (GCHI1) becomes positive. Moreover, the Adjusted R^2 and standard error of the regression (S.E.R.) of regression 4.3 are the same as that 4.1, while 4.1 is considerably better that 4.2. Mexican import growth therefore appears to have more explanatory power than Chinese import growth, and this suggests that it is Mexico that is displacing U.S. imports from Japan. Finally, regressions 4.5 and 4.6 indicate that neither import growth from the four tigers nor ROW are having a displacement impact on Japan.

Finally, regressions 5.1 - 5.5 look at the impact of different countries on U.S. import growth from the four tigers. Regressions 5.1 - 5.3 parallel the outcomes of 4.1 - 4.3. Both China and Mexico appear to displace four tiger import growth, and multi-collinearity makes it hard to distinguish which country is at play. However, a regression including both countries only does as well as a regression including just China (4.2), and this suggests that China is doing the displacing. Regression 4.4 also indicates that import growth from ROW is also displacing some four tiger imports in the second half of the sample period as the coefficient of GROW1 is

negative and statistically significant at the 1% level. This is not surprising as ROW includes Indonesia, Thailand, Malaysia, the Phillippines, and India, all of which have competitive overlaps with the four tigers. This effect remains weakly detectable in a regression 4.5 which includes both China and ROW. Inclusion of both improves the adjusted R^2 goodness of fit measure, though the GROW1 coefficient is only significant at the 12%.

In sum, the results of the regressions in table 4 closely conform to the results of the regressions reported in table 3. These regressions are consistent with a pattern of export displacement resembling a hierarchical process. Japan was the first country to pursue a strategy of export-led growth in the 1950s and 1960s. Thereafter, it was joined by the four East Asian tigers. Both were able to successfully use this strategy since at this stage they faced little competition from other export-led developers.[11] The next step has had both China and Mexico appearing on the scene, and Mexican export-led development has crowded out Japanese imports to the U.S., while Chinese export-led development has crowded out those of the four tigers. Interestingly, U.S. imports from Canada and Western Europe have not been subject to a crowding out process. A possible explanation is that these economies produce more advanced products that have less direct competitive overlap, and are therefore not subject to displacement.

However, though not being subject to displacement, the import shares of both Canada and Western Europe have both fallen over time. Here, there are two possible non-exclusive explanations. First, some of the growth in U.S. imports may reflect the transfer of U.S. manufacturing production off-shore. This transfer has tended to go to developing countries, and therefore increased total imports and the import share of these countries. Thus, to the extent that little of this transfer went to Canada and Western Europe, the import share from Canada and Western Europe has fallen. Second, Canada and Western Europe can be viewed as being part of

[11]. At this stage, imports from Japan and the four tigers likely displaced the growth of new U.S. based manufacturing jobs, and may have displaced some existing U.S. manufacturing jobs. The U.S. therefore bore the cost of rising Japanese and four tiger imports, but it also got the benefit to the extent that scarce labor was released for use in other growing sectors.

a larger integrated North Atlantic economy. Patterns of change in this North Atlantic economy likely parallel those in the U.S. economy. Canadian and Western European merchandise imports can be viewed as being similar to U.S. manufacturing output, and the manufacturing share of output has steadily fallen within the U.S. Given this, we might anticipate a declining share of Canadian and Western European imports.

IV Policy implications: what if export-led growth is unsustainable?

The Washington Consensus recommends that developing countries pursue development strategies built upon export-led growth. This recommendation conclusively triumphed in the late 1980s, but it is now being questioned. Behind this questioning is the fear that export-led growth may prove an unsustainable means of generating development owing to a fallacy of composition. Whereas one country can successfully pursue such a policy, when all try it may result in zero-sum competition for export markets.

Finding evidence supportive of this hypothesis is difficult. One reason is that the shift to export-led growth is a relatively recent phenomena. This means that countries may initially be successful because the inherent contradictions in export-led growth as a global development strategy have yet to reveal themselves. For zero sum effects to be visible, a critical mass of countries must have adopted the strategy. A second reason is that the decades of the 1980s and 1990s were associated with a huge jump in U.S. import demand and the emergence of a large structural U.S. trade deficit. This change materially impacted the overall market for imports, providing demand for developing country exports. However, whether a U.S. trade deficit equal to four percent of GDP is sustainable is an open question. If not, U.S. import demand will shrink, thereby opening the question of whether a globally applied regime of export-led growth can generate sufficient demand growth to sustain itself.

Despite these difficulties, the empirical analysis still finds evidence supportive of the export displacement hypothesis. Mexico appears to be displacing U.S. imports from Japan, while China appears to be displacing U.S. imports from the four tigers. The China effect is particularly ominous from the perspective of global development. This is because the export-led growth

paradigm operates according to a hierarchical process, with less developed newcomers replacing maturing export economies in which surplus labor supplies have been exhausted and wages are rising. With China's entry into the world trading system, this system may be unworkable. China (and Mexico to a lesser degree) has huge supplies of labor at rock bottom wages, and population growth ensures that this will hold long into the future. This means that no developing country can now enter the system with production costs below those of China, and nor will China run short of labor any time soon. Consequently, other developing countries will be unable to enter the hierarchy of export-led growth.

If this assessment is right, the export-led growth paradigm will be checkmated on both the demand and supply sides. There will be insufficient demand, while new supplier countries will be unable to compete with China. In such an event, the import-substitution model may provide a way out of the cul-de-sac, but it will not simply be the model of old. That earlier model foundered on inefficiencies bred by lack of competition and poor governance. If import substitution is to be revived it will need to be accompanied by domestic competition policies that ensure competitive pressures are continuously brought to bear on domestic producers, and by improved governance that limits non-productive rent-seeking.

In effect, as with the debate over financial liberalization, there may be an appropriate sequencing regarding import-substitution and global integration. After the first stage of import-substitution, policy should aim to enhance domestic competition, and only after this has been successfully accomplished should trade liberalization be fully enacted. Regional trading blocs of developing countries may be an important piece of such a process. First, they can contribute to ensuring that the market is sufficiently large in size that producers can attain economically efficient scale. Second, they can contribute to the growth of competition amongst equals. This is a development agenda that differs significantly from the "shock therapy" approach to trade liberalization now recommended by the Washington Consensus.

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	1970-1979	*1980-1989*	*1990-1996*
Hong Kong	9.2	7.5	5.0
Singapore	9.4	7.2	8.3
Taiwan	10.2	8.1	6.3
South Korea	9.3	8.0	7.7

Table 1 Trends in GDP growth for the four East Asian tigers, 1970 - 1996 (average annual % growth). Source: Singh (1999).

	1965-1980	*1980-1989*	*1990-1996*
Low and middle income countries	5.9	3.1	1.9
High income countries	3.8	3.2	1.7
U.S.	2.7	3.0	2.5
Japan	6.6	4.1	1.2
World	4.1	3.1	1.8

Table 2 Trends in GDP growth for developing regions and the industrialized countries, 1965 - 1996 (average annual % growth). Source: Singh (1999).

Country shares	*1978*	*1988*	*1993*	*1999*
Western Europe	25.8	23.9	21.6	20.7
Japan	17.3	20.9	19.1	13.0
Canada	23.8	19.7	20.2	20.0
Mexico	4.3	5.4	7.2	11.0
Four tigers	9.6	15.4	11.6	9.4
South Korea	2.6	4.7	3.1	3.1
Hong Kong	2.5	2.5	1.7	1.0
Taiwan	3.7	6.3	4.5	3.5
Singapore	0.8	1.9	2.3	1.8
China	0.0	2.0	5.0	8.1
Rest of World	19.0	13.3	14.7	17.7

Change in country shares	*1978-88*	*1988-93*	*1993-99*
Western Europe	-1.9	-2.3	-0.9
Japan	3.6	-1.8	-6.1
Canada	-4.1	1.5	-0.2
Mexico	1.1	1.8	3.8
Four tigers	5.8	-3.8	-2.2
South Korea	2.1	-1.6	0.0
Hong Kong	0.0	-0.8	-0.7
Taiwan	2.6	-1.8	-1.0
Singapore	1.1	0.4	-0.5
China	2.0	3.0	3.1
Rest of World	-5.7	1.4	3.0

Table 3 Country shares of US non-OPEC merchandise exports and change in country shares, 1978 -1999. Source: Authors calculation using BEA international transactions data.

Table 3 Selected regression estimates of equation (1) for Canada, Western Europe, Japan, and the four tigers. Figures in parentheses are t-statistics. *** = 1% significance, ** = 5% significance, * = 10% significance.

GM_{CANADA}	a_0	GRUS	WTWE	WTJA	WTMEX	WTCHI	WTFT	WTROW	AR(1)	Adj. R^2	S.E.R	D.W.
1.1a	-0.004	1.143**	-0.293							0.69	0.042	1.71
	(-0.20)	(2.72)	(-0.19)									
1.1b	-0.003	1.176**	-0.486						0.163	0.67	0.043	1.94
	(-0.12)	(2.21)	(-0.31)						(0.53)			
1.2a	-0.002	1.091***		-0.196						0.70	0.042	1..67
	(-0.13)	(4.20)		(-0.25)								
1.2b	0.002	1.083***		-0.367					0.207	0.69	0.042	1.93
	(0.08)	(3.59)		(-0.41)					(0.46)			
1.3a	-0.010	0.983***			1.535					0.72	0.040	1.66
	(-0.56)	(4.48)			(0.87)							
1.3b	-0.008	0.938***			1.635				0.181	0.71	0.041	1.91
	(-0.33)	(3.58)			(0.82)				(0.70)			
1.4a	0.005	0.962***				0.007				0.70	0.041	1.60
	(0.03)	(4.52)				(0.01)						
1.4b	0.008	0.912***				0.201			0.207	0.69	0.042	1.85
	(0.33)	(3.58)				(0.07)			(0.81)			
1.5a	-0.002	1.125***					-0.519			0.69	0.042	1.63
	(-0.14)	(3.94)					(-0.38)					
1.5b	-0.006	1.358***					-1.875		0.281	0.64	0.045	1.85
	(-0.239)	(3.32)					(-0.99)		(1.06)			
1.6a	0.001	0.832***						1.070		0.72	0.040	1.85
	(0.08)	(3.08)						(0.98)				
1.6b	0.003	0.889**						0.692		0.70	0.041	1.93
	(0.15)	(2.76)						(0.53)				

Table 3 continued.

$GM_{WEUROPE}$	a_0	GRUS	WTCAN	WTJA	WTMEX	WTCHI	WTFT	WTROW	AR(1)	Adj. R^2	S.E.R	D.W.
2.1a	-0.010	1.124*	0.140							0.71	0.045	1.99
	(-0.53)	(1.74)	(0.06)									
2.1b	-0.011	1.135	0.109						-0.019	0.69	0.047	1.96
	(-0.53)	(1.70)	(0.05)						(-0.07)			
2.2a	-0.006	0.863**		1.312						0.76	0.041	2.43
	(-0.41)	(3.39)		(1.67)								
2.2b	-0.009	0.867***		1.482**					-0.278	0.76	0.041	2.03
	(-0.70)	(4.22)		(2.23)					(-1.13)			
2.3a	-0.001	1.236***			-1.703					0.71	0.044	2.05
	(-0.06)	(5.05)			(-0.87)							
2.3b	-0.002	1.264***			-1.794				-0.059	0.69	0.046	1.97
	(-0.11)	(4.74)			(-0.90)				(-0.21)			
2.4a	0.001	1.269***				-2.800				0.72	0.044	2.19
	(0.01)	(5.54)				(-1.11)						
2.4b	-0.002	1.322***				-3.068			-0.124	0.69	0.046	2.05
	(-0.09)	(5.66)				(-1.28)			(-0.47)			
2.5a	-0.010	1.034***					0.909			0.72	0.044	2.23
	(-0.59)	(3.44)					(0.64)					
2.5b	-0.013	1.039***					1.146		-0.168	0.71	0.045	2.05
	(-0.82)	(4.02)					(0.88)		(-0.62)			
2.6a	-0.007	1.435***						-1.982		0.76	0.041	2.07
	(-0.46)	(5.15)						(-1.75)				
2.6b	-0.007	1.452***						-2.028	-0.041	0.74	0.042	2.00
	(-0.49)	(5.00)						(-1.73)	(-0.15)			

Table 3 continued.

GM_{JAPAN}	a_0	GRUS	WTMEX	WTCH	WTROW	AR(1)	Adj. R^2	S.E.R	D.W.
3.1a	0.057*	1.334***	-9.095***				0.66	0.057	1.04
	(2.14)	(4.26)	(-3.62)						
3.1b	0.083*	1.056**	-9.432***			0.402	0.69	0.055	1.76
	(1.91)	(2.32)	(-3.11)						
3.2a	0.065**	1.344***	-6.406*	-4.874			0.67	0.057	1.43
	(2.53)	(4.67)	(-2.05)	(-1.19)					
3.2b	0.077	0.858**	-12.983***	8.317		0.662	0.66	0.57	1.72
	(1.28)	(2.69)	(-3.63)	(1.23)					
3.3a	0.003	1.517***			-3.350*		0.52	0.068	1.22
	(0.13)	(3.26)			(-1.77)				
3.3b	-0.013	1.744**			-3.386	0.317	0.57	0.065	1.53
	(-0.40)	(2.72)			(-1.53)	(1.33)			
3.4a	0.051*	1.520***	-7.599*		-1.741		0.67	0.057	0.95
	(1.89)	(3.98)	(-2.93)		(-1.03)				
3.4b	0.063	1.512**	-8.464***		-1.861	0.344	0.71	0.053	1.44
	(1.46)	(2.41)	(-3.02)		(-0.94)	(1.17)			

$GM_{FOURTIGERS}$	a_0	GRUS	WTCH	WTMEX	WTROW	AR(1)	Adj. R^2	S.E.R	D.W.
4.1a	0.062**	1.619***	-14.154***				0.65	0.060	1.56
	(2.37)	(5.25)	(-4.18)						
4.1b	0.067*	1.572***	-13.869***			0.214	0.65	0.059	1.70
	(2.01)	(4.29)	(-3.39)			(0.88)			
4.2a	0.061**	1.675***	-14.110***	-0.390			0.61	0.063	1.54
	(2.14)	(5.24)	(-3.08)	(-0.11)					
4.2b	0.070	1.570***	-12.584**	-1.567		0.258	0.63	0.061	1.68
	(1.75)	(3.79)	(-2.07)	(-0.37)		(0.82)			

Table 4 Selected regression estimates of equation (3) for Canada, Western Europe, Japan, and the four tigers. Figures in parentheses are t-statistics. *** = 1% significance, ** = 5% significance, * = 10% significance.

GM_{INDCO}	a_0	GRUS	GDEVCO	GDEVCO1	Adj. R^2	S.E.R	D.W.
1.1	0.011	1.329***	-0.146	-0.316**	0.82	0.032	1.45
	(0.75)	(4.31)	(-0.48)	(-2.43)			

GM_{CANADA}	a_0	GRUS	GWE	GWE1	GJAP	GJAP1	GMEX	GMEX1	GCHI	GCHI1	GFT	GFT1	GROW	GROW1	Adj. R^2	S.E.R	D.W.
2.1	-0.006	1.333**	-0.179	-0.078											0.64	0.045	1.79
	(-0.30)	(2.16)	(-0.43)	(-0.38)													
2.2	-0.003	1.071***			-0.018	0.030									0.68	0.043	1.68
	(-0.16)	(3.64)			(-0.11)	(0.12)											
2.3	-0.027	1.002***					0.400*	-0.222							0.75	0.038	1.93
	(-1.23)	(5.27)					(2.00)	(-1.32)									
2.4	0.017	0.958***							-0.048	-0.010					0.69	0.042	1.61
	(0.45)	(4.22)							(-0.43)	(-0.12)							
2.5	-0.003	1.104**									-0.022	-0.007			0.67	0.043	1.68
	(-0.20)	(2.86)									(-0.12)	(-0.02)					
2.6	0.004	0.914***											0.201	-0.182	0.71	0.041	1.80
	(0.28)	(3.79)											(1.05)	(-1.01)			

Table 4 continued

GM_{WE}	a_0	GRUS	GCAN	GCAN1	GJAP	GJAP1	GMEX	GMEX1	GCHI	GCHI1	GFT	GFT1	GROW	GROW1	Adj. R^2	S.E.R	D.W.
3.1	-0.002	1.111**	0.105	-0.276											0.72	0.044	2.12
	(-0.12)	(2.20)	(-0.27)	(-1.31)													
3.2	-0.008	1.047***			0.189	-0.035									0.77	0.040	2.20
	(-0.55)	(3.82)			(1.28)	(-1.57)											
3.3	-0.001	1.222***					-0.030	-0.157							0.72	0.045	2.19
	(0.04)	(5.47)					(-0.13)	(-0.79)									
3.4	-0.038	1.337***							0.137	-0.150*					0.74	0.042	2.31
	(-0.99)	(5.87)							(1.23)	(-1.77)							
3.5	-0.015	1.328***									0.013	-0.343			0.69	0.046	1.94
	(-0.85)	(3.22)									(0.07)	(-1.13)					
3.6	-0.001	1.387***											-0.323*	-0.005	0.78	0.039	2.21
	(-0.09)	(5.99)											(-1.75)	(-0.03)			

Table 4 continued

GM_{JAP}	a_0	GRUS	GMEX	GMEX1	GCHI	GCHI1	GFT	GFT1	GROW	GROW1	Adj. R^2	S.E.R	D.W.
4.1	0.058*	1.226***	-0.251	-0.542**							0.73	0.051	1.61
	(1.97)	(4.83)	(-0.94)	(-2.42)									
4.2	-0.089	1.532***			0.384**	-0.340**					0.61	0.062	1.82
	(-1.58)	(4.63)			(2.38)	(-2.76)							
4.3	-0.017	1.470***	-0.123	-0.599	0.200	0.001					0.73	0.051	1.83
	(-0.30)	(5.48)	(-0.41)	(-1.68)	(1.45)	(0.01)							
4.4	0.004	0.292					0.651**	-0.292			0.59	0.063	1.75
	(0.18)	(0.52)					(2.52)	(-0.71)					
4.5	0.024	1.388***							-0.278	-0.438	0.63	0.059	1.91
	(1.03)	(3.95)							(-0.99)	(-1.67)			
4.6	0.053	1.406***	-0.203	-0.719**					-0.330	0.398	0.76	0.049	1.49
	(1.89)	(4.96)	(-0.78)	(-2.20)					(-1.43)	(1.10)			

GM_{FT}	a_0	GRUS	GMEX	GMEX1	GCHI	GCHI1	GROW	GROW1	Adj. R^2	S.E.R	D.W.
5.1	0.017	1.594***	0.194	-0.873***					0.62	0.062	1.58
	(0.47)	(5.12)	(0.59)	(3.16)							
5.2	0.079	1.100***			-0.072	-0.493***			0.69	0.056	2.00
	(1.53)	(3.63)			(-0.49)	(-4.38)					
5.3	0.104	1.259***	-0.101	-0.377	-0.150	-0.285			0.69	0.056	1.89
	(1.67)	(4.27)	(-0.31)	(-0.96)	(-0.98)	(-1.48)					
5.4	0.032	1.302***					0.270	-0.950	0.65	0.060	1.85
	(1.36)	(3.67)					(0.96)	(-3.59)			
5.5	0.084	0.922**			-0.079	-0.371**	0.386	-0.527	0.71	0.054	2.43
	(1.82)	(2.80)			(-0.57)	(-2.19)	(1.54)	(-1.68)			

Figure 1 Industrial and developing developing country shares of U.S. merchandise imports

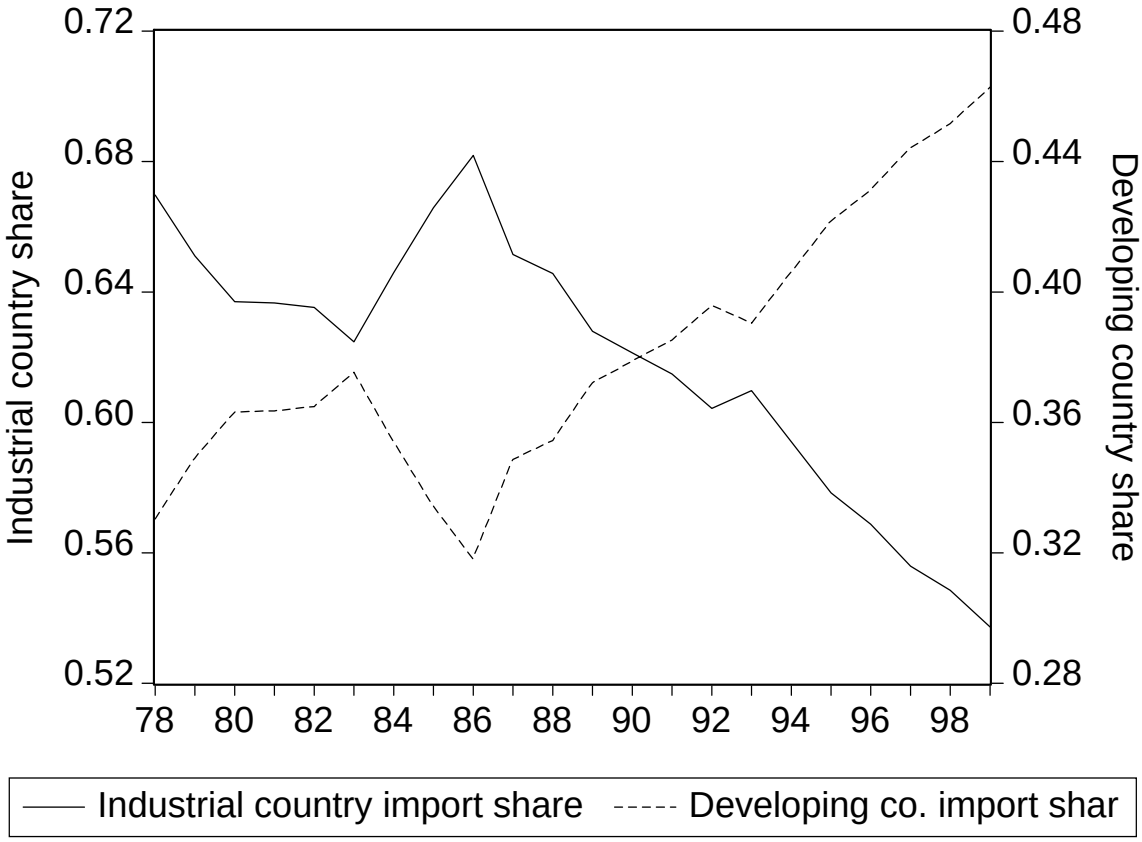

Figure 2 Chinese and Four Tiger share of U.S. merchandise imports

Figure 3 Mexican and Japanese Share of U.S. merchandise imports