

KING KONG MEETS GODZILLA: THE WORLD BANK AND *THE EAST ASIAN MIRACLE*

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Discussion Paper No. 944
April 1994

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ABSTRACT

King Kong Meets Godzilla: The World Bank and *The East Asian Miracle**

The World Bank's *The East Asian Miracle: Economic Growth and Public Policy* makes official what East Asian specialists had long known: most of the high-performing Asian economies have had extensive government intervention, and some of these interventions, in the areas of credit and exports, have worked in fostering both growth and equity. Nevertheless, the bank finds in the East Asian experience a confirmation of its 'market-friendly' approach to policy. Upon closer look, some of the critical bits of analysis contained in the report turn out to be weak and questionable. Consequently, many of the report's conclusions and recommendations, relating to trade and industrial strategy in particular, have to be discounted heavily.

JEL classification: O40, O53

Keywords: East Asia, economic growth

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*This paper is produced as part of a CEPR research programme on *Market Integration, Regionalism, and the Global Economy*, supported by a grant from the Ford Foundation (no. 920-1265). It was prepared for the Overseas Development Council. I am grateful to the CEPR MIRAGE project for financial assistance, and to Michael Bruno, Albert Fishlow, Catherine Gwin, Stephan Haggard, Howard Pack, Robert Wade, and Alwyn Young for helpful comments. None of these individuals bears any responsibility for the views expressed herein.

Submitted 3 March 1994

NON-TECHNICAL SUMMARY

Despite a large body of research, there is little consensus on the role that public policies have played in the spectacular performance of East Asian economies. Some have seen in the East Asian experience the vindication of market-orientated ideas, while others have emphasized the role of government interventions in the trade and industrial arenas. Even the facts – how much intervention has there really been? – have been in dispute.

As the world's leading multilateral lending institution, the World Bank has advocated, at least since the late 1970s, a minimalist role for the government. Now, however, the Bank has confronted the East Asian experience head on, with its 400-page *The East Asian Miracle: Economic Growth and Public Policy* (1993). The *Miracle* makes it official that most of the high-performing Asian economies (HPAEs, as the report calls them) have had extensive government intervention. It also grants that some of these interventions, in the areas of credit and exports, may have worked in fostering both growth and equity.

Despite the acknowledgement of extensive government activism, however, the Bank finds in the East Asian experience a confirmation of its 'market-friendly' approach to policy, encompassing macro stability, human capital formation, openness to international trade, and an environment that fosters private investment and competition. It also argues that most of the interventions that worked in the HPAEs are either too risky or impractical in the 1990s for other developing countries to practice. So-called export-push strategies are exempted from this blanket recommendation against intervention, however.

Upon closer look, some of the critical bits of analysis contained in the report turn out to be weak and questionable. Consequently, many of the report's conclusions and recommendations, relating to trade and industrial strategy in particular, have to be discounted heavily.

This critique begins by emphasizing the importance of initial conditions, concerning income and wealth equality and educational levels, as a precondition to East Asian economies' take-off. There are two respects, not entirely unrelated, in which the HPAEs differed substantially by 1960 from other developing countries at similar levels of development. First, the HPAEs were considerably better positioned with regard to schooling and educational attainment (and, by implication, had a significantly more skilled labour force). Second, the degree of inequality, as measured by the distribution of income or of land ownership, was uncommonly low. Indeed, once initial equality is taken into account, in a statistical sense there is nothing miraculous about the HPAEs' growth performance.

The causal links between initial equality and growth are uncertain, and have only recently been examined in some detail. Whatever the relative merits of the existing theoretical arguments, it seems quite plausible that the relative equality of income and wealth in the HPAEs has been a critical determinant of the quality of policy-making in these countries. It is doubtful whether the single-minded pursuit of economic growth, which has been characteristic of many of the HPAEs (particularly Japan, Korea, Taiwan and Singapore) could have significant salience.

With regard to the role played by industrial policy, the problems begin with the authors' classification of interventionist policies into the following categories: (i) 'promotion of specific industries'; (ii) 'mild financial repression combined with directed credit'; and (iii) 'export push'. This categorization is curious because it makes no distinction between policy *instruments* and policy *goals*. 'Promotion of specific industries' is a policy goal, in pursuit of which a government can deploy various instruments, including 'directed credit' and export subsidies, the other two items on the list!

The empirical analysis on the inefficacy of industrial promotion policies is equally curious. The analysis actually does not try to ascertain the effectiveness of any of the specific policy instruments used to promote targeted industries. Instead, the authors analyse whether high-wage or high-value-added industries expanded faster than would have been predicted on the basis of cross-country evidence or factor endowments, and whether productivity increase was higher in 'promoted' sectors than in others. Neither of these analyses tells us much about the question in hand, however. The cross-country evidence is hardly an adequate benchmark for countries that have not only grown faster, but also had very different trade strategies compared to other countries. And the real question about the success of industrial policy concerns the performance of industries in the absence of intervention, not their performance *vis-à-vis* other industries.

On export performance, the report is too heavy-handed in attributing a key role to what it calls 'export-push strategies' and too quick in explaining away the various puzzles that the HPAEs' experience with trade raises.

There are three broad arguments in the report with respect to the role performed by exports in generating and sustaining growth. First, exports are alleged to be the source of many technological spillovers to the rest of the economy. No serious evidence is provided in support of this hypothesis. Second, it is argued that cross-country evidence demonstrates the growth benefits of openness. The cross-country evidence in question here pertains to real exchange rates rather than to commercial policy or openness *per se*, however. Third, the use of exports as 'performance standards' is claimed to have rendered government interventions more effective (and less costly) than they would otherwise have

been. The argument here is murky, however, and needs a lot more fleshing out before it can be credible.

It is clear, as the *Miracle* recognizes, that there is something special about the style of government in HPAEs. The report stresses, along with the literature, two critical aspects of the governance structure in HPAEs: insulation of technocratic elites and creation of institutions ('deliberation councils') that enable communication and cooperation between the public and private sector. Our understanding of the fundamental determinants of the HPAEs' governance structure is considerably more limited than the *Miracle* would lead us to believe, however. Two puzzles highlight this point. The first relates to the fact that the HPAEs' style of policy-making has been in fundamental conflict with economists' (and the World Bank's) own rules of good conduct. The second is related to the extent of corruption in HPAEs, which is much greater than is usually believed.

KING KONG MEETS GODZILLA:
THE WORLD BANK AND THE EAST ASIAN MIRACLE

I. Introduction

There exists probably no greater challenge in the area of economic development than that of explaining how eight East Asian countries (Japan, South Korea, Taiwan, Singapore, Hong Kong, Indonesia, Malaysia, and Thailand) managed to increase per-capita income at an annual average rate of 5.5 percent during 1965-90, considerably faster than any other developing region. Despite a large body of research, there is little consensus on the role that public policies have played in this performance. Some have seen in the East Asian experience the vindication of market-oriented ideas, while others have emphasized the role of government interventions in the trade and industrial arenas. Even the facts--how much intervention has there really been?--have been in dispute.

As the world's leading multilateral lending institution, the World Bank has advocated, at least since the late 1970s, a minimalist role for the government. This stance leaves the Bank vulnerable to criticism from those who point to the East Asian model as a case of successful state activism. Now, however, the Bank has confronted the East Asian experience head on, with its 400-page *The East Asian Miracle: Economic Growth and Public Policy* (1993). The confrontation, like the clash of celluloid titans--the King Kong of 1818 H Street versus the Godzilla of Ginza--makes for a fascinating spectacle. The Bank emerges bloodied, but as the self-declared victor of the encounter.

The *Miracle* makes it official that most of the high-performing Asian economies (HPAEs, as the report calls them) have had extensive

government intervention. It also grants that some of these interventions, in the areas of credit and exports, may have worked in fostering both growth and equity. These points alone make the publication of the report a watershed event. While these conclusions will certainly not come as a surprise to most close observers of the East Asian economies, to date much of the policy-oriented economics community has steadfastly questioned their validity. Thanks to the *Miracle*, it will no longer be fashionable to argue that East Asian economies did so well because they had so few government interventions, or that they would have grown even faster had there been less intervention. This is an extremely valuable service, insofar as the debate on East Asia can now move on to a higher plateau of common understanding.

What the report itself does with these basic findings is more controversial. Despite the acknowledgement of extensive government activism, the Bank finds in the East Asian experience a confirmation of its "market-friendly" approach to policy, encompassing macro stability, human capital formation, openness to international trade, and an environment that fosters private investment and competition. It also argues that most of the interventions that worked in the HPAEs are either too risky or impractical in the 1990s for other developing countries to practice. However, so-called export-push strategies are exempted from this blanket recommendation against intervention. In sum, the Bank finds no lessons for itself from the HPAEs' experience that it had not already known.

The World Bank has a well-deserved reputation for putting out readable yet analytical studies, rich in statistical information and institutional detail. The *Miracle* is no exception. These features help

convey the World Bank's work and its policy conclusions to a broad audience. The *Miracle* has already been widely covered in the press and its conclusions cited. At the same time, this visibility places a heavy burden on the Bank. Conclusions must be well supported, and when definitive answers cannot be provided, this should be acknowledged. In this respect, the *Miracle* does not measure up as well. Upon closer look, some of the critical bits of analysis contained in the report turn out to be weak and questionable. Consequently, many of its conclusions and recommendations, relating to trade and industrial strategy in particular, have to be discounted heavily.

In a review that is necessarily short in relation to the report itself, it is impossible to cover all aspects of the study. Besides, there is much in the report that is sensible and unobjectionable. In this paper, I will therefore focus mostly on disagreements, differences in emphases, and quarrels about method.

I begin by emphasizing the importance of initial conditions, concerning income and wealth equality and educational levels, as a precondition of HPAEs' take-off (section II). In particular, I argue that the importance of the initial equality in the distribution of resources is not sufficiently emphasized in the report. Once initial equality is taken into account, in a statistical sense there is nothing miraculous about the HPAEs' growth performance. In section III, I evaluate the report's arguments on industrial policy. In section IV, I turn to the report's preoccupation with exports. In both of these sections, my focus is on evaluating the report's conceptual framework and analysis. I argue that there are serious shortcomings in the way that the report has approached industrial policies and export promotion strategies. Section V is devoted to governance issues. Here, I discuss

some puzzles that are raised by the HPAEs' experience, related in particular to their special styles of governance and the prevalence of corruption. In section VI, I offer some concluding comments.

II. Initial Conditions: The Importance of Equality and Education

In searching for the secrets of the East Asian miracle, the obvious first place to look is the set of initial conditions that preceded economic take-off. There are two respects, not entirely unrelated, in which the HPAEs differed substantially by 1960 from other developing countries at similar levels of development. First, the HPAEs were considerably better positioned with regard to schooling and educational attainment (and, by implication, had a significantly more skilled labor force). Secondly, the degree of inequality, as measured by the distribution of income or of land ownership, was uncommonly low. Since the HPAEs, clearly stood out in these respects before their performance started to diverge from other LDCs, a reasonable hypothesis is that these initial conditions are causally linked to their subsequent stellar performance.

Table 1 gives an idea about the extent to which the HPAEs were already outliers by the early 1960s with respect to human capital and associated demographic indicators. The table presents the differences between actual values of these indicators and predicted values (on the basis of income levels) generated from the cross-country experience. We find, for example, that (save for Indonesia) all of the HPAEs had virtually universal primary schooling by 1960, whereas the cross-country benchmark puts the expected primary enrolment levels 30-40 percentage points below those observed in countries like Korea, Malaysia, Singapore, and Taiwan. Similarly, secondary enrolment rates were

considerably higher in Japan, Korea, and Taiwan than in countries at similar levels of income. In terms of literacy, all but Singapore stood out in having exceptionally high rates. Note, however, that the educational indicators used here measure flows, or additions to human capital, rather than the stock of human capital itself. Finally, fertility and mortality rates were almost uniformly lower than in similar countries, indicating an earlier demographic transition. There can be little doubt that the HPAEs were in a class of their own by 1960 in terms of educational and demographic indicators.

The same is true with respect to distribution. Table 2 lists the available Gini coefficients for income and land distribution for the HPAEs and a sample of comparator countries. These Gini coefficients are selected from surveys undertaken as close to 1960 as possible, so that they portray once again the initial conditions prior to economic take-off. We see a striking degree of equality in the HPAEs compared to other developing countries. The country among the HPAEs with the highest degree of income inequality (Hong Kong) still lies below the average for the comparator countries. The differences are even larger for land distribution: Japan and Malaysia, with the greatest degree of inequality in land distribution among the HPAEs with available data exhibited more equality than any of the comparators listed. These reflect, in large part, the land reforms undertaken in Japan, Korea, and Taiwan prior to 1960. But note that Indonesia, Malaysia, Thailand, and Singapore (a city-state) also had comparatively egalitarian distributions.

To gauge the importance of these initial conditions to subsequent growth, Table (3) presents the results of cross-country growth regressions, similar in spirit to those in Table 1.8 of the *Miracle*.

The basic growth regression in the World Bank's report has per-capita GDP in 1960 (relative to the U.S.), primary and secondary enrolment rates in 1960, the average investment/GDP ratio over 1960-85, and population growth rate over 1960-85 as the explanatory variables. Average per-capita GDP growth over 1960-85 is the dependent variable. Column (1) of Table 3 reproduces this basic regression for the smaller sample of 41 countries for which both Gini coefficients are available.¹ The basic findings are the same, save for a larger adjusted R² in the smaller sample: initial income and the investment rate are statistically the strongest determinants of cross-country growth performance. In column (2), I have dropped the secondary enrolment ratio and population growth, which are both statistically insignificant (here as well as in the *Miracle*), and added the Gini coefficients for income and land distribution (measured around 1960). Both of the Gini coefficients enter with a statistically-significant negative sign, and the fit of the regression improves considerably (the adjusted R² increases from 0.46 to 0.67). Hence, the initial level of equality is an important determinant of subsequent growth.

The trouble with a regression like the one in column (2), however, is that the average investment rate during 1960-85, which is included as a regressor, can hardly be considered as an exogenous determinant of growth. For one thing, growth itself may be partly responsible for the high investment rate. For another, even if investment is truly exogenous with respect to growth, explaining growth by appealing to accumulation is not entirely satisfactory. An adequate accounting for growth requires developing an understanding of accumulation as well. In

¹Per capita GDP in 1960 is expressed in absolute terms, rather than relative to the U.S., however.

fact, Young (1993a and 1993b) has argued that the East Asian NICs stand out mostly in their investment (and increase in labor-force participation) rates, and that their productivity growth rates are not extraordinary. This places an even greater premium on being able to explain the HPAEs' high investment rates.

For these reasons, I treat investment as an endogenous variable. In column (3) I have dropped investment as a regressor, and focus only on the role of exogenous initial conditions--namely, per-capita income, primary enrolment, and income and land distribution, all measured in or around 1960. This regression does quite well, with an adjusted R^2 of 0.53. Even though the significance of the coefficient on income distribution is reduced to the 10 percent level, the coefficient on land distribution becomes even more significant, and the primary enrolment ratio is now significant for the first time. The coefficient on the land Gini indicates that an increase in this indicator from, say, 0.4 to 0.5 would reduce subsequent growth by 0.5 percentage points. It is striking that such a parsimonious characterization of the initial conditions--in terms of income, education, and equity levels alone--can explain more than 50 percent of the variation in subsequent growth rates in the sample.²

Columns (5) and (6) of Table 3 show that these initial conditions also play an important role in determining investment rates and population growth. The primary enrolment rate and the land Gini coefficient enter significantly in both regressions. High levels of education and low inequality at the outset are associated with high

²The same regression works very well for the 1970-85 period as well (with initial inequality and education now measured at or around 1970). See Alesina and Rodrik (forthcoming).

investment and low population growth. These results underscore the point made above regarding the endogeneity of investment, and the inappropriateness of using it (as well as population growth) as a separate regressor.

How much of the actual growth of the HPAEs can the initial levels of school enrolment and equality explain? This question is answered in Table 4 for five of the eight HPAEs (those for which land Gini's are available). The answer is: quite a lot of it. Around ninety percent or more of the growth of Korea, Taiwan, Malaysia, and Thailand can be "accounted" for by these countries' exceptionally high levels of primary school enrolment and equality around 1960. The corresponding proportion for Japan is three-quarters, a lower number largely because Japan's investment rate is under-predicted by the initial conditions. (Once investment is controlled for, Japan's predicted growth rate matches the actual very closely.) But none of the HPAEs is too far off from the regression line. In fact, by adding initial equality, our simple regression tracks HPAEs' performance much better than the *Miracle* report's basic growth regression (see Table 4).³ This even though the latter contains additional variables like investment and population growth. Thus, once initial levels of schooling and equality are taken into account, there appears to be nothing miraculous about the HPAEs' growth experience.

This point is driven home by looking at the growth residuals for the comparator countries listed in Table 4. The residuals tend to be much larger for these countries. For example, the predicted growth rates for Argentina, India, and the Philippines are 2-3 times larger

³The *Miracle* report's basic regression does particularly poorly in explaining growth in Korea, Taiwan, and Thailand.

than the actual rates. Brazil's growth, on the other hand, is greatly underestimated. These results are interesting because they suggest that the "growth puzzles" reside not with the HPAEs but with other countries like Argentina, Philippines, or Brazil which are the true outliers once initial conditions are controlled for.

Why did the initial conditions matter so much? The importance of human capital for growth is well recognized and does not need much discussion. Human capital makes investment more productive, facilitates the transfer and adoption of advanced technology from abroad, and enables the establishment of a meritocratic, efficient, and capable public administration.

The links between initial equality and growth are less certain, and have only recently been examined in some detail. Initial results by Persson and Tabellini (1991) and Alesina and Rodrik (1994) on the negative relationship between inequality and growth have been subsequently shown to be statistically robust by Clarke (1993). There are several arguments regarding the specific causal linkages. Murphy, Shleifer and Vishny (1989) have argued that a sufficiently equal distribution of income is a prerequisite for industrialization, because the middle class is the natural source of demand for home-based manufactures. Their analysis is in fact motivated by the experience of countries like Japan and Taiwan where demand by farmers for manufactures apparently played an important role during the early stages of industrialization.⁴

Other arguments are primarily political in nature. Alesina and Rodrik (1994) have pointed out that, as long as the preferences of the

⁴This argument crucially relies, however, on the absence of foreign trade, or at least on foreign trade being costly.

majority carry political weight, there will be more pressure to redistribute income and wealth in societies where inequities are large. Such pressures will ordinarily result in various kinds of redistributive policies that are harmful to private investment and to growth. Alesina and Perotti (1993) argue that the link may also operate through political instability: inequality results in demands to alter the established order; political instability in turn reduces investment. They also provide empirical evidence consistent with this view.⁵

Whatever the relative merits of these theoretical arguments, it seems quite plausible that the relative equality of income and wealth in the HPAEs has been a critical determinant of the quality of policy making in these countries. It is doubtful whether the single-minded pursuit of economic growth which has been a characteristic of many of the HPAEs (particularly Japan, Korea, Taiwan, and Singapore) could have been maintained in an environment where distributional issues had significant salience.⁶ The inequality of income in Latin America has often been mentioned as a source of the continent's macroeconomic instability and periodic populist cycles. Significant levels of income inequality

leads to social pressures that governments have attempted to relieve through populist policies. After one or two years of economic expansion inflation soars, real wages fall, unemployment starts to increase, and output declines. The policies prove unsustainable, and the government has to switch to another set of policies. Many countries in the [Latin American] region have suffered this populist cycle, some of them more than once.

In East Asia, the situation has been the opposite. A very

⁵Unfortunately, their index of social and political instability covers only three of the HPAEs (Japan, Taiwan, and Thailand).

⁶The Malaysian government did follow explicitly redistributive policies to favor ethnic Malays. But even here, the starting point was a relatively equal distribution of income and wealth (as discussed above).

equitable income distribution has facilitated macroeconomic stability. (Larrain and Vergara, 1993, pp. 259-260.)

In his discussion of the respective responses of East Asian and Latin American countries to the debt crisis, Sachs (1985) has similarly focussed on income equality as a determinant of the quality of macroeconomic management.

This is an area that clearly requires more work. But there are good reasons to believe that many of the microeconomic and macroeconomic policies common to the HPAEs and cited in the *Miracle* report as components of the so-called market-friendly approach (such as macro stability and reasonably small levels of micro distortions) have been greatly facilitated by the relative equality of income and wealth.

In view of the apparent centrality of distributional preconditions, the *Miracle* report's treatment of the issue is quite skimpy. There is a short description of land reform and its favorable implications for growth (pp. 160-61), but the arguments are superficial and in the nature of after-thoughts.⁷ This is not to say that the report ignores distribution. To the contrary, there is a great deal of emphasis on how equity and growth went hand in hand--the "shared growth" phenomenon. What the report lacks is a serious discussion of equity as a precondition of growth. Among all the explanations offered in the *Miracle* report for the success of the HPAEs, a relatively equal

⁷On Taiwan: "Political stability benefited [from land reform] in two ways. Newly landed farmers, focused on boosting production, had little interest in radical activities. Former landlords, as new shareholders in state enterprises, had a vested interest in the success of Taiwanese authorities' economic program" (p. 161).

distribution of income and wealth hardly figures.⁹

The report also downplays the role of the HPAsEs' initial advantage in education. It argues that most of the difference between HPAsEs and other countries in human capital formation is accounted for by changes that took place after 1960, and not by the difference in initial conditions (pp. 198-99). This is a deceptive argument that ignores the fact that high-growth countries will naturally experience higher rates of physical and human capital formation. If the initial advantage placed the HPAsEs on a higher growth path, there is little surprise in learning that the gap widened considerably over time.

III. Did Activist Trade and Industrial Policies Matter?

No aspect of the East Asian experience is more controversial than the role played by interventionist industrial policies. Controversy surrounds both the extent of intervention that actually took place and its effectiveness. As mentioned in the introduction, the *Miracle* represents a bold step for the World Bank, certainly in relation to its previous stance: the report acknowledges that intervention was extensive in practically all of the HPAsEs (save for Hong Kong), and that it was at best quite successful and at worst rather harmless. In my judgement, this represents a sensible starting point for a new conventional wisdom about the East Asian experience. It seems far closer to the truth than previous arguments that either portrayed these countries as paragons of market liberalism or as instances of government-driven industrialization.

⁹The report provides no systematic information on distribution relating to the pre-take-off period. Table A5.4 gives data on income distribution, but these do not pertain to the initial conditions.

The report's more detailed conclusions on what worked and what did not are more problematic. That's because the analytical framework employed in analyzing the consequences of industrial policies is riddled with crater-sized holes.

The problems begin with the authors' classification of interventionist policies into the following three categories: (i) "promotion of specific industries"; (ii) "mild financial repression combined with directed credit"; and (iii) "export push" (see pp. 24-25 and chap. 6). The first of these is judged to have been ineffective (so not worth emulating in other countries); the second to have been successful in certain instances (but too risky or impractical to implement in other contexts); and the third to have been the most successful of all (hence the most promising for other countries as well).

This categorization is curious because it makes no distinction between policy instruments and policy goals. "Promotion of specific industries" is a policy goal, in pursuit of which a government can deploy various instruments. Two such instruments are "directed credit" and export subsidies, the other two items on the list! Indeed, the country summaries on industrial policy on pp. 306-312 of the report amply demonstrate that credit and export policies were among the foremost instruments used to implement sectoral priorities. To say that directed credit and export push policies worked, while promotion of specific industries did not is a logical inconsistency of major proportions. It is difficult to fathom how it found its way into the report (as a major conclusion, to boot!). Where was credit directed, if

not to specific industries?⁹ Whose exports were pushed, if not those of exportable industries? And how is it possible to judge selective industrial policies a failure if at the same time directed credit and export push policies were successful?¹⁰

The analysis that backs up the conclusion about the inefficacy of industrial promotion policies--the first of the three conclusions mentioned above--is equally curious. First, as one may have guessed already from the above discussion, the analysis actually does not try to ascertain the effectiveness of any of the specific policy instruments used to promote targeted industries. (This is done indirectly--and casually--in the discussion on credit-market and export policies, which, as mentioned above, are treated as distinct areas.) Instead, the authors pose two questions, which they proceed to answer in the negative: (1) Did high-wage or high-value-added industries expand faster than would have been predicted on the basis of cross-country evidence or factor endowments? (2) Was productivity increase higher in "promoted" sectors than in others? A closer look at these questions is warranted, since there are serious shortcomings in both their operationalization and the interpretation attached to the results.

(1) Did Industrial Policy Influence Structural Change? The report

⁹The report explicitly mentions that the Japanese and Korean governments directed credit to specific firms and industries, mostly in heavy and chemical industries (p. 280).

¹⁰The report makes much of the fact that export push policies tended to be uniform and across the board, with no industry excepted. Even so, these policies necessarily discriminated in favor of export-oriented industries and against import-competing and non-tradable industries. Even within exportables, larger firms were better placed to take advantage of the incentives, which was fully in accord with the Korean government's desire to nurture large conglomerates. Furthermore, export-push policies were in practice implemented in a much more discretionary manner than the report would let us believe. The last point will be discussed below.

compares the changes in industrial structure observed in the HPAEs to Chenery-like norms obtained from cross-country regressions. The conclusion is that two sectors stand out in the HPAEs as regards relative size and growth: (i) metal products, electronics and machinery, and (ii) textiles and garments. The continued preponderance of textiles and garments is then adduced as evidence that governments' efforts to move into more capital-intensive industries must have been largely ineffective:

In Korea, for example, despite the government's extensive efforts to speed the private sector's shift from labor-intensive to capital- and technology-intensive industries, the relatively labor-intensive textiles and garments sector was nearly three times bigger than international norms predicted in 1988, a substantial increase relative to international norms from 1968. During the same period, Korea merely maintained the international norm in chemicals, a heavily promoted sector.... (312-313).

One can quarrel with many aspects of this conclusion. Since specific policies and their consequences are not systematically analyzed, it is difficult to read much into broad sectoral changes. Amsden (1994), for example, points out that the textile industry was heavily promoted in Japan in at least part of the relevant period. The textile industry was also one of the strategic industries in Korea during the 1960s (L. Kim, 1993, p. 362). Further, the two-digit level of aggregation may be too coarse to discern much of the intended structural change. Many textile sub-sectors are certainly capital- and technology-intensive.

Perhaps the most serious objection is that cross-country norms about sectoral configurations necessarily carry little weight in economies where reliance on foreign trade has been significantly greater than elsewhere. As the share of foreign trade in HPAEs' incomes rose, it is only natural that the forces of specialization exerted by

comparative advantage would have become stronger. Given the very different trade strategy followed by other developing countries, their experience does not provide an adequate counterfactual. An analysis of the type carried out here cannot tell us anything about what the effects of industrial policies have been, because we do not know what the outcome would have been in their absence. To be more concrete, had government policies been truly ineffective, it is entirely possible that the share of textiles and clothing would have become even larger.

The report next looks at the pattern of correlations between growth in sectoral shares of value added (VA) and sectoral wages or VA per worker. The motivation for doing so, as far as I can make it, seems to be the following sequence of arguments: (i) changes in industrial structure can come about because of either market-driven reasons (which are associated with comparative advantage and factor endowments) or selective government promotion policies; (ii) HPAEs' comparative advantage resides in labor-intensive sectors; (iii) selective government policy in HPAEs has favored capital- and technology-intensive industries; (iv) sectoral levels of wages and VA per worker are indicators of sectoral capital- and technology-intensities; (v) therefore, if factor endowments (i.e., markets) predominated as a causal force in structural change, growth in sectoral shares of value added should have been negatively correlated with sectoral wages and VA per worker, whereas the opposite should have been the case if government policies predominated.

The findings are as follows. The results for Japan, Hong Kong, and Taiwan do not reveal any statistically significant correlations. In Korea, sectoral growth rates tend to be negatively and significantly correlated with VA per worker. In Singapore, the relationship tends to

be positive. The authors downplay the Singaporean results as having been possibly the consequence of capital deepening (and hence market-driven). On the basis of these findings, the market is then declared victorious over the government.

Alas the analysis is meaningless. The factor-proportions theory has no implication for the correlation between growth rates and factor intensities (as proxied by wage rates or VA per labor) across industries.¹¹ Given factor endowments, the theory offers a prediction as to the pattern of specialization on the basis of factor intensities of different industries. It says nothing about how this pattern will change, unless one posits a change in factor proportions as well. It may be countered that the HPAEs' reliance on trade and therefore on comparative advantage increased over time, so that what we ought to be looking for is a convergence, again over time, towards the pattern of specialization predicted by the theory. Perhaps so. But as amply demonstrated elsewhere in the report, the HPAEs greatly increased their stock of human and physical capital in the meantime as well. A priori, the net effect on the direction of structural change is ambiguous. Once again, the report's empirical analysis does not tell us much because the appropriate counterfactual is not specified.

Moreover, there is a great deal of internal inconsistency in the use made of empirical evidence here. Take the case of Japan. The lack of any statistically significant correlations between sectoral growth rates and sectoral wages or VA per labor in any of the four sub-periods

¹¹Note further that while VA per worker can be taken as a proxy for capital-intensity, the notion of "sectoral" wages has no meaning within the factor-endowments theory. According to the theory, labor is inter-sectorally mobile, and hence there ought to be a single, economy-wide wage.

considered (1953-63, 1963-73, 1973-80, 1980-89) must surely be considered a resounding failure to confirm the authors' perceptions of factor-proportions theory. So does the report conclude that the hypothesis of market-driven structural change can be rejected for Japan? Not at all:

The regression results shown for Japan in Table A6.2 have no significant coefficients. At least a simple version of HOS [Heckscher-Ohlin-Samuelson theorem] does not work, probably not surprisingly as Japan by the earliest year considered in the table, 1953, was sufficiently advanced so that intra-industry rather than interindustry trade would have become an important determinant of the sectoral production structure. (p. 333)

In other words, the empirical analysis was inappropriate to begin with! One wonders what the point of running regressions is if any result will be taken to confirm the authors' priors.¹² In any case, the comment about intra-industry trade is quite wrong: even as late as 1990, only 58 percent of Japan's trade was intra-industry in nature, considerably below other advanced industrial countries (Bergsten and Noland, 1993). Japan's trade would have become hardly so contentious had intra-industry trade been already dominant by 1953, as the report claims.

(2) Did Industrial Policy Enhance Productivity Change? In answering this question, the report compares increases in total factor productivity (TFP) in "promoted" sectors (again at the two-digit level) with increases in TFP in other sectors. According to this test, there is evidence in favor of industrial promotion policies only in the cases of chemicals and metalworking machinery in Japan (between 1960 and 1979). Other cases do not pass the test. In Korea, there was low TFP growth in iron and steel ("promoted") and high TFP growth in textiles and clothing ("not promoted"). In Taiwan and Malaysia, there is no

¹²The same is done in interpreting the results for Singapore (mentioned above).

apparent relationship between a sector's status with respect to promotion and its relative rate of TFP growth (pp. 315-316). Hence industrial policies must have been largely ineffective in fostering productivity change as well.

What is wrong with this argument? Let us review for a second the basic economics of selective promotion. From an efficiency standpoint, the only legitimate ground for promoting certain industries over others is that the promoted industries are a source of technological externalities. These externalities can take many forms, but let us focus, in the spirit of the report's analysis, on those that relate to TFP. To be as favorable to the report as possible, let us further grant that the spillovers remain within two-digit industries, rather than enhancing productivity in other sectors or in the economy as a whole.¹³ Then, a necessary (but not sufficient) condition for selective promotion to have been desirable is that the level of TFP must have increased as a consequence of the intervention, relative to what it would have been in its absence. Hence, not only is an increase in the rate of growth of TFP not required, but more importantly, the TFP performance of other industries is irrelevant to the desirability of the intervention. The relevant benchmark is what the TFP performance of the promoted industry itself would have been in the absence of intervention.

So consider the case of iron and steel in Korea, where TFP increased at a rate of 3.7 percent compared to an industry average of 8.8 percent (Table 6.16, p. 307).¹⁴ Now suppose, just to make the point,

¹³The report argues that this is the empirically most plausible case (p. 326).

¹⁴It is worth repeating that the validity of these TFP numbers themselves is very much in doubt (see Young, 1993a and 1993b).

that TFP would have increased at a rate of 3.0 percent had promotion policies not been in effect. Then, provided the by-product costs of the interventions were small, the promotion policies would have to be judged a success. That at the same time productivity increased at a rate of 13.4 percent, 10.7 percent, and 12.6 percent in such technologically unrelated industries as tobacco, textiles, and leather, respectively, has no bearing on the issue at hand. If a benchmark is sought, the comparative performance of iron and steel industries in other developing countries would perhaps provide a more accurate (but still problematic) counterfactual than the TFP performance of other sectors in Korea. Alternatively, a systematic analysis of changes in sectoral TFP performance across sub-periods that differ in terms of promotion policies could have been undertaken.

Recent work by Jong-Wha Lee (1992, not cited in the *Miracle*) shows that it is possible to do more serious work along these lines. Lee first constructs direct measures of industrial policy, such as tariffs and quantitative restrictions (QRs) on imports, directed credit, and tax incentives at the sectoral level. He then uses these indicators in a panel data set of 38 Korean manufacturing industries over four 5-year subperiods (covering 1963-83) to ascertain the relationship between productivity change and government policy. The results are intriguing. He finds that trade restrictions and subsidized credit had adverse effects on TFP growth. Note that the result on credit is at variance with the *Miracle's* favorable conclusions on directed credit policies. Lee also finds, however, that tax incentives had positive effects on

productivity change.¹⁵ These results bear close scrutiny, as they do not lend themselves to any simple interpretation regarding the effectiveness of industrial policies. Note, moreover, that this paper is not entirely free of the problem of specifying an appropriate counterfactual. But the focus on direct measures of interventions and on performance across different sub-periods makes it a far more reliable piece of work.

To summarize, the *Miracle's* analysis of the consequences of industrial policy lacks credibility. There is little doubt that the World Bank has done a great service by acknowledging openly the range of interventions and promotion policies used by each of the countries, and by describing these in useful detail. In view of the visibility of the Bank's work, this is of tremendous importance. It will no longer be possible to claim that East Asian governments did so well because they intervened in markets so little. But for an authoritative analysis of how these interventions worked, and which of them failed, we will have to wait for another report.

IV. Export Fetishism

As indicated above, the report concludes that policy interventions were an unqualified success in one area: exports. "Export-push strategies [a euphemism surely for export subsidization] have been by far the most successful combination of fundamentals and policy interventions and hold the most promise for other developing economies" (p. 24). In fact, it is hard to read the report without sensing a certain mercantilism running through it. No government policy, it seems, could have been

¹⁵The tax incentives in question include rebates of indirect taxes for exportables and tax holidays or investment tax credits for selected firms in key industries (mostly in the heavy and chemical industries).

harmful, if its aim was to expand exports. That the HPAEs' growth performance was accompanied by a phenomenal increase in exports is of course undeniable. That exports may have played a causal role in growth is also plausible. But the report is too heavy-handed in attributing a key role to what it calls "export-push strategies" and too quick in explaining away the various puzzles that the HPAEs' experience with trade raises.

There are three broad arguments in the report with respect to the role performed by exports in generating and sustaining growth. First, exports are alleged to be the source of many technological spillovers to the rest of the economy. Second, it is argued that the cross-country evidence demonstrates the growth benefits of openness. Third, the use of exports as "performance standards" is claimed to have rendered government interventions more effective (and less costly) than they would otherwise have been. Each of these arguments may well be true. But the analysis contained in the report will not convince anyone who is not already a convert to the faith. In what follows, I take up each of these arguments and discuss their shortcomings as presented in the report.

(1) Do Exports Generate Technological Spillovers? The report concludes that a high growth rate of manufactured exports, which was a consequence of export-push policies of the HPAEs, led to an economy-wide increase in TFP growth. The causal link is claimed to be "an increased ability to tap world technology" (317) through exports. A number of channels through which this may have taken place is discussed, but the report provides no direct evidence to support this proposition. Cross-country regressions on growth and TFP change, discussed below, are presented, but these do not address specific causal mechanisms, and say

nothing about the existence of spillovers from exports.

Nor are most of the a priori arguments convincing (pp. 317-320). For example, it is said that competitive pressures in export markets forced firms to purchase new technology embedded in imported equipment. However, the relationship between competition in product markets and technological effort is theoretically ambiguous (for a discussion of the issues, see Rodrik, 1992).¹⁶ It is argued that export orientation fostered export-oriented direct foreign investment (DFI), which in turn created spillovers for the rest of the economy. A footnote then grants that DFI has been important as a source of investment growth neither in Japan, nor in Taiwan, nor in Korea! Neither, one may add, is there much empirical evidence on spillovers from DFI.¹⁷ A convoluted argument is offered, which largely eludes me, regarding the advantages of export orientation in obtaining access to technology licensing from abroad.¹⁸

The list goes on. Perhaps the most sensible argument offered (and the one actually corroborated in specific studies) is that frequent contacts with foreign customers have served as a conduit for technology

¹⁶One of the reasons for the theoretical ambiguity is actually mentioned later on (in footnote 49, p. 345) in another context: an increase in relative profitability has both an income and substitution effect on entrepreneurial incentives to undertake technological effort, and these go in opposite directions. But the issues go much deeper than that.

¹⁷In the most careful analysis of this issue to date, Aitken and Harrison (1992) conclude from plant-level data from Venezuela that there is no evidence in favor of spillovers from foreign-owned plants. Haddad and Harrison (1993) reach a similar conclusion on Morocco.

¹⁸There exists at least one strong argument which suggests the opposite. The foreign holder of the license is much less likely to sell the license to a firm that will compete head on with it in international markets than to an import-substituting firm which produces solely for the domestic market (which the foreign firm cannot access because of trade restrictions).

transfer from abroad. But this is too thin a branch to hang such a weighty argument on. My reading of the evidence to date is that if exports have really acted as a source of technological spillovers to the rest of the economy, we do not yet understand how this occurred.

(2) Does the Cross-Country Evidence Suggest that More Open Economies Grow Faster? The report's empirical analysis of the relationship between exports and growth consists of running some cross-country regressions. The strategy is to enhance the basic growth regression, discussed earlier, by adding trade-related variables on the right-hand side and demonstrating that indicators of openness have a positive association with growth. Two types of indicators are used: a measure of the size of manufactured exports (relative either to GDP or to total exports) and an "openness index" due to David Dollar (1992). Since the first of these indicators is obviously endogenous with respect to growth (as countries grow, so does the importance of manufactured exports in output), its use is inappropriate in this context.¹⁹ So I focus here on the results obtained with the Dollar index.

Since this index has been widely abused, not least in this report, it is worth a close look. The Dollar index is essentially a measure of real exchange rate divergence. Its links to openness, as economists understand the term (the ratio of trade to GDP, or the presence of import or export restrictions), are tenuous. An increase in trade restrictions can move the Dollar index in either direction. These

¹⁹Alwyn Young (private correspondence) has shown that the findings with regard to the manufactured exports variables are in any case not robust. The coefficient on manufactured exports (as a share of GDP) becomes insignificant when the HPAEs are removed from the sample, indicating that the trade variable itself is acting as a proxy for HPAEs. When the initial (1960) and end-of-period (1985) shares of manufactured exports in total exports are entered separately, only the latter remains significant.

points are discussed at greater length in the appendix to this paper.

That the Dollar index lacks credibility as a measure of openness can perhaps best be seen by looking at how the index ranks specific countries (Table 5). According to the index, Japan's and Taiwan's economies were more "closed" during 1976-85 than Argentina's, Brazil's, India's, Mexico's, the Philippines' or Turkey's! Korea's economy was more "closed" than any of these comparators' save for Argentina! The report does not highlight these results because doing so would mean giving up either on the usefulness of the Dollar index or on the claim that the HPAEs were more open than some of these leading import-substituting countries.²⁰

Table 6 displays cross-country growth regressions with the Dollar index included as a regressor. I have used the same basic framework as that in Table 6.17 of the *Miracle*, but have excluded the two endogenous regressors, investment and population growth. The first column reports the result of introducing the Dollar RER distortion index (which, as mentioned above, the report calls an openness index). The coefficient is negative and statistically significant, as in the report. The second column adds Dollar's variability index, which consists of the coefficient of variation of the RER distortion index. The variability index enters significantly and renders the RER distortion index insignificant. The next two regressions combine the two Dollar indices with direct measures of exchange rate policy: the average black-market premium for foreign currency and its standard deviation. Both of these

²⁰The report actually wants to play it both ways, by citing not this openness index but Dollar's "outward orientation" index when comparing the HPAEs to other developing economies. The latter index, as discussed in the appendix, combines the real-exchange-rate divergence index with a variability index, as if real-exchange-rate variability is something that is inherent in "inward orientation".

measures are strongly and negatively associated with growth; further, when either one of these measures is included, the Dollar indices are no longer statistically significant. Finally, when the Gini coefficient for land distribution, used earlier, is included, the black-market premia become insignificant as well. However, in this last case, the sample size shrinks to 27 countries, so the results are not particularly reliable.

Thus, what the previous discussion and the results in Table 6 show is that it is primarily exchange-rate mismanagement that appears to be harmful to growth. To the extent that there is a lesson here, it is that overvalued exchange rates are detrimental to long-run economic performance. On the basis of evidence presented in the *Miracle*, we cannot conclude anything about the consequences of trade restrictions or of openness proper.²¹

In the context of HPAEs, there is indeed an equally plausible claim that the link between trade orientation and innovation may have gone in the opposite direction. An authoritative study on Japan's innovation system concludes that import restrictions were the most significant and helpful industrial policy as regards R&D effort:

The restriction on imports and foreign direct investment into Japan was probably the most important policy until the early 1970s [as regards innovation]. Restricting the growing Japanese market, already the second largest in the capitalist economy in the late 1960s, to Japanese firms who were competing intensively among themselves gave a strong incentive to invest in plants, equipment, and R&D. In addition, because postwar Japan's Peace Constitution

²¹In addition to the cross-country regressions, the report mentions some micro-level studies which find a positive association between export orientation and productivity growth. As the more careful of these studies are quick to point out, no causality can be attached to correlations of this sort. In particular, firms and industries which experience fast productivity growth are naturally more likely to become successful exporters. See Rodrik (1993a) for a review of the related literature.

meant that the military was no longer a significant customer to businesses, industries such as automobiles, which had been helped by military procurement before the war but was still in its infancy relative to American and European producers, might have been wiped out were the market made open to foreign competition. (Odagiri and Goto, 1993, p. 102)

While the logic of this argument may be faulted, it is no more or less appealing than the unsatisfactory account in the *Miracle* as to how export orientation promoted innovation. I conclude that the jury remains out, and that we have considerable more work to do on this front.²²

(3) Exports as a Performance Standard: Do They Improve Policy-Making? The third main grounds on which export orientation is alleged to have been conducive to superior economic performance is in improving the quality of policy making, and of policy interventions in particular. The argument is as follows. Industrial policy entailed providing various rewards to enterprises in return for which enterprises were expected to "perform" (that is, increase output, enhance efficiency, become more competitive, etc.) The imposition of clear performance standards in exchange for government-dispensed rewards enabled industrial policy to become effective, or at least limited its harm. It was exports that often served as the explicit or implicit performance requirement. Exports provided a clear yardstick of success, which could be used to monitor whether firms were living up to their side of the bargain.

The argument essentially merges Amsden's (1989) focus on performance requirements with the report's emphasis on exports. Two

²²Even the data on TFP growth are in doubt. Alwyn Young (1993), for one, has argued that productivity growth in many of the HPAEs is not atypically high, once factor accumulation is taken into account. This is in contrast with the conclusion put forth in the *Miracle*.

questions need to be asked in relation to it. First, in what sense do exports provide a superior performance standard than any other enterprise decision that can be monitored with equal ease, such as output, employment, or net foreign exchange use. Second, is there anything special about the use of performance standards in the HPAEs?

On the first question, we get only minimal help from the report:

Using exports as a performance yardstick generated substantial economic benefits. A firm's success in the export market is a good indicator of economic efficiency--a much better indicator, in fact, than success in a domestic market. Export markets are likely to be much more competitive than domestic markets. (p. 98)

The buttress its case, the report then mentions spillovers from export activities, which I have already discussed. There is actually very little in all this about the superiority of exports as a performance standard per se. The logic seems to be simply that exports generate greater economic benefit at the margin than selling in the home market. But if that is so, surely exports ought to be encouraged for their own sake, and their use as performance standards only confuses the issues. Moreover, this emphasis on exports as a benchmark of efficiency is completely belied by a discussion shortly thereafter on how domestic commercial banks have typically preferred lending for domestic activities to lending for foreign activities (p. 99). One would have thought that rational banks would have used export activities as a simple screening device to distinguish more efficient borrowers from less efficient ones, if indeed the maintained hypothesis is correct.²³

With regard to the use of performance standards more broadly, the report adopts too uncritically Amsden's (1989) argument that the use of

²³That they apparently have not done so is rationalized in the report by banks' inadequate knowledge of foreign markets and by the greater risks associated with export-oriented projects. It is not clear why the government is not susceptible to these same problems.

such standards distinguishes HPAs from other developing countries. In reality, what distinguishes HPAs from others is the successful use of performance standards, which, as we shall see, is a rather different point.

Consider the firm-specific export targets used in Korea in return for the generous benefits offered to exporters during the 1960s and 1970s. A superficial reading of the evidence would be that these targets ("performance standards") ensured good behavior on the part of the firms, and therefore prevented the subsidies from going to waste. But surely more countries must have landed on such a simple idea. And indeed they have. Performance standards of this kind are in fact not uncommon in many parts of the developing world. Some go under the less reputable name of "performance requirements" when applied to subsidiaries of multinational corporations, and are held in scorn by virtually every neoclassical trade economist.²⁴ Others however apply to domestic firms as well. In Turkey, for example, the provision of export subsidies during the 1980s was contingent on undertaking a specific quantitative export commitment (Milanovic, 1986, p. 6). In President Garcia's Peru (1985-90), the government entered into specific contracts with major exporting firms, under which advantageous exchange rates were granted to firms in return for export targets (Lago, 1991, p. 272).

What distinguishes these cases of performance standards from the East Asian cases is the inability of governments like the Turkish and Peruvian ones to implement the standards. In Turkey, the export requirement was in practice easily waived: According to Krueger and

²⁴These performance requirements, on exports, maximum imports, local-content etc., are typically imposed in exchange for tax holidays or similar benefits.

Aktan (1992, p. 247. fn. 5), "If for some reason, the export was not realized, [the firms] simply notified [the relevant government agency] that they would not be exporting that amount, and there was no penalty." In other words, the government's threat to withhold support if the firms did not live up to their side of the bargain was not a credible one. The East Asian governments, by contrast, were somehow able to make credible threats. There was a clear understanding on the part of firms in Korea that below-target performance would bring forth penalties in the form of more rigorous than usual tax inspection and tax collection (Rhee *et al.*, 1984, p. 92).

The real puzzle, then, lies with the HPAEs' singular ability to extract performance from enterprises by credibly threatening reprisal, not the presence of performance standards per se. This naturally leads us to consider issues of governance, which is the subject of the next section.

Let us return briefly to the *Miracle's* approving focus on "export-push strategies". The report lists four elements that play key roles in a successful export push: (i) access for exporters to imports at world prices; (ii) access for exporters to long- and short-term financing; (iii) government assistance in penetrating markets; and (iv) flexibility in policy implementation (p. 143). The last of these is presumably a good thing under nearly all circumstances.²⁵ But the desirability of the first three policies, which the report recommends wholeheartedly to all countries, is predicated on the social marginal return to exports being

²⁵The qualifier in this sentence is due to the potential trade-off between policy flexibility and the need to make binding policy commitments in order to have the private sector behave in the desired manner. The HPAEs have somehow managed to combine these conflicting strategies (see Rodrik, 1993b, for a comparison of a number of countries' experience with export subsidies).

larger than the social marginal return to production for the home market. Otherwise, all producers, not just exporters, should have access to inputs at world prices, receive short- and long-term financing, and be provided with government assistance in marketing regardless of destination of output. Interestingly, the report downplays the major, generic reason for why the social return to exporting may be high: the existence of import protection that biases incentives away from trade. The presence of spillovers and technological externalities from export activities, on which the report relies instead, remains no more than an article of faith.

To close this section on exports, one point may need to be clarified. My criticism of the report should not be read as a rejection of the use of export-oriented policies. As I suggested at the outset, it is indeed plausible that exports were causally related to the growth performance of the HPAEs. But the objective of good economic analysis should be to uncover the precise cause and effect links, and to fashion policy recommendations on the basis of these links. The present report falls short in that it accepts too uncritically some vague, generalized spillovers from export activities on the basis of very little evidence.

V. Governance

The *Miracle* recognizes that there is something special about the style of governance in HPAEs. How else can one account for the fact that policy interventions have been kept at reasonably manageable levels (both in terms of scope and magnitude) and that they have not resulted in generalized rent-seeking as in so many other developing countries? The report wisely devotes the better part of a chapter (chap. 4) to a discussion of how HPAEs were able to create government capabilities that

have been lacking elsewhere.

The report stresses, along with the literature (e.g., Evans, 1992), two critical aspects of the governance structure in HPAEs. The first is the insulation of a technocratic elite, entrusted with the conduct of economic policy, from the push and pull of politics. Even in Indonesia and Thailand, where clientelism has been predominant, key decision-making structures (particularly in macroeconomic policy) have been insulated from pressures from below and sideways. This insulation is attributed partly to clever institutional design (e.g., centralization of key policy functions in independent bureaucratic organizations), partly to a willingness to distribute the fruits of growth widely, and partly to the presence of a reputable, honest civil service (achieved through merit-based recruitment and promotion, competitive remuneration, and generous rewards to those who make it to the top). But technocratic insulation can also lead to indifference to economic outcomes. So the second critical aspect is the creation of institutions ("deliberation councils") that enable communication and cooperation between the public and private sectors (particularly with business elites).

It is a plausible hypothesis that these elements, shared broadly among the HPAEs, helped create a superior governance structure. The report does a nice job of describing how each one of these elements operated in different countries. But description is not explanation. A careful reader of chapter 4 will encounter the *post hoc, ergo propter hoc* fallacy more than once. For the most part, the report ignores the obvious fact that many of the same elements have been present in other, less successful countries as well. Deliberation councils have been used widely, but too often they have served the purpose of imposing the

government's policies on a reluctant private sector (as indeed has been the case at least in Korea as well). Many former British colonies have inherited a highly professional civil service: it would be hard to find a more merit-based, more professional institution than the Indian Administrative Service, entry to which is even more selective than to Tokyo University. Neither do the HPAEs have a monopoly in centralized policy making. Finally, as I will argue below, the level of corruption in many of the HPAEs is comparable to that in the rest of the developing world.

My point in raising these objections is to suggest that our understanding of the fundamental determinants of the HPAEs' governance structure is considerably more limited than what the *Miracle* would lead us to believe. Let me highlight this point by focussing on two puzzles that the report sidesteps. The first has to do with the fact that the HPAEs' style of policy-making has been in fundamental conflict with economists' (and the World Bank's) own rules of good conduct. The second is related to the extent of corruption in HPAEs.

Ask any policy-oriented economist what a good policy regime should look like, and you are likely to get an answer of the following form.²⁶ Successful programs are likely to:

- apply simple and uniform rules, rather than selective and differentiated ones;
- endow bureaucrats with few discretionary powers;
- contain safeguards against frequent, unpredictable alteration of the rules;
- keep firms and other organized interests at arms' length from the

²⁶This discussion draws on Rodrik (1993b).

policy formulation and implementation process.

These notions derive from various bits and pieces of economic theory, including the theories of dynamic inconsistency in policy, investment under irreversibilities, and rent-seeking. The World Bank's policy recommendations, particularly in the area of trade policy, rely heavily on these or similar ideas.

The puzzle with respect to the HPAEs is that their policy-making style has been virtually orthogonal to the list above: Many of the interventions have been firm-specific, highly complex, and non-uniform; bureaucrats have been endowed with tremendous amount of discretion in applying policy; rules have been changed often and unpredictably; and government officials have interacted closely with enterprise managers. The *Miracle* is filled with examples of these, but the authors succeed in putting the best face on them. Hence bureaucratic discretion and the ability to revise rules at a moment's notice become the highly desirable "pragmatism and flexibility" (p. 102) extolled throughout the report. The close interaction with firms becomes part of the "deliberation councils" idea. The reader is left puzzled as to how the HPAEs were able to strike just the right balance between opposing forces in each of these instances.

With regard to corruption, the report perpetuates the misconception that the HPAEs were blessed with relatively incorruptible bureaucracies (p. 102). This must come as a surprise to even a casual reader of the newspapers and the business press. Corruption has figured prominently as a key issue in recent election campaigns in Japan, Korea, and Taiwan alike. The Economist has recently called Taiwan "a country where corruption scandals are a dime a dozen" (November 6th, 1993). The most outrageous recent case has involved the building of a rapid transport

system in Taipei which, thanks in part to widespread corruption in awarding contracts, has now become the world's most expensive system. The current Korean president, Kim Young Sam was elected on an anti-corruption plank, and since he assumed power in February 1993 a number of top officials, military officers, bankers, and businessmen have been arrested or have resigned. Korean government agencies where corruption has been uncovered include the Seoul metropolitan government, the much-vaunted Economic Planning Board, the Ministry of Trade and Industry, the Office of National Tax Administration, the Finance Ministry, the Seoul Subway Corps., and the Education Ministry (Asian Business, March 1990, pp. 52-53). According to the Wall Street Journal (January 4, 1994, p. A5), corruption was "almost-routine" in Hong Kong prior to 1974 (at which time an Independent Commission Against Corruption was set up). Top officials of the Hong Kong Stock Exchange were arrested in 1988 in connection with irregularities during the October 1987 market crash.

In Thailand, the current prime minister has been identified by the Far Eastern Economic Review as the first elected figure in the country's history "who is tainted by neither corruption nor authoritarianism" (August 5, 1993, pp. 18-19). According to International Management, "one of the main problems [faced by Indonesia in attracting foreign business] is Indonesia's reputation as one of the most corrupt, bureaucratic, and expensive places to do business" (September 1985 [Europe Edition], p. 113). In the words of Fortune magazine, "To companies with high ethical standards, East Asia can be disheartening" (Fall 1989, pp. 117-122).

A rough quantitative feel for the relative significance of corruption in different countries can be obtained from Table 7. The table shows the number of newspaper stories relating to corruption in

specific countries that has appeared in the U.S. press since 1989. HPAs as well as comparator countries are listed. Japan tops the list with no less than 392 stories, far ahead of the next two countries, Brazil (217 stories) and Mexico (138 stories). Korea has 57 stories and Thailand 27. These numbers are of course only indicative, as the U.S. media does not cover each of these countries equally. (There has certainly been more than 3 cases of major corruption in Turkey since 1989.) Nonetheless, the results are instructive in dispelling the notion of "relative lack of corruptibility of the public administrations in Japan and Korea" (p. 102).

This is surely yet another puzzle, for which we do not have a good explanation. One qualitative difference seems to be that corruption in HPAs has been limited to the very top echelons of the bureaucracy, while in many other developing countries it runs all the way down to the lowest ranks. If so, one interesting hypothesis worth exploring is that corruption at the very top does not do nearly as much harm to economic performance as corruption at the very bottom. Why should this be so? Shleifer and Vishny (1993) provide one reason.

Compare the situation of a would-be importer in two kinds of bureaucratic environments. In the first, all he has to do is bribe a high-ranking official in the ministry of trade to obtain an import license, after which he encounters no further bribe-seekers. In the second, the importer has to bribe not any high officials but a chain of low-ranking bureaucrats ranging from the doorman at the Central Bank to the clerk who processes the foreign exchange application to the customs officer on duty the day that the shipment arrives. Without question, the entrepreneur would rather deal with the first type of bureaucracy than the second. As the number of officials that need to be bribed

increases, so do the hassles and the likelihood that the chain may be broken by some accident or another.

But there is a more subtle economic reason as well, identified by Shleifer and Vishny (1993). The case where a multitude of bribe seekers have monopoly power over complementary services (a foreign exchange license, an import certificate, etc.) is analogous to the double-marginalization (more accurately in this context, multiple-marginalization) problem in industrial organization in which monopoly distortions are magnified by each distortion being built on previous ones. By contrast, a single high-ranking official would be in a position to internalize these distortions, with much lower cost to the entrepreneur and to society at large.

VI. Concluding Remarks

One of the most useful features of the *Miracle* report is its documentation of the variety of policies and institutions that comprise "the East Asian model". The model encompasses highly interventionist strategies (Japan and Korea) as well as non-interventionist ones (Hong Kong, Thailand); explicitly redistributive policies (Malaysia) as well as distributionally neutral ones (most of the rest); clientelism (Indonesia, Thailand) as well as strong, autonomous states (Korea, Japan, Singapore); emphasis on large conglomerates (Korea) as well as small, entrepreneurial firms (Taiwan). This range of strategies, all followed more or less successfully, suggests that the search for a parsimonious explanation of the East Asian miracle may well be futile.

On the other hand, we do have a short list of initial conditions and policies that made a difference. We know that both the initial levels of schooling and the subsequent focus on education were

important. We know that relative equality at the outset in terms of income and wealth must have mattered, although how exactly is not so clear. We know that macroeconomic stability, in the form of conservative fiscal policies and realistic exchange-rate management, was critical. We also know that a competent bureaucracy must have played a role. These may well account for how in each of the HPAEs the pieces somehow fell into place, even though the pieces themselves varied from country to country.

But, as I have argued throughout this paper, there is also plenty that we do not understand about the experience of the HPAEs. The World Bank's attempt to fit the East Asian experience into a "market-friendly" mold is only partly successful. While few would seriously disagree with the importance of macroeconomic stability and human capital formation (the first two elements of the market-friendly approach), there are still open questions about what constitutes an appropriate approach to "openness to trade" (the third element) and "an environment that encourages private investment and competition" (the final element). Whether export-orientation generates spillovers and productivity benefits beyond its obvious advantage of countering the adverse (static) effects of high import protection is still unclear. We are far from having a complete picture of what made East Asian governance structures so conducive to equitable growth. Consequently, the "correct" balance between laissez-faire and intervention remains as elusive as ever.

In sum, the World Bank's report poses too few questions and provides too many easy, but misleading answers. It does not acknowledge ignorance often enough.

APPENDIX: WHAT DOES THE DOLLAR INDEX MEASURE?

The Dollar index of openness is essentially a measure of a country's price level in tradables relative to the U.S. or the world average. The starting point is the Summers-Heston price index of a comparable basket of consumption goods across countries. Since this basket includes non-tradables as well as tradables, one needs to purge the effect of cross-country differences in the relative price of non-tradables. As the relative price of non-tradables tends to be lower in poorer countries, Dollar (1992) accomplishes this by regressing the price index on per capita GDP (as well as its square and dummies for Africa and Latin America in some specifications). Residuals from the regression are then interpreted as measures of the degree to which tradables prices deviate in any given country from the cross-country average.

In the published version of the paper, Dollar (1992, p. 526) calls the resulting index sensibly an index of real exchange rate (RER) distortion (an index of RER divergence would have been even better).²⁷ The *Miracle* report, however, calls it an index of openness. This is misleading on two counts.

First, as any student of trade theory knows, policies that affect

²⁷His terminology later in the paper is less sensible. He combines his measure of RER distortion with a measure of the variability in it to generate what he calls a measure of "outward orientation". This is unfortunate terminology for many reasons. As explained later in the text, commercial policies that govern inward- and outward-orientation (that is the share of trade in GDP) have no direct links to this index. In addition, the use of a variability index is baffling. It implies that inward-oriented countries have chosen, as a matter of policy, to experience more variability in their real exchange rates. The *Miracle* report uses this outward-orientation index uncritically to argue that HPAEs were on average more open to international trade than other developing countries (p. 301).

the openness of an economy (the share of trade in GDP) do so by altering the internal relative prices of importables to exportables. Hence the appropriate measure of openness is the degree to which this particular relative price, between two categories of tradables, differs from the international benchmark. The aggregate price of tradables, relative to other countries', has no direct connection with the conceptually appropriate measure. To see this, consider two trade-restricting policies that (thanks to the Lerner symmetry theorem) have identical consequences on resource-allocation and on openness in the long run: an import tariff of x percent, and an export tax of x percent. The first of these policies will raise the domestic price of tradables as a whole, while the second will reduce it (in both cases relative to the aggregate prices of tradables abroad). Judging by the Dollar index, the country restricting trade through export taxation will appear as if it has just become more open.²⁸

Second, the index takes the law of one price a bit too seriously. If the experience with floating exchange rates has taught us something, it is that changes in nominal exchange rates can result in sustained movements in real exchange rates. Indeed, the nominal and real exchange rates of the U.S. dollar, to take only the most prominent case, have been almost perfectly correlated with each other since 1973. The significance of this for the Dollar index is that the movements in the index are likely to be dominated in practice by exchange-rate policy,

²⁸Interestingly, the report commits a Freudian slip on two separate occasions by referring to the Dollar index inaccurately: on p. 338 the index is said to measure "the correspondence between domestic and international relative prices", and on p. 301 the index is said to show that "East Asia's relative prices of traded goods were closer on average to international prices than other developing areas" (emphases added). Both of these statements are wrong. Had these been correct, the Dollar index would have been an appropriate measure of openness indeed.

rather than by commercial policy.²⁹ In other words, countries with competitive currencies (and hence low prices for domestically produced tradables) will be judged to be open by the Dollar index, while countries with overvalued currencies will be judged closed.

²⁹Dollar (1992) seems to be aware of the problem, but argues that by taking a ten-year average he can minimize the effects of year-to-year variations in real exchange rates. However, sustained misalignments of 4-5 years are not uncommon, certainly in the developing world. Consider Chile between 1979 and 1982, Mexico since 1987, or Côte d'Ivoire since 1980, for example. In none of these cases was the real appreciation or depreciation of the currency associated predominantly with changes in trade protection.

REFERENCES

- Aitken, Brian, and Ann Harrison, "Does Proximity to Foreign Firms Induce Technology Spillovers? Evidence from Panel Data," unpublished paper, 1992.
- Alesina, Alberto, and Roberto Perotti, "Income Distribution, Political Instability and Investment," NBER Working Paper No. 4486, October 1993.
- Alesina, Alberto, and Dani Rodrik, "Distributive Politics and Economic Growth," Quarterly Journal of Economics, 1994, forthcoming.
- Amsden, Alice H., Asia's Next Giant: South Korea and Late Industrialization, Oxford University Press, New York and Oxford, 1989.
- Amsden, Alice H., "Why Isn't the Whole World Experimenting with the East Asian Model to Develop?: Review of the the World Bank's The East Asian Miracle: Economic Growth and Public Policy," World Development, April 1994, forthcoming.
- Barro, Robert, and Holger Wolf, "Data Appendix for Economic Growth in a Cross-Section of Countries," unpublished paper, 1989.
- Bergsten, C. Fred, and Marcus Noland, Reconcilable Differences? United States-Japan Economic Conflict, Institute for International Economics, Washington, DC, 1993.
- Clarke, George R.G., "More Evidence on Income Distribution and Growth," University of Rochester, unpublished paper, 1993.
- Dollar, David, "Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976-1985," Economic Development and Cultural Change, April 1992, 523-544.
- Evans, Peter, "The State as Problem and Solution: Predation, Embedded Autonomy, and Structural Change," in S. Haggard and R. Kaufman (eds.), The Politics of Adjustment, Princeton University Press, Princeton, NJ, 1992.
- Fields, Gary, "A Compendium of Data on Inequality and Poverty for the Developing World," Cornell University, unpublished manuscript, 1989.
- Haddad, Mona, and Ann Harrison, "Are There Positive Spillovers from Direct Foreign Investment? Evidence from Panel Data for Morocco," Journal of Development Economics, 42(1), October 1993, 51-74.
- Heston, Alan, and Robert Summers, "A New Set of International Comparisons of real Product and Price Levels: Estimates for 1340 Countries," Review of Income and Wealth XXXIV, 1988, 1-25.
- Jain, Shail, "size Distribution of Income: A Compilation of Data," World

- Bank, Washington, DC, 1975.
- Kim, Linsu, "National System of Industrial Innovation: Dynamics of Capability Building in Korea," in R.R. Nelson (ed.), National Innovation Systems: A Comparative Analysis, Oxford University Press, New York, 1993.
- Krueger, Anne O., and Okan H. Aktan, Swimming Against the Tide: Turkish Trade Reform in the 1980s, ICS Press, San Francisco, 1992.
- Lago, Ricardo, "The Illusion of Pursuing Redistribution through Macropolicy: Peru's Heterodox Experience, 1985-1990," in R. Dornbusch and S. Edwards (eds.), The Macroeconomics of Populism in Latin America, The University of Chicago Press, Chicago and London, 1991.
- Larrain, Felipe, and Rodrigo Vergara, "Investment and Macroeconomic Adjustment: The Case of East Asia," in L. Servén and A. Solimano (eds.), Striving for Growth after Adjustment: The Role of Capital Formation, World Bank, Washington, DC, 1993.
- Lee, Jong-Wha, "Government Interventions and Productivity Growth in Korean Manufacturing Industries," International Monetary Fund, unpublished paper, October 1992.
- Milanovic, Branko, Export Incentives and Turkish Manufactured Exports, 1980-1984, Staff Working Papers No. 768, The World Bank, 1986.
- Murphy, Kevin, Andrei Shleifer, and Robert Vishny, "Income Distribution, Market Size, and Industrialization," Quarterly Journal of Economics CIV, 1989, 537-564.
- Odagiri, Hiroyuki, and Akira Goto, "The Japanese System of Innovation: Past, Present, and Future," in R.R. Nelson (ed.), National Innovation Systems: A Comparative Analysis, Oxford University Press, New York, 1993.
- Persson, Torsten, and Guido Tabellini, "Is Inequality Harmful to Growth? Theory and Evidence," unpublished paper, 1991.
- Pritchett, Lant, "Measuring Outward Orientation in Developing Countries: Can It Be Done?" unpublished paper, World Bank, 1991.
- Rhee, Yung Whee, Bruce Ross-Larson, and Gary Pursell, Korea's Competitive Edge: Managing the Entry into World Markets, The Johns Hopkins University Press, Baltimore and London, 1984.
- Rodrik, Dani, "Closing the Productivity Gap: Does Trade Liberalization Really Help?" in G.K. Helleiner (ed.), Trade Policy, Industrialization, and Development, Clarendon Press, Oxford, 1992.
- Rodrik, Dani, "Trade and Industrial Policy Reform in Developing Countries: A Review of Recent Theory and Evidence," 1993 (forthcoming in J. Behrman and T.N. Srinivasan, eds., Handbook of Development Economics, North-Holland, Amsterdam). [1993a]

- Rodrik, Dani, "Taking Trade Policy Seriously: Export Subsidization as a Case Study in Policy Effectiveness," unpublished paper, 1993. [1993b]
- Shleifer, Andrei and Robert W. Vishny, "Corruption," Quarterly Journal of Economics, CVIII, 1993, 599-618.
- Sachs, Jeffrey, "External Debt and Macroeconomic Performance in Latin America and East Asia," Brookings Papers on Economic Activity 2, 1985, 523-573.
- Taylor, C.L., and M.C. Hudson, World Handbook of Political and Social Indicators, 2nd ed., Yale University Press, New Haven, 1972.
- World Bank, The East Asian Miracle: Economic Growth and Public Policy, Washington, DC, 1993.
- Young, Alwyn, "Lessons from the East Asian NICs: A Contrarian View," NBER Working Paper No. 4482, October 1993 [1993a].
- Young, Alwyn, "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience," unpublished paper, November 1993 [1993b].

Table 1: Human Capital and Demographic Indicators in HPAEs: Actual versus Predicted Values for the early 1960s															
	Primary enrolment ratio, 1960		Secondary enrolment ratio, 1960		Literacy rate, 1960		Fertility rate, 1965		Mortality rate, 1965						
	Act.	Pred.	Diff	Act.	Pred	Diff	Act.	Pred	Diff	Act.	Pred	Diff			
HKG	0.87	0.83	0.04	0.24	0.23	0.01	0.70	0.59	0.11	4.50	5.23	-0.73	0.03	0.08	-0.06
IDN	0.67	0.51	0.16	0.06	0.07	-0.01	0.39	0.25	0.15	5.50	6.48	-0.98	0.14	0.14	-0.00
JPN	1.03	0.92	0.11	0.74	0.29	0.45	0.98	0.70	0.28	2.00	4.80	-2.80	0.02	0.07	-0.05
KOR	0.94	0.57	0.37	0.27	0.10	0.17	0.71	0.31	0.40	4.80	6.27	-1.47	0.06	0.13	-0.07
MYS	0.96	0.68	0.28	0.19	0.15	0.04	0.53	0.43	0.10	6.30	5.84	0.46	0.06	0.11	-0.06
SGP	1.11	0.78	0.33	0.32	0.21	0.11	0.50	0.54	-0.04	4.70	5.42	-0.72	0.03	0.09	-0.07
TAI	0.96	0.62	0.34	0.28	0.12	0.15	0.54	0.36	0.18	4.80	6.08	-1.28	0.02	0.12	-0.10
THA	0.83	0.57	0.26	0.12	0.10	0.02	0.68	0.31	0.37	6.30	6.27	0.03	0.09	0.13	-0.04

Note: Predicted values of the indicators are obtained from a cross-country regression run on a 118-country sample, with per capita GDP in 1960 and its square used as independent variables. Source of the data: Heston and Summers (1988) and Barro and Wolf (1989).

Table 2: Distributional Indicators for HPAEs and Comparator Countries, around 1960		
Country	Gini Coefficient for Income, c. 1960	Gini Coefficient for Land Ownership, c.1960
<i>HPAEs:</i>		
Hong Kong	0.49	n.a.
Indonesia	0.33	n.a.
Japan	0.40	0.47
Korea	0.34	0.39
Malaysia	0.42	0.47
Taiwan	0.31	0.46
Singapore	0.40	n.a.
Thailand	0.41	0.46
<u>Unweighted average:</u>	<u>0.39</u>	<u>0.45</u>
<i>Others:</i>		
Argentina	0.44	0.87
Brazil	0.53	0.85
Egypt	0.42	0.67
India	0.42	0.52
Kenya	0.64	0.69
Mexico	0.53	0.69
Philippines	0.45	0.53
Turkey	0.56	0.59
<u>Unweighted average:</u>	<u>0.50</u>	<u>0.68</u>

Notes: Original data are from Jain (1975), Fields (1989), and Taylor and Hudson (1972). See Alesina and Rodrik (1994) for dates and further details.

Table 3: Growth Regressions						
	<i>Dependent variables</i>					
	Per capita GDP growth, 1960-85				Investment /GDP, 1960-85	Population growth, 1960-85
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Independent variables</i>	N=41	N=41	N=41	N=49	N=41	N=41
Intercept	1.07 (0.64)	4.21* (3.50)	6.22* (4.69)	3.71* (3.86)	16.06** (2.64)	2.41* (3.24)
Per capita GDP, 1960	-0.61* (-3.83)	-0.50* (-4.92)	-0.38* (-3.25)	-0.38* (-3.61)	0.94 (1.76)	-0.22* (-3.44)
Primary enrolment, 1960	0.84 (0.70)	1.28 (1.43)	2.66** (2.66)	3.85* (4.88)	11.01** (2.40)	-1.68* (-3.00)
Secondary enrolment, 1960	0.83 (0.46)					
Investment/GDP, 1960-85	13.06* (3.44)	12.50* (4.13)				
Population growth, 1960-85	-38.37 (-1.10)					
Gini coeff. for land		-2.60** (-2.20)	-5.22* (-4.38)	-5.50* (-5.24)	-21.04* (-3.85)	1.50** (2.24)
Gini coeff. for income		-5.28* (-3.22)	3.47 (-1.82)		14.44 (1.66)	1.38 (1.30)
\bar{R}^2	0.46	0.67	0.53	0.53	0.43	0.63

Notes: The sample is restricted to countries for which distributional indicators are available. The numbers in parentheses are t-statistics. Asterisks denote levels of statistical significance:

* significant at the 1% confidence level;

** significant at the 5% confidence level.

Table 4: Per-Capita Annual Growth Rates for 1960-85, Actual and Predicted							Memo: Proportion Explained in World Bank report (%)
	Actual growth	Regression (2) from Table 3 (Investment included as regressor)		Regression (3) from Table 3 (Investment not included as regressor)			
		Predicted growth	Proportion explained (%)	Predicted growth	Proportion explained (%)		
<i>HPAEs:</i>							
Japan	5.76	5.59	97	4.26	74	82	
Korea	5.95	5.06	85	5.24	88	63	
Malaysia	4.52	4.36	96	4.44	98	87	
Taiwan	5.68	4.77	84	4.96	87	58	
Thailand	4.06	3.83	94	4.34	107	66	
<i>Others:</i>							
Argentina	0.48	2.52	525	1.58	329	n.a.	
Brazil	3.52	2.63	75	1.96	56	n.a.	
Egypt	3.49	2.90	83	2.83	81	n.a.	
India	1.37	3.26	238	3.46	253	n.a.	
Kenya	0.96	1.59	166	1.46	152	n.a.	
Mexico	2.46	2.03	83	2.08	85	n.a.	
Philippines	1.77	3.11	176	4.08	231	n.a.	
Turkey	2.81	2.59	92	2.71	96	n.a.	

Notes: Predicted growth rates are calculated by applying the coefficient estimates reported in columns (2) and (3) of Table 3 to each country's own data for initial income level, enrolment ratio, distributional indicators, and investment levels

Table 5: The Dollar Indexes of Real Exchange Rate Distortions and Variability		
Country	Distortion Index	Variability Index
<i>HPAEs:</i>		
Hong Kong	64	0.16
Indonesia	98	0.15
Japan	118	0.09
Korea	110	0.04
Malaysia	88	0.08
Taiwan	116	0.07
Singapore	87	0.10
Thailand	75	0.07
<u>Unweighted average</u>	<u>95</u>	<u>0.10</u>
<i>Others:</i>		
Argentina	113	0.23
Brazil	97	0.13
Egypt	168	0.27
India	94	0.13
Kenya	131	0.04
Mexico	71	0.12
Philippines	92	0.13
Turkey	99	0.13
<u>Unweighted average:</u>	<u>108</u>	<u>0.15</u>

Source: Dollar (1992).

<i>Independent variable</i>	N = 103	N=103	N=68	N=69	N=27
Dollar distortion index	-0.0091** (-2.25)	-0.0065 (-1.59)	-0.0077 (-1.64)	-0.0078 (-1.64)	-0.0010 (-0.09)
Dollar variability index		-3.9830** (-2.52)	0.3673 (0.18)	1.1839 (0.57)	
Black-market (BM) premium			-0.0084* (-2.81)		
Standard deviation of BM premium				-0.0068* (-3.26)	-0.0007 (-0.08)
Gini coeff. for land ownership					4.6590** (-2.33)
\bar{R}^2	0.41	0.44	0.46	0.48	0.40

Notes: The independent variable is growth rate over 1960-85. Each regression has the following additional regressors, the coefficients of which are not reported: an intercept, initial per-capita GDP level (1960), primary enrolment ratio (1960), secondary enrolment ratio (1960). The numbers in parentheses are t-statistics. Asterisks denote levels of statistical significance:

* significant at the 1% confidence level;

** significant at the 5% confidence level.

The black-market exchange rate variables come from *Pick's Currency Yearbook*, various years (as reported by Pritchett, 1991), and cover averages for 1960-89. The Gini coefficient for land ownership is from Taylor and Hudson (1972), and is measured around 1960.

Table 7: Number of U.S. Newspaper Stories About Corruption During 1989-93	
<i>HPAEs:</i>	
Hong Kong	14
Indonesia	6
Japan	392
Korea	57
Malaysia	2
Taiwan	6
Thailand	27
Singapore	4
<i>Others:</i>	
Argentina	34
Brazil	217
Egypt	8
India	64
Kenya	37
Mexico	138
Philippines	91
Turkey	3

Notes: Obtained from the NewsAbs database covering U.S. newspapers, by doing a keyword search under "corruption [country name]"