

Overcapacity and the East Asian crisis

Abstract: *The historic success of East Asian economies prior to the 1997 financial crisis depended on their ability to escape the trap of deteriorating terms through a regional pattern of development known as the flying geese model. However, this pattern of development has come under increasing strain in the second half of 1980s. As competitive pressures intensified, producers throughout the region early-exited their niches of production in a futile attempt to safeguard their competitive position. The investment boom this has caused in the early 1990s led to the creation overcapacity throughout the region and the re-emergence of the fallacy of composition inherent in a generalized system of export led growth, paving the way for the financial crisis of 1997.*

Keywords: *East Asian crisis, export promotion, flying geese model of development, immiserizing growth, overcapacity.*

Two main explanations of the East Asian crisis of 1997 have emerged so far. According to one, the crisis signifies, above all, the end of the Asian mode of capitalism, whereas, for the other, it reveals the structural flaws inherent in world financial markets in the absence of adequate regulation. In the former view, moral hazard, caused by excessive government intervention, is the main culprit of the crisis, whereas, according to the latter, the crisis is caused by “irrational” herd behavior on the part of investors, made only worse by the International Monetary Fund’s (IMF) ill-advised intervention.

Both arguments are by now well-known and need no elaboration. What is perhaps less recognized is the fact that the conceptual underpinnings of the debate is, to a large degree, shaped by the traditional models of currency crisis developed in connection with the balance-of-payments problems Latin American countries experienced in the early 1980s (Taylor, 1998). The East Asian crisis has been analyzed on the basis of a

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similar conceptual framework, even though it admittedly differs quite markedly from the earlier crises in Latin America.

In the mainstream debate on the East Asian crisis, the possible *real* causes of the crisis are either ignored or discussed solely in relation to the moral hazard problem. For instance, problems of private-sector overinvestment and overcapacity, which reportedly were acute in the region (Greider, 1997), are discussed, if ever, as evidence of the alleged moral hazard problem inherent in the Asian capitalist model. In the opposing view, the main emphasis is placed on the pitfalls of privatizing systemic financial risk inherent in liberalized international capital markets, but, again, little is said on the real causes of the crisis and the problem of overcapacity.

The objective of this paper is to sketch an alternative hypothesis that can possibly be the basis of a third explanation, one that sees the problem of overcapacity in the region as a sign of intersectoral imbalance in the world economy.¹ A number of nonmainstream economists have argued that economic liberalization, which amounted to the abandonment of state guidance of private investment in countries such as Korea has led to overinvestment and misallocation of resources in these economies. The following discussion, although not in disagreement with this view, underscores, rather, the role played by the flexible division of labor and the mutual “consistency” of industrial policies among individual countries in the region in preventing onerous competition. It suggests that the disruption of this regional pattern of industrial development, called at times the “flying geese” model, has been the main source of the overcapacity problem and, thus, ultimately the crisis. Finally, the discussion addresses the connection between the overcapacity problem and the currency meltdown experienced in the region by means of positing a Kaldorian intersectoral balance condition for the world economy as a whole.

Mainstream debate and overcapacity

In the traditional models of currency crisis, the source of the problem is almost invariably excessive government spending under conditions of a foreign exchange constraint.² Countries that monetize rising fiscal defi-

¹ As discussed below, this alternative explanation need not be incompatible with the financial panic view of the crisis.

² It has by now become commonplace to talk about different “generations” of currency crisis models in the literature. The traditional first-generation models originate from Krugman (1979), and are further developed in Flood and Garber

cits in the face of a foreign exchange constraint experience a steady fall in their international reserves, eliciting a speculative attack on the exchange rate once these reserves fall below a critical threshold.

Arguably, the dynamics of capital flows rather than excessive fiscal expansion were the main culprit in many of the crises in Latin America.³ Once the stabilization policy in a given country imparts credibility to the fixed parity, the higher domestic interest rate gives rise to a positive spread.⁴ Capital flows in, and that in turn increases the money supply, lowering the real interest rate and setting off a consumption boom (Rodriguez, 1982). If the government tries to sterilize the effect of capital inflow on the money supply, that only increases the spread by raising the domestic interest rate, attracting even more capital. Sooner or later, the increasing money supply and credit expansion push up the general price level and give rise to asset price inflation. The real exchange rate begins to appreciate, and the trade deficit widens. At some point, the market sentiment shifts as the expectation of a major devaluation sets in. The spread in expected differential return becomes negative, prompting a flight from the domestic currency.

Neither lax fiscal policy stance nor private consumption boom emphasized in the above scenario were relevant in the East Asian crisis. None of the governments in the region were running deficits of any significance prior to the crisis,⁵ and it was private sector “profligacy” rather than public that eventually triggered the abrupt shift in market sentiment causing the reversal of capital flows. This in itself is puzzling, of course, if one axiomatically accepts the notion that private decisions in the aggregate can produce anything but an optimal outcome. Interestingly, Wade (1998) traces the opposing views on the mainstream debate

(1984). For a review of different extensions of this class of models, see Agenor et al. (1992), and for a review of second- and third-generation models, see Krugman (2000).

³ For a critique of the traditional currency crisis models, see Taylor (1998), and for an extension of Krugman (1979), where the cause of unsustainable economic expansion is the surge in capital inflows rather than expansionary fiscal policy, see Calvo (1998).

⁴ The “interest rate spread” is the expected difference in return given the gap between the foreign and domestic rates of interest and the expected depreciation of the nominal exchange rate of the domestic currency.

⁵ Moreover, despite widening trade deficits in Thailand, Korea, and Malaysia (and smaller ones in Indonesia and the Philippines), these countries’ ability to service their foreign debt showed no sign of deterioration at the time of the crisis. With the sole exception of Indonesia, the debt-service ratios were relatively small and falling (World Bank, 1998/1999, p. 59).

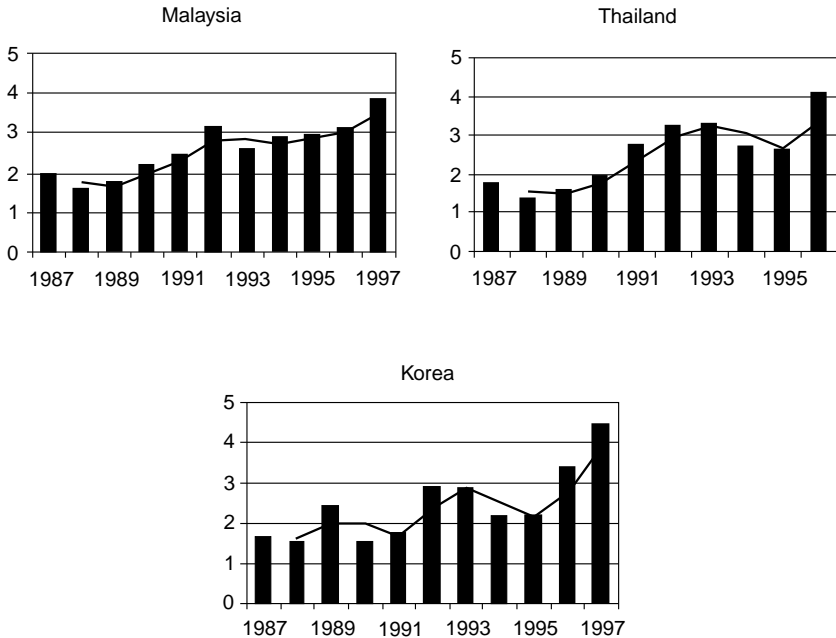
on the East Asian crisis to the position they take on whether financial markets could possibly produce suboptimal outcomes or not when left to their own devices.⁶ Whereas those who hold that market failure can be endemic in financial markets find the traditional emphasis on expansionary fiscal policy irrelevant in East Asia, for believers in markets the ultimate cause of the crisis is again government misdeeds.

According to this latter view, although the governments in Southeast Asia might not have been profligate themselves, the moral hazard problems they created by their misguided intervention in the economy were seen to have caused the private sector overspending. With a banking sector largely underwritten by the government, businesses went on a reckless binge of overinvestment, knowing that they would never be allowed to go under.

Since much of this capital spending was misguided little could be showed for it except the colossal increase in useless capacity. Falling profitability and rising incremental capital output ratios in these economies were seen as the telltale signs of the moral hazard problem (Krugman, 1998).⁷ In an earlier article, Krugman (1994) also argued that East Asian economies diminishing returns were bound to set in because their growth, with rates of investment approaching 40 percent of GDP (gross domestic product) per annum, relied more on the extensive use of inputs rather than gains in productivity. Thus, from this point view, it is not surprising that the return on investment would tend to diminish over time. What instead needed explanation is how the pace of investment could remain so high for so long. According to its proponents, the moral hazard argument is the obvious answer, although perhaps a too obvious one, for it falls short in explaining the long duration of unprecedented success East Asian economies have experienced. As Singh and Weisse (1999) argue, any explanation of the Asian crisis must also be capable of explaining the successes of these economies as well.

⁶ An intermediate position emphasizes the lack of transparency, according to which financial markets would have worked just fine had it not been for the lack of access to relevant information.

⁷ Incremental capital-output ratios were indeed rising steadily, especially, in Korea, Thailand, and Malaysia (Figure 1). Although this is an indication of rising overcapacity, it would be wrong to take it as *prima facie* evidence of a moral hazard problem. Incidentally, Krugman (1999, 2000) has since changed his position, and now thinks that the Asian crisis was caused by self-fulfilling financial panic. For other "moral hazard" explanations of the East Asian crisis, see Corsetti et al. (1998a, 1998b) and McKinnon and Pill (1998).

Figure 1 Incremental capital output ratios in select East Asian countries

Source: Asian Development Bank (2001).

Note: The solid line above the bars gives the two-year moving averages.

Toward an alternative view

If the moral hazard argument is not correct, what is? One plausible explanation that has been prevalent outside the mainstream is the abandonment of the so-called Asian model of development. According to this argument, the two crucial components of the model that were relinquished with liberalization mattered the most: (a) control over external borrowing, and (b) state coordination of private investment (Chang 1998; Chang et al., 1998; Singh, 1995; Singh and Weisse, 1999; UNCTAD, 1998). Although the abandonment of the latter was the ultimate cause of overinvestment, that of the former acted as the more proximate cause of the crisis itself.⁸ This argument seems to apply best to a country like

⁸ “Abandoning this coordination seems to be one of the main reasons for misallocation and overinvestment, while the fact that the Government relinquished control over the financial sector explains why the country became vulnerable to an external debt run and an attack on its currency” (UNCTAD, 1998, p. 76).

Korea, which, it is argued, successfully practiced the Asian model (Amsden, 1989; Johnson, 1995; Singh, 1997; Wade, 1990), and where the matrix of political power that had underpinned it began to unravel with liberalization.⁹ However, its general validity for the region as a whole perhaps remains to be established. Although the “developmental state” is in center stage in most explanations of the crisis in Korea, in the case of Thailand, Indonesia, and Malaysia, it is often suggested that the culprit was its absence or limited nature (Henderson, 1999).¹⁰

The argument pursued here has a different focus. Although not necessarily incompatible with the above view,¹¹ it highlights instead the adverse effects increased global competitive pressures had on the regional division of labor and the mutual *consistency* of private investment trajectories of individual countries in the region. To make a case as to why that matters, it is indeed more relevant to ask first how the East Asian economies could be successful for so long rather than why their economies have failed now.

On theoretical grounds, one cannot help but be skeptical about the chances of success of a generalized strategy of export-led growth. As Singer (1950) and Prebisch (1950) warned long ago, a development strategy based on the export of income inelastic goods is bound to lead to a deteriorating terms of trade.¹² Within a given region the parallel export

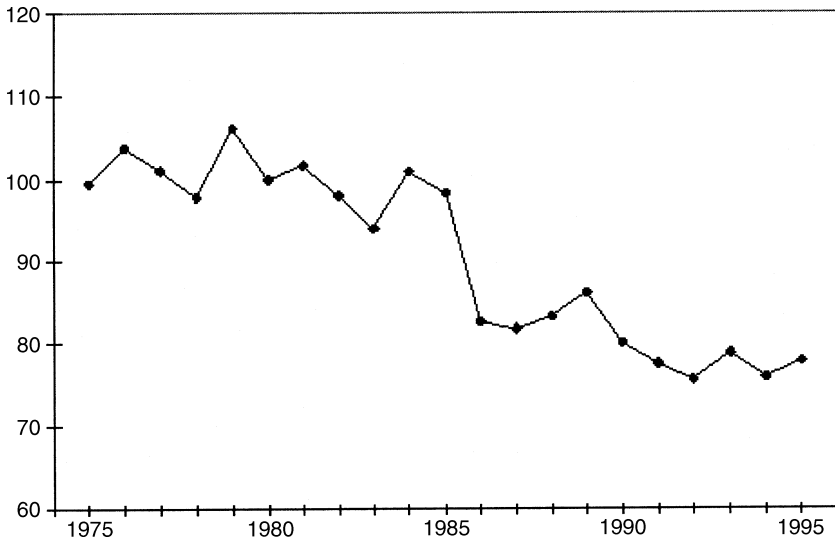
⁹ Chang et al. (1998) describe how, with liberalization, the government bureaucrats began to lose their political autonomy vis-à-vis big business. The conduct of industrial policy began to weaken as early as the late 1980s with the rise of neoliberal ideology and the growing economic power of *chaebols*. These big business conglomerates pushed for rapid liberalization in order to expand their decision-making power at the expense of the government. In the meantime, the abolition of the five-year economic plan signified a shift from “well-publicized” rules of intervention to relative arbitrariness in public decision-making, paving the way for high-level corruption. Thus, they conclude that “it was only under the Kim Young Sam government [the period of market liberalization] that genuine ‘crony capitalism’ was borne in Korea” (p. 741).

¹⁰ Henderson also argues that the effective developmental states they possess enabled both Taiwan and Singapore to withstand the destructive effects of the crisis. See also Booth (1999) and Reynolds (2001) for a discussion of the institutional differences of Southeast Asian countries.

¹¹ The alternative explanation of the crisis it outlines below defines the limited scope of this paper. Thus, no attempt is made here to reconcile what is suggested in this paper and the explanations that emphasize the abandonment of governmental regulation of private investment.

¹² Indeed, the price of developing-country manufacturing exports have steadily been falling since the 1980s in relation to developed-country exports of machinery, transport equipment, and services (Figure 2). See also, Maizels et al. (1998); Sapsford and Singer (1999); Sarkar and Singer (1991).

Figure 2 Price of developing-country manufactured exports, relative to developed country exports of machinery, transport equipment, and services, 1975–1995 (index: 1980 = 100)



Source: Wood (1997).

expansion of cheap exports collectively facing less than infinitely elastic world demand can give rise to “immiserizing growth” (Bhagwati, 1958).¹³ That is, with export expansion, the barter terms-of-trade could fall to such an extent that per capita income would diminish as economic activity increased. Thus, in order to explain the crisis, one needs to be able to explain how East Asian countries could escape the trap of deteriorating terms-of-trade and overcome the threat of immiserizing growth, at least until very recently.

¹³ Between 1996 and 1998, the fall in the U.S. dollar price of its exports was such that Korea’s export revenue rose only by 2 percent, whereas the volume of its exports increased by 38 percent (author’s own calculations based on World Bank NIPA [National Income and Product Accounts] statistics for Korea, see also Table 1). In 1996 prices, the 1998 U.S. import bill for all non-oil imports from “East Asia” (Hong Kong, Indonesia, Korea, Singapore, Taiwan, and Thailand combined), which amounted to \$107.9 billion, would have been worth \$143 billion (Barth and Dinmore, 1999). For discussion on immiserizing growth and the fallacy of composition problem inherent export-led growth, see Cline (1982), Kaplinsky (1993, 2000), and Sapsford and Singer (1999).

Table 1
The year-to-year change in key indicators

	1995–1996	1996–1997	1997–1998	1998–1999
NIPA implicit export prices	–7.0%	–10.8%	–16.9%	–5.8%
Exports of goods and services in 1995 \$US prices	11.2%	21.4%	13.2%	16.3%
Exports of goods and services in current \$US	3.9%	7.8%	–5.4%	9.4%
GDP in 1995 \$US prices	6.8%	5.0%	–6.7%	10.7%
GDP in current \$US	6.3%	–8.4%	–33.5%	28.3%

Source: Author's calculations based on World Bank, *World Development Indicators* (2001).

Although by no means an exhaustive list, two factors seem to have played an important role. One was the regional division of labor and the mutual consistency of industrial policies and export structure of individual countries, and the other, the advantage of being the “early exporters.” By the second half of the 1980s, both factors began to lose their effectiveness in keeping the trap of deteriorating terms-of-trade in check, paving the way for the crisis.

In the “flying geese” model, groups of countries that constitute discreet cohorts in terms of their technological ability (as well as the skill level of their labor force and overall level of development) engage in different types of productive activity.¹⁴ Whereas countries at the bottom of the rung produce labor and resource intensive goods, those that have developed greater technological abilities move onto producing relatively more capital-intensive and technologically sophisticated goods. The newly initiated begin in sectors with the lowest barriers to entry into

¹⁴ The term, coined by a Japanese economist, Kaname Akamatsu, in the 1930s, is controversial in East Asia because it was used by the Japanese to legitimize the infamous “Greater East Asian Co-prosperity Sphere” during World War II. However, Akamatsu's ideas were developed long before, and continued to gain in influence after the war (Korhonen, 1994). Yet, the charge that it is a cover for Japanese imperialism has survived (Steven, 1990). For a more evenhanded history of regional cooperation and integration in (South) East Asia, see Korhonen (1998). Akamatsu's flying geese analogy was later recast by Cummings (1984) in the context of the product cycle theory for East Asia. See also Petri (1988) and Kuznets (1985).

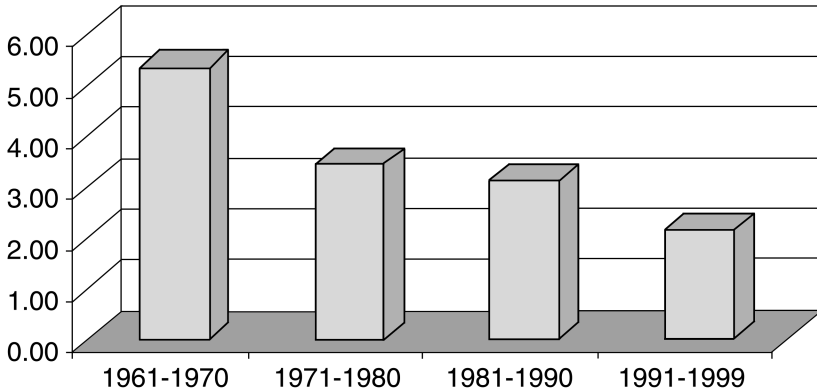
international markets and move their way up one step at a time as the sophistication of their economies increase. Thus, as Japan began moving onto higher technology sectors in the early 1970s, Korea and Taiwan moved into positions of leadership in apparel and textiles. Within a decade, the latter were moving onto electronics, automobiles, and auto components, whereas apparel and textiles were being taken over by the Southeast Asian newcomers.

Although the nature of regional economic integration in East Asia has been more complex than the simple “flying geese” analogy suggests,¹⁵ the regional pattern of division of labor appears to have prevented onerous competition among individual countries, enabling them to upgrade production in a relatively orderly fashion. The threat of deteriorating terms-of-trade could thereby be kept at bay and the fruits of productivity improvements retained largely within the economy.

Second, it is highly probable that East Asian economies also benefited from a form of “early-exporters” advantage, where they were first to penetrate developed country markets at a time when the latter enjoyed higher growth rates. Although it is at times argued that opportunities for export penetration in the developed country markets are still far from fully exploited—especially in view of the fact that some of the last vestiges of protectionist measures, such as the Multifiber Agreement, will be phased out in the course of the next few years—the lower growth rates in developed economies today make it harder for developing countries to increase their exports to these markets (Figure 3). Moreover, resistance to competitive challenges on the part of developed-country producers is bound to be stronger in the case higher value-added products, which developing countries are trying to manufacture for export in ever-increasing numbers.

¹⁵ Southeast Asian countries today are far from replicating the early industrialization experiences of Japan or even that of Taiwan and Korea (Reynolds, 2001). Rather than establishing backward linkages and indigenous industries, the diffusion of manufacturing capacity in these countries has been linked to transnational production networks that are hierarchically organized with Japanese corporations at the apex in control of strategic technologies and Korean and Taiwanese firms dependent on the latter. The spatial separation of innovation and product assembly with the transnational reorganization of production has meant that transfer of industry from one country to another no longer has the same propensity to create the multitude of backward linkages in the domestic economy Akamatsu envisaged in his writing about the Japanese textile industry prior to World War II (Bernard and Ravenhill, 1995). For a discussion of how the “flying geese” model can be extended to account for foreign direct investment (see Blomqvist, 1996).

Figure 3 Average annual growth rates in high income (OECD) countries, 1961–1999



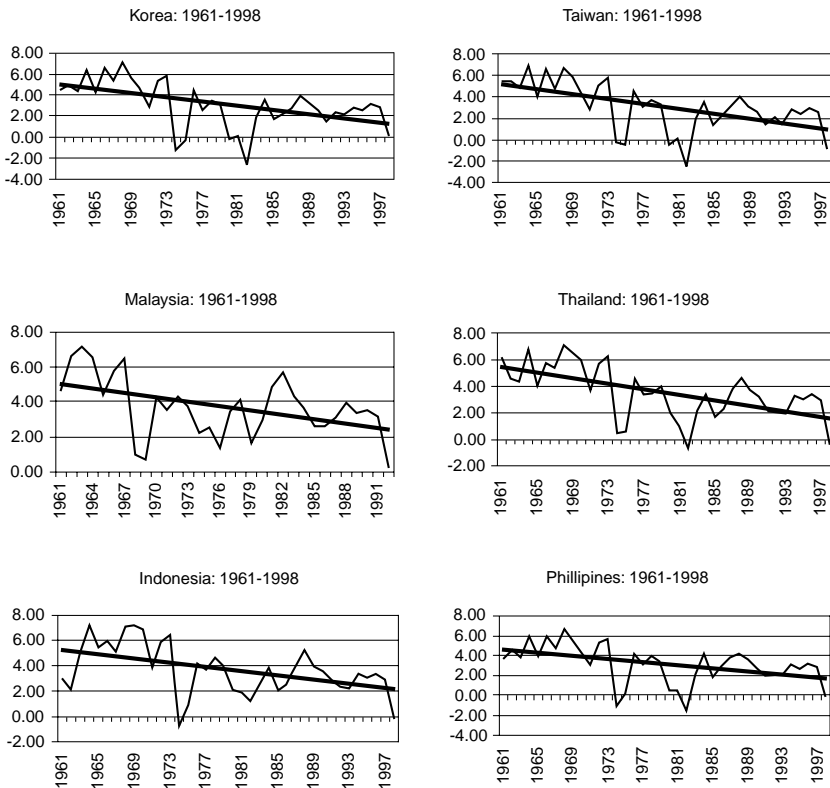
Source: World Bank, *World Development Indicators* (2001).

As the competitive pressures East Asian countries faced intensified toward the end of the 1980s, the “flying geese” model of development appears to have begun to unravel. First and foremost, opportunities for export penetration were diminishing (especially for the more advanced producers in the second-tier) at a time when world economic growth was lackluster. The per capita income of trade partners of all countries in East Asia have been falling steadily (Figure 4).

Second, exchange rate volatility and uncertainty, caused by large swings in the dollar–yen rate, was disruptive for making long-term investment plans and the smooth evolution of the regional division of labor. In 1985, one U.S. dollar was worth 240 Japanese yen in exchange markets. By 1988, the U.S. dollar value of the yen had almost doubled, rising from 0.0042 to 0.0078. For the following two years, the yen had depreciated against the U.S. dollar by 12 percent, only to appreciate again by 50 percent between 1990 and 1995—which, in turn, was followed by another 30 percent slide in its value between 1995 and 1998 (Figure 5).

Following the steep appreciation of the yen after the 1985 Plaza Agreement, Japanese foreign direct investment increased briskly between 1986 and 1989, becoming the largest in the world with the nominal flow reaching a peak of \$67.5 billion in 1989 (Bayoumi and Lipworth, 1997). During this period, much of the low-end of export-oriented consumer electronics industry had shifted to Malaysia and, to a lesser extent, to

Figure 4 Trading partners' per capita GDP growth (% , weighted average by trade share)



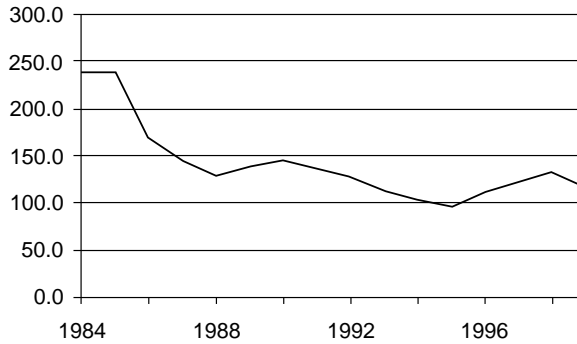
Source: World Bank, *Global Development Network Growth Database* (2001).

Thailand.¹⁶ By the early 1990s, however, foreign direct investment into the region began to shift to China (Edgington and Hayter, 2000).

Whereas the total foreign direct investment (FDI) flows into China was about one and one-half times as large as the total combined FDI flows to Thailand, Malaysia, Indonesia, and Philippines, this ratio fell to 0.5 before it began to increase drastically after 1990, increasing to a peak 3.6 by the end of 1994 (Figure 6).¹⁷

¹⁶ Table 2 gives the sectoral distribution of Japanese FDI for the periods 1981–1985 and 1986–1995.

¹⁷ This ratio was relatively stable at slightly less than three until after the East Asian crisis, when it again soared to above six as FDI flows into Southeast Asian countries were drastically curtailed.

Figure 5 Yen/U.S. dollar—nominal exchange rate

Source: World Bank, *Global Development Network Growth Database* (2001).

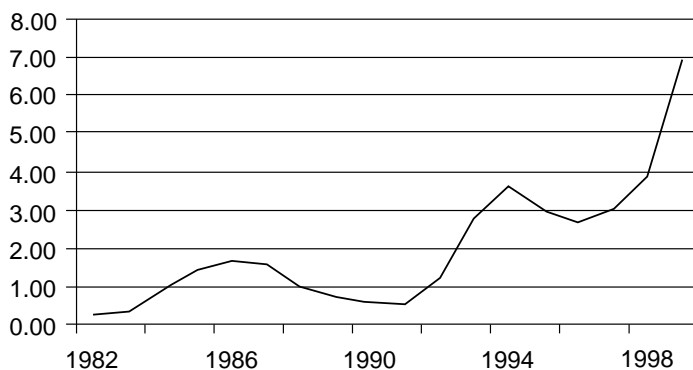
Table 2
Japanese manufacturing direct investment in Asia

Sector	1981–1985		1986–1995	
	Million \$US	Percent	Million \$US	Percent
Food stuff	256	3.4	1,806	5.3
Textiles	1,182	15.7	2,691	7.9
Pulp and paper	191	25.0	670	20.0
Chemicals	1,292	17.2	4,973	14.5
Steel and NF metals	1,697	22.6	3,410	10.0
General machinery	580	7.7	3,178	9.3
Electrical machinery	833	11.1	9,522	27.8
Transport equipment	692	9.2	2,897	8.5
Others	796	10.6	5,072	14.8
All manufacturing	7,517	100.0	34,222	100.0

Source: Edgington and Hayter (2000).

China's, and a host of other low-income countries', entry into international markets had threatened the market position of the East Asian countries, especially, in labor-intensive manufactures.¹⁸ In general, the exports of low-income countries to developed countries increased almost four times in merely six years, between 1987 and 1993, whereas imports from middle-income countries rose less than 50 percent during the same

¹⁸ Five low-income Asian countries, Bangladesh, China, India, Indonesia, and Pakistan—home to half of the world's population and an even larger portion of the world's unskilled workers—had begun to open to trade by the mid-1980s.

Figure 6 Ratio of FDI flows—China/A(4)

Source: Author's calculations based on World Bank, *World Development Indicators* (2001).

Note: A(4) includes Thailand, Malaysia, Indonesia, and Philippines

period (Wood, 1997). In East Asia, Chinese exports began to outperform the exports from other countries in the region in the latter half of the 1980s, reaching almost a quarter of the regional total by 1995 after rising steeply from below 20 percent in 1990 (Table 3). During the same five-year period, the ratio of Chinese exports to the total combined value of exports from Thailand, Malaysia, and Indonesia, increased from about 60 percent to a little above 70 percent, whereas this ratio was less than 30 percent in 1980.¹⁹ During the period 1988–1996, the world share of exports from China also outstripped that of exports from Thailand, Malaysia, Indonesia, and Philippines in the latter three country's respective ten top exports of manufactures (World Bank, 1998, p. 24).

Finally, producers in the second-tier countries in the region were becoming more competitive among themselves and with Japanese firms, competing increasingly on the basis of cost by investing in low-wage countries in the third-tier and beyond (especially in China). In the 1980s, Korea ran a large trade deficit with Japan and a large surplus with the United States. Its trade surplus with the United States, which reached almost \$10 billion by 1987, evaporated by 1992 as the United States, fearing yet another Japan in the making, unleashed a trade offensive that

¹⁹ It is highly likely these numbers grossly underestimate the true magnitude of Chinese exports, especially for the latter years, since a significant portion of exports from Hong Kong are in fact produced in China.

Table 3
Exports of goods and services (in current U.S. dollars)

	1980	1990	1995	1999
China	15.4	62.2	168.0	218.5
Hong Kong, China	25.6	100.4	208.1	211.8
Indonesia	26.7	29.0	53.2	49.7
Korea, Rep.	20.7	73.5	147.8	171.3
Malaysia	14.1	32.9	83.6	96.2
Philippines	7.7	12.2	26.9	39.2
Thailand	7.8	29.1	70.2	71.3
Taiwan	21.8	74.9	127.1	136.3
Chinese/A(7)*	12.4%	17.7%	23.4%	28.2%
Chinese/A(4)**	27.3%	60.3%	71.8%	85.2%

Source: World Bank, *World Development Indicators* (2001).

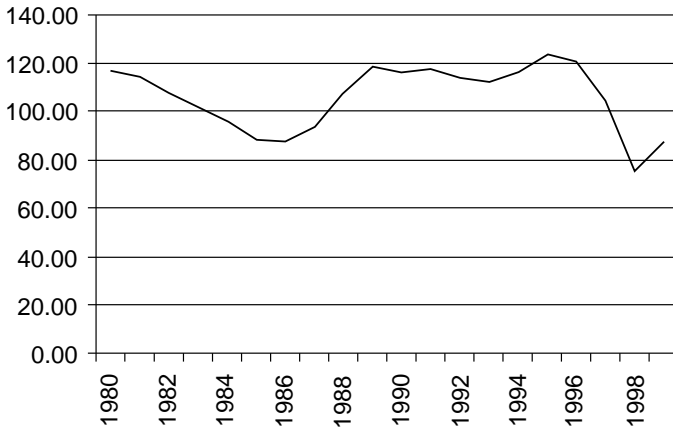
* A(7) includes all countries listed except China.

** A(4) includes Indonesia, Malaysia, Philippines, and Thailand.

brought pressure to bear upon Korea to revalue its currency, among other measures (Figure 7). At the same time, Korea's trade deficit with Japan soared, eventually reaching \$15 billion in 1996, reflecting its failure to lower its technological dependence. Many firms moved their operations to Southeast Asia in an effort to continue to compete on the basis of lower labor costs (Bello, 1998).

The way producers in East Asian countries reacted to these challenges further disrupted the regional division of labor implied by the flying geese model. In a scramble, it appears that, in each country, investment has been stepped up to increase market share and move up the production chain.²⁰ Indeed, the source of the overcapacity problem in East Asia can be traced back to the investment boom of the early 1990s. Expressed as a ratio of national output, investment had increased considerably through-

²⁰ A referee of this paper had remarked that firms, not countries, make investment decisions. Fair enough. However, the sheer complexity of the interaction between the state, the national business elite, and the emerging transnational production networks makes it impossible to get into a discussion of the "decision-making unit" in this paper. Moreover, social factors and ethnic differences further complicate the picture in East Asia. For instance, it is generally remarked that in Malaysia the government had historically made an exerted effort to rely on FDI in its industrialization drive in large part to counterbalance the economic power of the Chinese minority in Malaysia. Likewise, in discussions of FDI flows to China, the role played by transnational networks of ethnic Chinese business groups spread throughout East Asia frequently comes up.

Figure 7 Real effective exchange rate overvaluation index—Korea

Source: World Bank, *Global Development Network Growth Database* (2001).

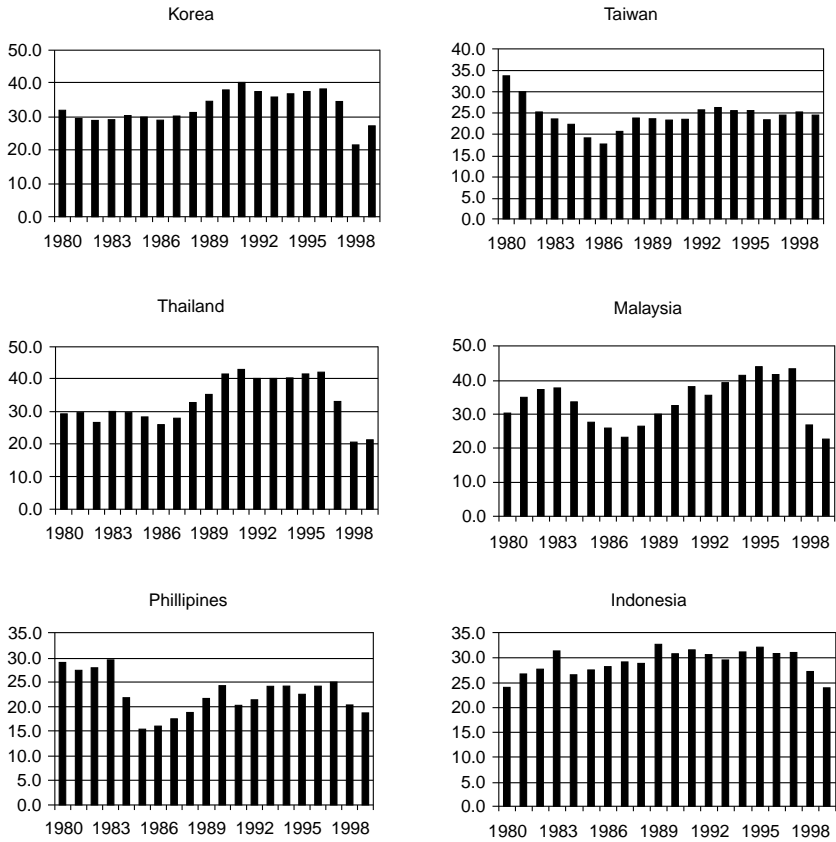
out all of the countries of the region, especially in Korea, Thailand, and Malaysia, exceeding levels that were already quite high (Figure 8).

Between 1990 and 1996, the composition of East Asian exports have shifted toward more skill and capital-intensive goods with amazing speed. In comparison, for instance, Mexico's export structure changed very little during the same period (Table 4).

It appears that in the third-tier Southeast Asian countries, in the face of growing competition from the new low-cost producers such as China, a strategic decision had been made to early-exit from labor- and resource-intensive exports and move into the low-tech end of capital-intensive industries. The strategy emulated Korea's narrow specialization in niches of standardized production in capital-intensive, high-tech industries with relatively low barriers to entry in international markets, with disastrous results for the region as a whole. A severe global overcapacity problem emerged in the low-tech end of capital-intensive industries. The export prices fell precipitously in electronics, computers, semiconductors, and telecommunications equipment as many capital-intensive exports became "commoditized" (UNCTAD, 1998, pp. 59–61; World Bank, 1998, ch. 2).²¹

²¹ "Korea was particularly hard hit when the 16MB DRAM chips, which account for a large share of its electronics exports, fell from a peak of about \$150 per unit in 1993 to less than \$10 in 1997" (World Bank, 1998).

Figure 8 Gross capital formation (percent of GDP)



Source: World Bank, *World Development Indicators* (2001).

A Kaldor-inspired recapitulation

The stylized picture of world trade, which had emerged in the early post-World War II era, was one in which developed countries sold manufactured goods to developing countries and bought raw materials in exchange. At the time, many economists recognized that this particular pattern of trade was fraught with pitfalls for both groups of countries. It not only posed a potential threat to industrialization efforts in the developing world, but also to economic prosperity in the developed countries by making the growth of manufactures dependent on an inelastic supply of primary goods from the *South*.

Table 4
Country distribution by percentage change in shares of exports by category* in total exports (between 1990 and 1996)

Percent Change	Resource Based	Low Technology	Medium Technology	High Technology
40 < x > 30				ML,SR
30 < x < 20		ID		TH
20 < x < 10			KR	KR,ID,CH
10 < x < 0		MX	TH,CH MX	
x ~ 0	KR	TH,ML,CH	ML,ID,SR	MX
-10 < x < 0		SR		
-20 < x < -10	CH MX			
-30 < x < -20	TH			
-40 < x < -30	ML,ID,SR	KR		

Source: World Bank (1998, p. 22).

TH: Thailand; ID: Indonesia; KR: Korea; CH: China; ML: Malaysia; SR: Singapore; MX: Mexico.

* Product categories are defined as follows: (RB) includes processed foods and tobacco, simple wood products, refined petroleum products, dyes, leather (not leather products), rubber products, and organic chemicals; (LT) includes textiles, garments, footwear and other leather products, toys, simple metal and plastic products, furniture and glassware; (MT) includes automotive products, chemicals, industrial machinery, and simple electrical products; (HT) includes fine chemicals, pharmaceuticals, complex electrical and electronic machinery, and precision instruments.

Kaldor tried to conceptualize the latter problem developed countries faced by thinking of the world economy as consisting of two sectors, manufactured goods and primary goods, situated, respectively, in the developed and developing countries. This enabled him to pose the question in terms of intersectoral balance, or lack thereof, for the world economy as a whole between the manufactures and primary goods. By expressing the respective growth rates of the two goods as, respectively, a positive and a negative, function of the terms of trade between them, he posited a simple balance condition in terms of the particular price ratio at which the two growth rates equaled each other. Kaldor used his analysis to argue for the institution of buffer stocks of raw materials as a remedy against the potential disruption of production of manufactures that used the former as inputs. He also revisited his "two-sector world economy" framework to highlight the disruptive effect of speculation in commodity exchange during the international oil crisis in the 1970s (Kaldor, 1996, Third Lecture).

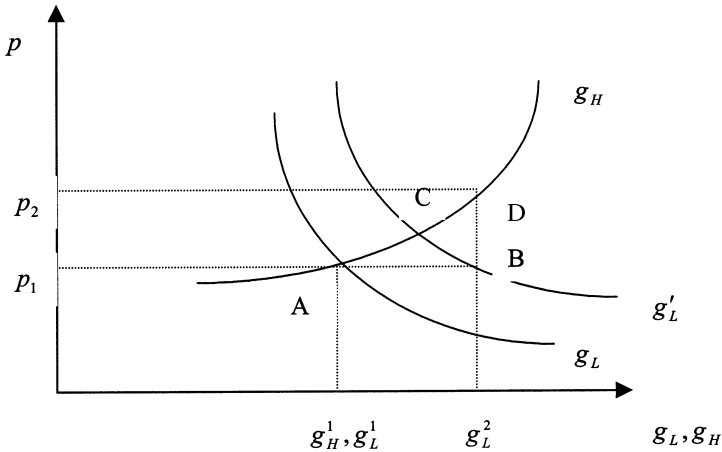
Using this Kaldorian framework, we can think of the world economy as comprising two sectors, again situated, respectively, in the advanced

and newly industrializing countries (NICs), but now producing, respectively, *smart* and *dumb chips* instead of manufacturing versus primary goods. Advanced countries import from NICs standardized, lower technology “commoditized” inputs (dumb chips), whereas the NICs buy high-tech goods (smart chips) as capital inputs from advanced countries. Assuming balanced trade, a balance condition holds for the respective growth rates in the two regions. For ease of exposition, the two growth rates can be assumed equal when in balance.

In this framework, the growth rate of high-tech goods in the advanced countries will be related positively, and that of low-tech goods negatively, to the price ratio of high-tech goods over low-tech goods, expressed in the advanced country’s unit of currency. The point at which the two schedules intersect gives the price ratio (p) for which the two growth rates will be in balance (see point A in Figure 9). In the abstract, this equilibrium point can be thought to be stable. If the price ratio is higher than its “equilibrium” value, the production of high-tech goods grow faster than that of low-tech goods, giving rise to an excess supply of high-tech goods, which pushes down the relative price of high-tech goods in terms of low-tech goods. Likewise, if p is less than its equilibrium value, the price ratio is pushed up by an excess supply of low-tech goods. However, free-capital flows can be seen to prevent such smooth adjustment.

The flow of capital into developing countries from advanced countries, on one hand, facilitates capacity investment and the adoption of new technology, causing the growth-rate schedule for low-tech goods to shift up. On the other hand, this leads to currency appreciation preventing a smooth upward adjustment in relative prices in terms of the advanced country currency.²² Thus, rather than smoothly moving to the new equilibrium point at C, we end up at B, that is, with global overaccumulation of low-tech goods. The higher growth rate in the *South* fails to generate a smooth price response that can correct the imbalance in the growth rates, and, in the long run, the problem only gets worse. As profitability in the export sectors in developing countries diminish, increasingly, the capital inflow feeds speculation and investment in the non-tradable sectors. Asset price inflation makes a smooth depreciation of the currency all the more unlikely and difficult, setting the stage for an eventual collapse in the exchange rate. At the first sign of trouble, international investors panic, causing an abrupt reversal in the direction

²² For ease of exposition, it is assumed that currency appreciation is just sufficient enough to balance the fall in terms of trade, such that the price ratio in the advanced country currency remains constant.

Figure 9 Growth rates of high-tech and low-tech goods

of capital flows. With the meltdown of currency, the relative price of low-tech goods falls drastically, which in Figure 9 can be shown as an abrupt jump from point B to D.

In this account, exactly what triggers the collapse of confidence is not all that important. Revelations of problems in the banking sector, the bankruptcy of a major exporter of manufactured goods, the collapse of speculative investments in real estate, or yet some other unexpected event might just as well be the trigger. The abrupt reversal of capital flows sets off the crisis, but it is not the ultimate cause either. Even in the absence of an abrupt reversal in capital flows, and, thus, a currency meltdown, the exporters in developing countries still suffer from a steady deterioration in their terms of trade (as an adjustment to point C in Figure 9 indicates). As more countries overcrowd the lower rungs of entry into international markets (and the growth schedule for low-tech goods continue to shift up), the tendency of a falling terms-of-trade is likely to get worse and its deleterious effects progressively harder to escape. As Kaplinsky (2000) puts it, developing countries trying to succeed in late industrialization will have to “run faster and harder” in order to overcome the disadvantages of a continuously tilting playing field.

If indeed this is the nature of the problem developing countries face, neither a new international financial architecture nor a restructured finance/government/business nexus, no matter what their merits otherwise might be, will be sufficient to safeguard economic growth and prosperity in the developing world. An effective remedy will instead

require renewed efforts to restore regional cooperation and integration on a firmer ground. In this context, the *Asian Monetary Fund* (AMF), which was proposed by the Japanese in the midst of the crisis in August 1997, and vehemently opposed by the United States and the IMF at the time, was perhaps a missed opportunity.²³ Although it does not yet seem politically, nor organizationally, feasible in today's world, a more effective way to restore growth in the region, at least in the short run, would have been to complement regional financial arrangements, such as the AMF, and exchange rate coordination with a regional production cartel, rather than the competitive scramble in which each country tried to export its way out of the crisis with mediocre results at best.

By contrast, the point of the contractionary IMF policy was to bring about an upward shift in the growth schedule for low-tech goods (thus moving point C closer to D) by means of restoring investor confidence to resume the capital inflow into the region. However, the result instead has been deflation and destruction of capacity, which can be thought to have involved a downward shift in the low-tech growth schedule, increasing the magnitude of imbalance at point D. In the advanced countries, the higher growth rate, which the jump to point D implies in Figure 9, is fuelled by the deflationary trend in the NICs. However, higher growth in the *North*, at point D, involves overaccumulation of high tech goods, implying economic trouble down the line for the developed countries as well. Especially in the absence of global demand management, this might indeed prove serious.²⁴

Conclusion

According to the hypothesis put forth in this paper, the success of East Asian countries depended on their ability to escape the trap of deteriorating terms-of-trade inherent in a generalized strategy of export-led growth through a regional pattern of development known as the flying geese model. However, this pattern of development has started to come

²³ The objective, as declared by Japanese Ministry of Finance officials at the time, was for the AMF to be a more flexible source of funding with less stringent and less uniform policy requirements than those imposed by the IMF on developing countries in need of financial assistance (Altbach, 1997). For an overview of efforts at regional cooperation since the crisis, see Wang (2000).

²⁴ For a discussion of the risk of global contraction caused by international trade imbalances, and the deleterious effects the lack of global demand management can have, see Blecker (1998) and Davidson (1996).

under increasing strain in the second half of the 1980s. The back end of the *geese* progressively became overcrowded just as the front end (Japan) began to clog. As competitive pressures intensified, producers throughout the region felt compelled to early-exit their niches of production in order to safeguard their competitive position. The result was the competitive strife manifest in the investment boom of the early 1990s, which led to the reemergence of the fallacy of composition inherent in a generalized system of export-led growth.

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