

ASIAN DEVELOPMENT REVIEW

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Development Lessons for Asia from Non-Asian Countries

DANI RODRIK

The disappointments of the Washington Consensus have led to the search for a new paradigm to replace it. The chief failing of the Washington Consensus was that it represented an approach based on “rules of thumb.” As such it was not well grounded either in economic theory or in the reality of actual countries. I discuss several strands of new thinking that have appeared following the demise of the Washington Consensus, and argue in favor of an explicitly diagnostic approach.

One always comes with a considerable amount of trepidation when talking about development policy in Asia, a region where development performance over the last two and a half decades has been quite extraordinary with a few exceptions. Perhaps the country that we are in (the Philippines) is one of the important exceptions. Nonetheless this is a region that has done extremely well and it is not entirely clear what an outsider can tell you about what there is to learn about development policy—except to say “well, keep on doing what you’ve been doing.” But as my colleague and co-author Ricardo Hausmann likes to say “Fish don’t know they are in water.” And sometimes it is helpful to have an outsider with broad comparative experience come and talk about what has worked and (mostly) failed elsewhere to give you a sense of what is it that for the most part seems to have worked here in the Asia and Pacific region, in order that policymakers in this region can keep on the right path.

What I want to talk about is basically the search for a new paradigm. We used to have a paradigm, the Washington Consensus. We are now at a point where I think it is fair to say there is no one who is willing to stand up and defend the Washington Consensus anymore. Even the originator of the term, John Williamson, is willing to defend his version of the original Washington Consensus but not what that term has come to imply and mean these days. The questions now are: what is going to take its place, and what are the new views, new approaches that are coming out.

Dani Rodrik is Professor of International Political Economy at the John F. Kennedy School of Government, Harvard University. This paper was presented in the Asian Development Bank’s Distinguished Speakers Program held 31 March 2006 at the ADB Headquarters, Manila, Philippines. The informal style of presentation has been preserved.

Here is an outline of what I want to talk to you about. First, I want to give you a sense of how far we have come from the original Washington Consensus. I think it is important to understand why the Washington Consensus has dissipated and why no one believes in it anymore. Here the fundamental problem is that the Washington Consensus was really a set of rules of thumb, a set of do's and don't's. You liberalize, you stabilize, you privatize. You don't regulate, you don't promote industries, you don't run populist policies and so forth. It is important to understand not simply from the perspective of understanding why the Washington Consensus failed, but also where we will be heading—why rules of thumb of this sort are inevitably doomed to failure. So if our search ends in replacing the original ten commandments with simply a different set of commandments I think we are going to find that the new recipe will prove a disappointment as well. So I want to say a few things about why we need to move away from rules of thumb when we work on prescription.

Next I will survey briefly a set of reactions to the dissipation of the Washington Consensus to see what is out there in terms of post-Washington Consensus ideas. Finally, I will conclude by giving you a flavor—I'm afraid that it will have to be no more than a flavor given the limited time that I have—of some ideas that my colleagues and I at the Kennedy School have been working on to try to develop a much more strategic and much more diagnostic approach to developing growth strategies. This is an approach that says that the new paradigm we need is not one that lists specific prescriptions, but one that helps you think about your problems and how you design approaches and solutions to your specific constraints. Rather than taking an *ex ante* stand on what the problems and their solutions are, this is an approach that helps you diagnose your most pressing problems and corresponding priorities. I hope this will become clearer by the end of my talk.

I. THE COLLAPSE OF THE WASHINGTON CONSENSUS

Let me give you a couple of recent quotes from leading Washington institutions. I think they are important in terms of revealing how far in fact we have moved away from the original Washington Consensus. The first one comes from the introduction to the World Bank's recent book on *Economic Growth in the 1990s: Learning from a Decade of Reform*.

There is no unique universal set of rules ... we need to get away from formulae and the search for elusive "best practices" [and] rely on deeper economic analysis to identify the binding constraints on growth... (World Bank 2005, xiii).

This came out late last year and represents as clear an anti-Washington Consensus statement as you can possibly imagine. And you have to bear in mind that this was published in an official report of the World Bank.

Here's another one. This one comes from a regional development bank, the Inter-American Development Bank also based in Washington. The quote is from their *2006 Report on Economic and Social Progress in Latin America*, their flagship publication.

Whatever the policy area, there is no single formula applicable to all circumstances; policies' effectiveness depends on the manner in which they are discussed, approved, and implemented.... A strictly technocratic approach toward policymaking shortchanges these steps... (Inter-American Development Bank 2005, 3).

This is something that is very similar to the previous quote, and in fact actually cuts a bit deeper. So it is not just that there are no formulas, no single one-size-fits-all approach to development policy, but that you also cannot think about your problems and solve them in a technocratic fashion. You have to be concerned about the manner in which you are thinking about them and the process of developing solutions. And that means that you need to think a lot about the political process within which these solutions are developed.

You are of course familiar with what the Washington Consensus is but I think it is useful to remind you of what it stood for. On the column on the left of Table 1 you have the original Washington Consensus. These were the 10 items that John Williamson included in his list of what countries ought to do—fiscal discipline, reorientation of public expenditures, tax reform, and so on. If you want to summarize those 10 items, it is really about “stabilize, privatize, liberalize.”

Table 1. **The Washington Consensus**

Original Washington Consensus	“Augmented” Washington Consensus: The previous 10 items plus:
1. Fiscal discipline	11. Corporate governance
2. Reorientation of public expenditures	12. Anticorruption
3. Tax reform	13. Flexible labor markets
4. Financial liberalization	14. World Trade Organization agreements
5. Unified and competitive exchange rates	15. Financial codes and standards
6. Trade liberalization	16. “Prudent” capital-account opening
7. Openness to foreign direct investment	17. Nonintermediate exchange rate regimes
8. Privatization	18. Independent central banks/inflation targeting
9. Deregulation	19. Social safety nets
10. Secure property rights	20. Targeted poverty reduction

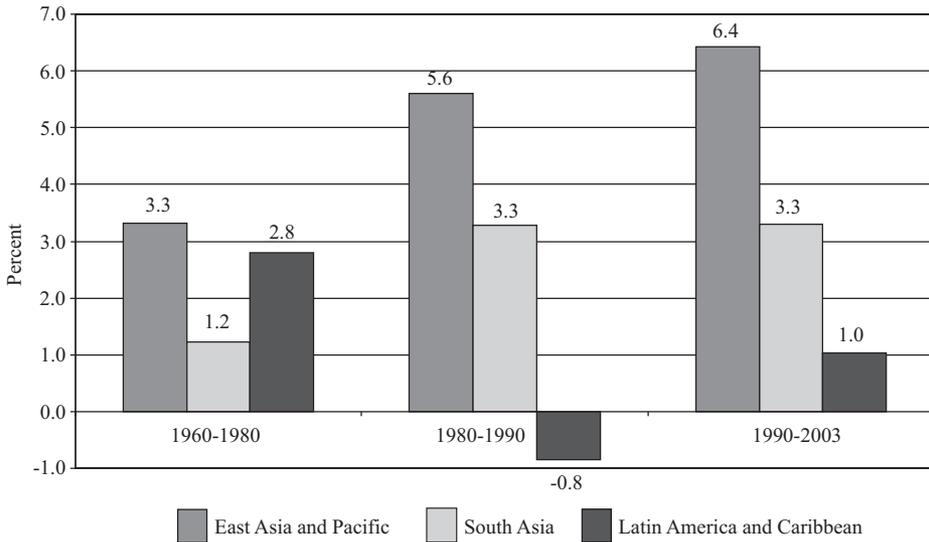
Over time this original Washington Consensus, which was a limited and relatively easy set of policy reforms, has broadened into a much broader agenda of reforms, which I call the *augmented* Washington Consensus. It is important to draw the distinction between the original Washington Consensus and its augmented version because they entail a very different style of reform. The original Washington Consensus was about simple policy levers: to eliminate black market premia, you simply unify the exchange rate, which is something you can do in five seconds. You can eliminate a huge amount of trade restrictions by decree overnight. You can welcome foreign investors by tearing up your old regulations and restrictions. Privatization may take a longer time but it is still mainly an issue of either auctioning off or selling your state-owned enterprises. The one thing on the original list that is institutionally really demanding is item 10, which is secure property rights. In fact the presence of that item in the original Washington Consensus is quite telling about the intellectual climate in which the Washington Consensus developed. John Williamson tells the story of how he listed “secure property rights” almost as an afterthought, to round out the list to 10 items (Williamson 1990). So secure property rights, which in some sense have become the cornerstone of thinking about long-term economic performance, were actually an afterthought in the original Washington Consensus of 1989.

When it comes to the augmented version of the augmented Washington Consensus, everything is about implementing secure property rights and improving institutions and governance. And you might say that is wonderful, in fact I have written papers claiming institutions are fundamental for economic growth and isn't that the end of the story? But I'm going to argue that the augmented Washington Consensus is not a particularly good departure point for thinking about practical development strategies. I'll come back to that at the end of my story.

The facts of the Washington Consensus's failure are fairly clear. Remember that the Washington Consensus originated not in Washington but in Latin America; it was a codification of what those countries were already doing to get growth going. Those countries tried very hard to implement this agenda. From the mid-1980s to the late 1980s onward, these countries did a significant amount of privatization, deregulation, liberalization. They stabilized their economies, brought inflation down, unified currency markets, liberalized trade. In a few years starting from as early as 1985 in Bolivia to as late as perhaps 1994 in Brazil, they did a series of regulatory and trade reforms that were both in context of the history of these countries and comparative economic history quite drastic and quite extensive. What has happened in terms of economic growth? The results were very disappointing. What you can see in Figure 1 is that in the decades prior to 1980, Latin America was lagging behind East Asia and Pacific, but not considerably, and was doing better than South Asia. But then look at what

happened in the period since 1990. Since 1990, Latin America has lagged behind both East Asia and now also South Asia—and by a mile. What is especially striking is that Latin America’s performance following the adoption of Washington Consensus policies has actually fallen behind the region’s own performance pre-1980. By any standard you can imagine, judged by the Washington Consensus (whether it is openness to trade, inflation, regulatory regime, currency regime, or financial liberalization)—in all those dimensions, policies have been far better post-1990 than they were prior to 1980. At the very least, we have a big puzzle.

Figure 1. Comparative Growth Experience



In Asia, the countries that have actually done extremely well—for example those that the World Bank has called the “star globalizers” of the last two decades—are countries that have played by very different rules of the game. People’s Republic of China (PRC), India, and Viet Nam have maintained throughout the 1980s and 1990s high barriers on imports, in some cases have not even been a member of the World Trade Organization. When they significantly reduced barriers to imports (as for example the PRC did in the mid-1990s and India in 1991), in at least a decade they achieved very rapid economic growth. So it certainly was not the case that import liberalization preceded and ignited growth. It was growth that gave room to the government to actually engage in a much deeper trade liberalization of the sort that Latin American countries were

relying on to engineer growth. Neither of course did these countries engage in privatization of state enterprises early in the process of growth.

II. WHY RULES OF THUMBS DON'T WORK

I think it is important to understand what this kind of evidence really means and does not mean. One of the key points that I want to drive home is the idea that we should give up the search for rules of thumb. Let me do this by focusing on perhaps the least controversial area of policy reform: trade liberalization. This is one of the key planks of the Washington Consensus. I want to show that even the simplest, most direct and apparently most uncontroversial policy recommendation is actually contingent on a whole range of other side conditions. In order for us to have a reasonable amount of certainty that the policy is going to work, we need to ensure that a ton of other things are in place as well.

So what does economic theory say about when trade liberalization is actually desirable? Some (but certainly not all) of the conditions are listed in Table 2. As you can see, the list is quite long and involves a complex set of considerations having to do with the extent of liberalization, presence of other market distortions, complementary exchange rate policies, market power in world trade, state of full employment and requisite demand-management policies, distributional effects, fiscal consequences, political economy, and credibility. Even the simplest of policy reforms turns out to hinge on a complex set of prerequisites. An *unconditional* recommendation to liberalize trade implicitly assumes that all the side conditions have been met. But of course the analysis of whether that is indeed so is hardly ever done.

Table 2. **When is Trade Liberalization Desirable (in Theory)?**

The liberalization must be complete
or else the reduction in import restrictions must take into account the potentially quite complicated structure of substitutability and complementarity across restricted commodities.
There must be no microeconomic market imperfections other than the trade restrictions in question,
or else the second-best interactions that are entailed must not be adverse.
The government must be able to undertake a compensatory devaluation of the currency
or else nominal wages must be downwardly flexible.
The home economy must be "small" in world markets
or else the liberalization must not put the economy on the wrong side of the "optimum tariff."
The economy must be in reasonably full employment
or else the monetary and fiscal authorities must have effective tools of demand management at their disposal.

continued.

Table 2. **continued.**

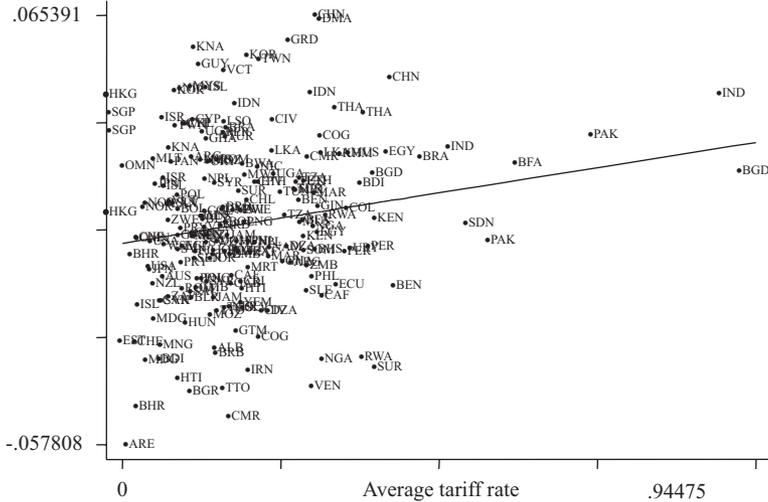
The income redistributive effects of the liberalization should not be judged undesirable by society at large
 or else there must be compensatory tax-transfer schemes with low enough excess burden.

There must be no adverse effects on the fiscal balance
 or else there must be alternative and expedient ways of making up for the lost fiscal revenues.

The liberalization must be politically sustainable and hence credible
 or else the fear of reversal must not lead to too large a consumption boom in imported durables.

You might say that theory is ambiguous (contingent is more correct), but the proof lies with the empirical evidence. But here too it turns out there are no easy answers. Figure 2 shows the (partial) association between average tariff rates and growth rates in the 1980s and 1990s. If anything, the correlation is a positive one, rather than a negative one. Again, this should not be surprising since as I have already pointed out, some of the most rapidly growing Asian countries have had high tariff barriers on trade.

Figure 2. **Relationship between Trade Barriers and Economic Growth**



Notes: The vertical axis is the unexplained component of economic growth. The data are pooled averages for 1980s and 1990s. The additional controls included are initial income, inflation rate, share of government spending in GDP, and a dummy for 1980s.

So what's the point? The point is *not* that trade liberalization is a bad thing or that countries should raise their trade barriers and get out of the World Trade

Organization. The point is that we cannot expect an unambiguously positive response from the typical reform policies—except under specific conditions. That may well be a trite point, but one that the advocates of the Washington Consensus forgot. The Washington Consensus did not say you should undertake trade liberalization only when you have been convinced by extensive analysis or by your knowledge of local conditions that the prerequisites listed in Table 2 are actually in place. It says you go ahead and do trade liberalization, period.

Increasingly, of course, we see in the discussion of trade liberalization (as in other areas), a recognition that reform efforts need to be complementary. Precisely because these reforms have not brought the expected payoffs, their advocates now say “it is not enough to do reform A; you will need to complement it with reforms in areas X, Y, Z.” So if you want trade liberalization to work, you need to make sure that labor markets are flexible, that you have a good regulatory structure in place, that you are providing adequate R&D support to firms, that your financial sector is working well, and so on and so forth. This is what intelligent advocates of trade liberalization today are saying. But you have to note that what they are saying is not that you should not do trade liberalization unless you are ensured that those on the side conditions are there. They are saying you should do trade liberalization *and* make sure all those other things are at the same time being done as well. From a policymaker’s perspective, this becomes really an unattainable objective: what they have to do in order to make trade liberalization a success is basically all the other reforms that would make them a success regardless of whether they undertake trade liberalization in the first place or not. So one wonders, what’s the point of trade liberalization?

There is also something misleading about this kind of recommendation because when people say you should do this and that, there are always three dots (“and so on...”) at the end of the statement. The list of complementary reforms is hardly ever a closed list. This way, if the reform fails, policymakers can always be faulted for not having done something that turns out to have been “crucial” *ex post* but not specified *ex ante*.

III. POLICY CREATIVITY INSTEAD OF RULES OF THUMB

All this may sound extremely discouraging because it makes it look highly complicated. How can we possibly know all the prerequisites and take care of all the complementarities entailed in reform? The good news is that once we move away from rules of thumb, we are freed up to design context-specific reforms that can cut across the kind of complicated complementarities I just mentioned. Many successful countries have in fact relied on such short cuts, which often take unconventional forms. So it is not a big surprise that some of the most important ways in which countries have been able to integrate themselves into the world economy have taken the form of unorthodox policies, including special economic

zones, export processing zones, export subsidies, two-track reforms of the kind that the PRC has pursued, and so on. The reason that these kinds of reforms have worked where across-the-board import liberalization has not is that the former are more robust to the absence of the standard prerequisites of liberalization.

I usually make this point by going through an extensive counterfactual for the PRC. I start by asking my audience to imagine that they are in the PRC in 1978, just on the eve of the reforms that the PRC undertook to get its economy going. I ask them to think about the kind of reforms they would recommend the PRC to undertake.

The conventional reasoning would go something like this (see Table 3). We need to start from the biggest problem, which is low agriculture productivity in the PRC. So we say the solution is to make rural markets work. We have to liberalize pricing of agricultural crops. Then we recognize that private incentives are not necessarily provided by simply freeing markets in a system where farmers are employed in communes and yet do not have any private property rights. So we recommend privatization of land. The next thing we have to worry about is the fiscal consequences of price liberalization in crops, and therefore we recommend tax reform. In addition, once crop prices are freed up, urban workers will demand higher wages, so we need (at the minimum) to corporatize state enterprises so that they can respond to the demand for higher wages. But of course that raises the problem of monopoly power because these are huge state enterprises. If you give them autonomy to set wages on prices they will maximize their monopoly profits. So we recommend trade liberalization to import price discipline from abroad. But trade liberalization is going to create other problems in turn, and will require restructuring to render enterprises competitive. That requires the financial sector to allocate capital well, so we recommend financial sector reform at the same time. And of course trade liberalization and restructuring may generate unemployment, so we better recommend social safety nets as well.

Table 3. **A People's Republic of China Counterfactual (1978)**

Problem	Solution
Low agricultural productivity	Price liberalization
Private incentives	Land privatization
Fiscal revenues	Tax reform
Urban wages	Corporatization
Monopoly	Trade liberalization
Enterprise restructuring	Financial sector reform
Unemployment	Safety nets

By the time we have run through this list and have taken care of all the complementarities entailed in reform, we may feel pretty good about the quality of our advice. But the recipient of our advice would probably think twice about reform. After all, how can all these things be done simultaneously? (Remember that it is crucial for them to be done together; otherwise each on its own will fail.) What kind of government has all the administrative capability, human resources, and political capital needed to undertake such an ambitious reform program? And if this is what is required for successful reform, perhaps it is better to leave reform for another day.

The actual experience of the PRC is instructive because in fact none of the recommendations in the second column of Table 3 was undertaken (at least not quite in the form shown). Instead, what the PRC did was to use two-track pricing, grafting a market track on top of a plan track rather than completely eliminating the plan track, in order to provide supply incentives without generating a public finance crisis at the same time. Rather than tackle the controversial and complicated area of ownership reform head-on, the PRC policymakers implemented innovations like the household responsibility system and township and village enterprises. These were interesting experimental ways of providing incentives both in rural areas and in township industries to generate private entrepreneurship and investment. Rather than opening up their economy to imports in the standard way, with all the restructuring problems that this would entail, they provided incentives for export orientation through special economic zones. And they employed a system that Weingast and Qian have called “Chinese-style federalism” in order to generate incentives for policy competition and institutional innovation among the country’s regions. Now most observers with Washington Consensus instincts would have said that these are the wrong ways in which to reform. But in light of the counterfactual story I have just told, it is hard to find fault with the logic of the PRC style of reform.

To be clear, I’m not saying that every country should go and implement two-track pricing and the household responsibility system. I’m just giving this as an example of how context-specific solutions and pragmatic domestic policy responses can overcome some of these complementarities and complications involved in reform. But this is possible only if we move away from ready-made rules of thumb.

IV. POST-WASHINGTON CONSENSUS IDEAS

So where are we now? There have been a number of different reactions to the dissipation of the Washington Consensus, which I briefly review here.

There’s one approach that I associate with the International Monetary Fund (or parts of it), which says that the problem is that the Washington Consensus was not really tried. Anne Krueger’s title for a speech she gave in 2004 summarizes

the basic message: “Meant Well, Tried Little, Failed Much” (Krueger 2004). So governments may have had their hearts in the right place, but they do not get high marks for effort. Much the same evaluation is reflected in a report that the IMF’s Western Hemisphere Department prepared on Latin America, which concludes:

reforms were uneven and remained incomplete.... More progress was made with measures that had low up-front costs, such as privatization, relative to reforms that promised greater long-term benefits, such as improving macroeconomic and labor market institutions, and strengthening legal and judicial systems (IMF 2005, xiv).

So the problem was that the policymakers took the easy way out and did not complete the reform agenda.

Another related reaction is to look at the same evidence that I briefly reviewed above and conclude that it actually validates the Washington Consensus prescriptions. In the following quote, Larry Summers can be interpreted as arguing that successful countries are those that have done things that are on the Washington Consensus agenda:

I would suggest that the rate at which countries grow is substantially determined by three things: their *ability* to integrate with the global economy through trade and investment; their *capacity* to maintain sustainable government finances and sound money; and their *ability* to put in place an institutional environment in which contracts can be enforced and property rights can be established. I would challenge anyone to identify a country that has done all three of these things and has not grown at a substantial rate (Summers 2003).

But upon closer reading, it is clear that Summers is saying something quite different. He is talking about the importance of having an *ability* to integrate—but he does not say trade liberalization per se. This leaves room for the PRCs and Indias of the world. He is talking about the *capacity* to maintain sound fiscal and monetary polices—but once again he does not have in mind specific rules (such as low fiscal deficits, independent central bank, inflation targeting, and the like). This leaves room again for the renegades that have done well without any of these (e.g., India). He’s talking about an *ability* to generate an environment in which property rights are established, but not about privatization per se (allowing the PRC and Viet Nam to fit his definition).

So what Summers says defines as successful growth-promoting policy turns out to have very little operational content. It still leaves open the question of what a government is to do.

The third approach, for which I'm partly responsible, is what might be called "institutions fundamentalism." This is actually the position that the augmented Washington Consensus has converged on. Remember that this more recent variant of the Washington Consensus is heavily oriented toward getting governance and institutions and property rights and rule of law right across all sorts of different policy areas. The academic support for this approach comes from the now fairly convincing demonstration that in the long run countries that have attained high levels of income are those with high-quality institutions. This correlation can be interpreted in a causal way as well: the most important way in which you can ensure long-term convergence to the living standards of rich countries is by acquiring high-quality contract enforcement, rule of law, and property rights protection.

Now the bad news here is that just as in my discussion of the Larry Summers quote, the actual policy content of this prescription turns out to be very slim. Much of this line of reasoning deteriorates into a laundry list of institutional prerequisites that all but describe what being developed looks like. By the time you root out corruption, sort out property rights, develop first-world institutions of corporate governance, develop financial market regulation that are best-practice and so on, you are already developed! Which is to say, this is hardly a *strategy* to get there. It does not help policymakers to be told that in order to reach Sweden's income level they need to look more like Sweden.

The good news on this score is that when we look at the evidence of what drives actual instances of growth accelerations, we rarely see large-scale institutional change as the instigator. India doubled its growth rate starting in the early 1980s with no institutional change whatsoever—in any case none that left its mark on paper. In the PRC, there were important policy changes around 1978, as I discussed, but these fell far short of what an institutions fundamentalist would have liked to see. All of which suggests that the ambitious agenda of governance reform that the World Bank often pushes for is not only impractical, but also unnecessary to get growth going. This agenda confuses what needs to happen eventually for long-term income convergence with what can be done now to improve matters.

The *UN Millennium Report* (UN Millennium Project 2005) represents yet another approach. It focuses on the Millennium Development Goals and on attaining them by 2015. It proposes to do so by significantly scaling up investments in human capital, public infrastructure, and public administration, with these investments being financed by a combination of increases in foreign aid and national resources. I will not say much about this except that there is little evidence for generalized poverty traps of the sort that provide the conceptual

underpinning of the Millennium Plan approach. As I've said before, when we look at the actual evidence on how growth happens it seems to happen not through wholesale, large-scale, and complementary investments but through a sequence of strategic interventions that seem to relax binding constraints over time.

V. TOWARD A DIAGNOSTIC APPROACH

In my own work, what I am drawn to is precisely that kind of approach that focuses on the binding constraints and on diagnosing them appropriately. This is an approach that allows different fixes for different countries, yet provides a unified way of analyzing their problems and generating policy priorities. It relies crucially on diagnostics—on being able to identify areas with greatest return to reform. Of course poor countries are poor because they have many things that are wrong with them. But the diagnostic approach aims to figure out where the most binding constraints on economic growth are at any particular point in time. The idea is that by focusing administrative and political capital on those areas where the bang for the reform buck is biggest, we might be the most effective. This is also a promising way to identify country-specific programs because it is based on the idea that the binding constraint will differ from setting to setting. Therefore when we do the analysis right we will end up with policy solutions that differ according to setting.

Very briefly, the growth diagnostics approach is based on trying to identify what is the most important constraint blocking private investment (Hausmann et al. 2005). It proceeds in the form of a sequence of questions. Is private investment blocked primarily by low return to economic activity or primarily by high cost of finance? If it is high cost of finance, do the problems lie with domestic financial markets or with the country's poor entry into international financial markets? If it is bad domestic local finance, is the problem with poor intermediation or with low domestic savings? On the other side, if low private investment is due to low returns to economic activity, we ask whether it is social returns that are low, or it is the appropriability of those returns that are low. If it is low appropriability, is that due to government failures or market failures? If it is government failures, what are they? And so on.

I think this will give you an idea of the type of exercise that is entailed in implementing this approach. We basically move down a decision tree, trying to identify the relevant branch to take at each node. So if at the end of the process we identify, say, poor intermediation as the binding constraint on investment, that is going to call for a different kind of policy than if we had instead identified low human capital as the constraint.

Can this type of exercise be done? It is not very easy, and probably there is more craft than science involved in doing it well. But to me, it is not clear what

the alternative would be. This seems to be the only way we can sensibly approach and develop country specific programs and priorities.

Let me give you a flavor of how many of these ideas can be operationalized by focusing on one example. Suppose we are trying to decide whether the problem is one of low returns or of high cost of finance. Depending on where the problem is, the economy will throw out very different kinds of diagnostic signals. In a country where the problem is low returns to economic activity, you will have banks running after customers, low interest rates, and current account surpluses. If for whatever reason there is an increased inflow of foreign resources, this is going to raise consumption rather than investment. So in all these respects an economy where the binding constraint is low returns will behave very differently than an economy where the binding constraint is high cost of finance. In the latter economy, interest rates will be high, borrowers will be chasing after banks, and liquidity will be tight. Anytime there is a relaxation of the external constraint the result will be high investment rather than high consumption.

The diagnostic approach is obviously one that needs to be repeated over time. If the diagnosis at time T is the correct one, the resulting growth will make something else the binding constraint at time $T+1$. In other words, we also need to think of *institutionalizing* the diagnostic process so that this becomes a habit of mind, the natural way in which policymakers think about their problems.

It goes without saying that the diagnostic approach is no panacea. Much thought and hard work needs to go into filling in all the operational details. And often, the answers will not be clear and we will not be able to pin down the binding constraints convincingly. Nonetheless, the approach has the advantage that it is inherently bottom-up: it empowers countries to do their own analyses—search for their own binding constraints and short-cuts to relax them—instead of relying on international financial institutions to present ready-made solutions.

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Asia's Current Account Surplus: Savings Glut or Investment Drought?

JESUS FELIPE, KRISTINE KINTANAR, AND JOSEPH ANTHONY LIM

Over the last few years economists have started referring to the existence of “global payments imbalances”, reflected in the growing current account surpluses and deficits among different regions of the world (surpluses mostly, but not only, by a number of Asian countries; deficits mainly by the US), together with a substantial accumulation of international reserves (also by a number of Asian countries). This paper examines Asia's current account surplus from the perspective of the savings–investment gap in order to determine whether the surplus is a result of an increase in savings rates (i.e., a savings glut) or a decline in investment rates (i.e., an investment drought). The analysis indicates that Asian current account surpluses are mostly associated with significant investment declines after the Asian financial crisis. Using data from 1986 to 2003 for a group of Southeast Asian countries, we find that the decrease and stagnation of domestic credit, the creation of excess capacity, and the relative decline of profit rates have contributed to the fall of investment rates across Asia, indicating a return to export-led growth.

I. INTRODUCTION

The term “global payments imbalances”, as it is being used of late, refers to the growing current account surpluses and substantial accumulation of international reserves by a number of Asian countries in the face of a growing current account deficit in the United States (US). The trends seen during the last few years have raised a number of concerns.

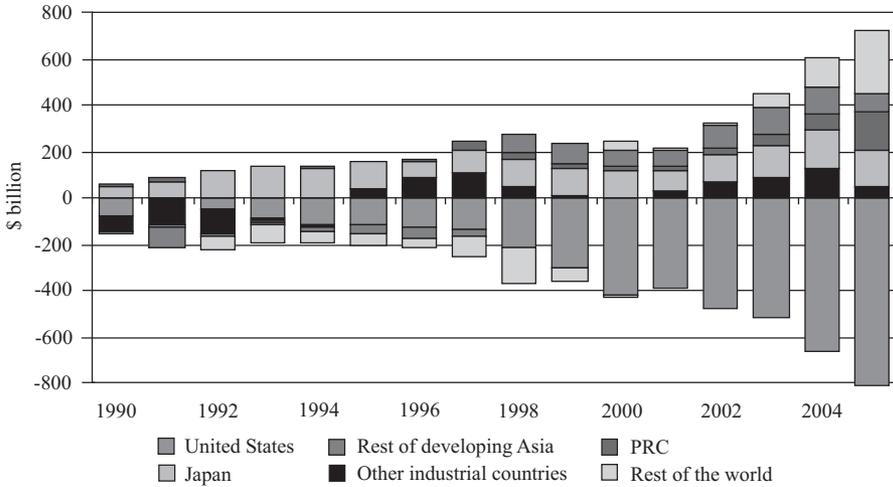
Figure 1 shows the current account balances of the different regions of the world for 1990–2005. The figure provides essential information to understand the concerns about the imbalances. Until the mid-1990s the surpluses/deficits were relatively small. Starting in 1998, however, they began increasing very fast and

Jesus Felipe is Senior Economist in the Macroeconomics and Finance Research Division, Economics and Research Department of the Asian Development Bank; Kristine Kintanar is a graduate student in the Economics Department of Fordham University; and Joseph Anthony Lim is Professor in the Economics Department of Ateneo de Manila University. The authors are thankful to colleagues in the Economics and Research Department for their useful comments, in particular Frank Harrigan and Aashish Mehta, and to two anonymous referees for constructive suggestions. The usual disclaimer applies. This paper represents the views of the authors and does not represent those of the Asian Development Bank, its Executive Directors, or the countries that they represent.

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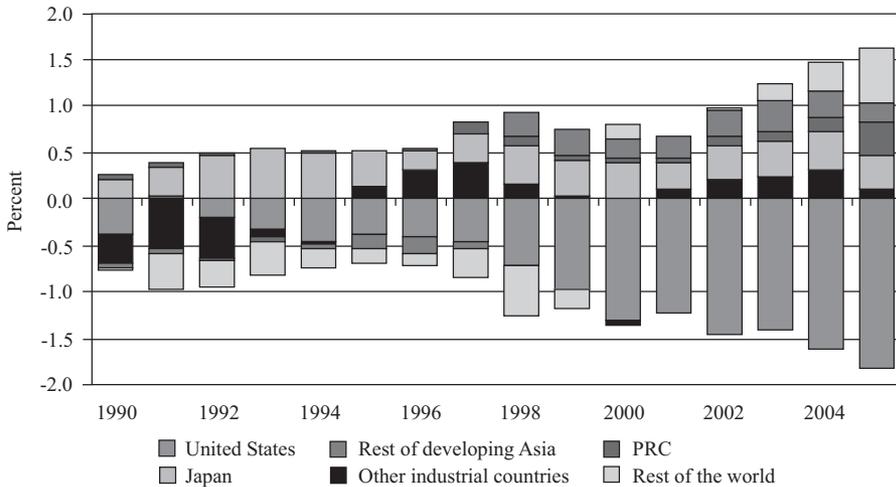
show no tendency to stabilize.¹ When current account surpluses/deficits are normalized by world gross domestic product (GDP), as shown in Figure 2, a similar pattern is detected, that is, the imbalances present no tendency to stabilize.

Figure 1. World Current Account Balance



Sources: *International Financial Statistics* (IMF various years), *World Economic Outlook 2005* (IMF 2005).

Figure 2. Current Account Balances, as Percentage of World GDP



Sources: *International Financial Statistics* (IMF various years), *World Economic Outlook 2005* (IMF 2005).

¹Total surpluses/deficits do not add up to zero due to the existence of statistical discrepancy.

The US has had a current account deficit every year during this 16-year period, except in 1991. In 2004–2005, it represented more than 1.5% of world GDP. Since the mid-1990s, the deficit has more than doubled, and in 2005 it represented 6.4% of US GDP (up from about 1.6% in 1996) or 1.80% of world GDP. On the other hand, Japan has consistently been in surplus. Between 1990 and 1997, except for the People's Republic of China (PRC), which had a small surplus, developing Asia (comprising Central Asia, the newly industrialized economies [NIEs], the Pacific, South Asia, and Southeast Asia) was in deficit. Since 1997 the PRC's surplus has increased significantly. In 2002, the PRC had a current account surplus of \$35 billion, but by 2005 this had soared to \$159 billion, equivalent to 0.357% of world GDP (more than twice as much as in 2004). The rest of developing Asia turned into surplus, reaching \$85 billion in 2005. Starting in 2003, the surpluses of the rest of the world (the combined surpluses of Africa, Eastern Europe, Latin America, Middle East, and Russia) also increased significantly to about \$266 billion in 2005 (equivalent to 0.6% of world GDP), mostly due to significant oil revenues as a result of the run-up in oil prices over that period, surpassing that of total developing Asia (\$244 billion). Today, the group of countries with the world's biggest current account surplus is not emerging Asia, but the oil exporters (almost \$400 billion in 2005). In fact, the rise in oil prices explains half of the widening of the US current account deficit since 2003, a larger share than that accounted for by the PRC. These swings coincided with the increase in the US current account deficit.

The two key questions regarding the imbalances are, first, whether they are sustainable; and second, if they are not, how they are likely to be resolved and over what period of time. Views on these issues are surprisingly diverse (Roubini 2005 and Eichengreen 2006 provide in-depth discussions; see also Felipe et al. 2006 for a brief summary and discussion). One view of the US deficits, and payments imbalances in general, is that they do not pose a problem. Under this view, the current account deficit is the result of the state of world affairs. In particular, the US is running a series of temporary wars against terrorism and, somehow, it is providing the global public good of international security to the rest of the world. As these wars are temporary, the deficit will eventually disappear. Those financing the US deficit, among them the Asian countries in particular, find the situation acceptable, as from their point of view it allows them to continue with their export-led growth model that relies on exports to the US. What the US needs to do is to prove its credibility to the market in the sense of showing that its policy trajectory is sound; in other words, the US does not necessarily have to cut the deficit by, let's say, one half. What it needs to prove is that it is heading in the right direction. This is perhaps what has been questioned lately. Another optimistic view of this debate is that as the US economy exhibits higher productivity and growth than other developed regions; it provides safe and nonrisky investments to savings funds from the rest of the world. Under this

perspective, the imbalances reflect the fact that savings funds from the rest of the world flow to the US, where they finance the growth of high-productivity sectors.

The previous views do not reflect, however, the most widely accepted position among economists, namely, that imbalances constitute a potential threat to global economic stability. But people who agree on this also have different opinions about how adjustments will occur—whether they will be smooth or abrupt, whether they will involve predominantly movements in the real sector or the financial sector, the manner in which central banks will intervene, and the like. The prevailing view is that the US deficits are a problem because they represent, given the size of the US economy, a very large global imbalance that needs to be addressed. Indeed, the US requires about \$700 billion from the rest of the world to finance its deficit. This requires an analysis of the causes that have led to the current state of affairs and of its implications.

This paper explores the causes and implications of this global imbalance from the point of view of Asia, particularly the role of developing Asia in generating it, as in 2005 this region ran a current account surplus of close to \$250 billion. If to this we add Japan's surplus of \$164 billion, perhaps the idea of imbalance with a geographical connotation is somewhat justified.

The rest of the paper is organized as follows. Section II summarizes the two main views of the global imbalance problem, namely that it is due to a savings glut, and the alternative that it is due to an investment drought. In Section III we review Asia's current account surplus. Section IV takes a look at the savings–investment imbalance in Asia, and discusses if Asia suffers from a savings glut or a investment drought. Section V offers an analysis of the causes behind the investment decline in a number of Asian countries. Section VI concludes.

II. DIFFERENT VIEWS OF WHAT HAS CAUSED THE GLOBAL IMBALANCE

From a trade point of view, the US current account deficit simply indicates that exports fall short of imports and is the result of an increase in the US demand for foreign goods—itsself the result of relatively higher US growth relative to its trading partners. From this point of view, the deficit is probably due to changes in the quality or composition of US and foreign-made products, changes in trade policy, or even due to unfair foreign competition, that is, a series of trade-related factors. From the savings–investment point of view, the deficit is due to the shortfall of savings with respect to investment, the result of an increase in the foreign demand for US assets since the late 1990s. From this point of view, the deficit is determined by the evolution of foreign and domestic incomes, asset

prices, interest rates, and exchange rates—forces related to the evolution of international financial flows.²

Table 1a summarizes the global current account balances for 1996, 2000, and 2004.³ The most significant fact that comes out of this table is the shift that has occurred between industrial and developing countries. While the latter had a combined deficit of about \$86 billion in 1996 (1.2% of their combined GDP), in 2004 they ran a combined surplus of \$340 billion (3.5% of their GDP), most of it concentrated in Asia and the Middle East. Moreover, all developing country subregions, except Central and Eastern Europe, ran surpluses in 2004. The industrial countries, except the US, also ran a significant combined surplus of about \$245 billion, but not enough to finance the US deficit (this surplus is equivalent to only 36% of the US deficit).⁴ Most of the additional financing must come from the developing countries.

Table 1a also indicates the following: (i) the US current account balance is today's single largest imbalance in the world economy; (ii) as a whole, the industrial world runs a current account deficit while the developing world runs a sizeable surplus; (iii) Asia accounted for almost 60% of the developing countries' surplus in 2004, with all its subregions in surplus; (iv) between 1996 and 2004, the current account balance of the developing world shifted by \$426.6 billion and that of Asia by \$235.3 billion; and (v) the situation raises concerns about the sustainability of the US deficit, which, given its size, requires a transfer of funds from the developing countries.

²In this paper we do not address directly the US current account deficit and its possible solutions. The interested reader could consult Blanchard et al. (2005). The authors explain the US current account deficit in terms of a model of imperfect substitutability between US and foreign goods, and between US and foreign assets. In this context, increases in US demand for foreign goods and increases in foreign demand for foreign assets have combined to increase the current account deficit. The authors are led to conclude that the trade deficit will not reverse by itself and that foreign demand for US assets cannot continue increasing. Hence, they foresee a depreciation of the US dollar. Mussa (2005) also offers a comprehensive analysis.

³This paper was first drafted during the summer of 2005. For this reason, latest figures are for 2004, despite the use of 2005 figures in the Introduction.

⁴The deficit of industrial countries is mostly the result of the US deficit. Of course, not every industrial country runs a current account surplus. Australia, Spain, or United Kingdom, for example, run deficits.

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Table 1a. **Global Current Account Balance Summary**

Current Account Balances	In Billion US Dollars			In Percent to GDP		
	1996	2000	2004	1996	2000	2004
Industrial	33.9	-293.3	-420.9	0.1	-1.2	-1.4
United States	-120.2	-413.5	-665.9	-1.54	-4.21	-5.68
Japan	65.7	119.6	171.8	1.40	2.52	3.68
European Union (Euro 12)	79.0	-28.5	35.6	1.10	-0.47	0.38
Other	9.3	29.0	37.6	0.30	0.86	0.76
Developing	-86.1	131.7	340.5	-1.2	1.8	3.5
Asia	-38.2	89.9	197.1	-1.25	2.76	4.45
PRC	7.2	20.5	70.0	0.89	1.90	4.24
NIEs	-2.3	40.1	89.6	-0.21	3.72	7.12
South Asia	-12.0	-7.4	1.1	-2.42	-1.25	0.13
Southeast Asia	-31.4	36.5	36.0	-4.80	7.26	5.22
Other Asia	0.3	0.1	0.4	3.58	1.49	4.85
Middle East and Africa	6.4	76.0	113.6	0.67	7.09	7.56
Latin America	-39.0	-47.8	15.9	-2.13	-2.43	0.80
Eastern Europe and the former Soviet Union	-15.4	13.7	13.8	-1.43	1.41	0.78
Statistical Discrepancy	-52.3	-161.6	-80.4	-0.2	-0.5	-0.2

Source: *World Economic Outlook Database* (IMF 2005).

Perhaps the most important implication of the observations in the previous paragraphs regarding the US current account deficit is that the US is today a borrower (net debtor) while the developing world is a lender (net creditor). It is obvious that at any point in time, exports and imports of any country, the same as savings and investment, need not be equal to each other. What is worrisome about the current situation is that by now the US trade and current account deficits are deemed by many economists as excessively large due to the financing implications they have. The question is that although from the US's point of view 5.68% of the US GDP is not an excessively large share, in absolute terms, it implies that the US required a huge amount of resources—about \$700 billion—from the rest of the world to finance it. That the industrial countries' (except the US) current account surpluses in 2000 and 2004, equivalent to \$120.1 billion and \$245 billion, respectively, were not enough to finance the US current account deficit is, perhaps, symptomatic of a situation that is not altogether normal. How is it possible that in 1996 the developing world had a combined current account deficit of about \$86 billion and in 2004 they had a combined surplus of \$340 billion, that is, a change of \$426.6 billion? This raises the two important questions of why the developing countries are financing the US deficit

instead of using these resources for other purposes, and whether this situation is sustainable in the long run.⁵

As noted in the Introduction, most analysts believe that the current imbalances are not sustainable. Private savers and central banks outside the US will not continue to finance the US current account deficit at low rates of return once it becomes clear that the current account deficit is growing and approaching levels that in Third World countries led to crises (8–10% of GDP); and that the net external debt burden of the US becomes unbearably heavy. A sudden change of heart from private and official investors in US debt securities leading to large US balance of payments deficits and dwindling of reserves may trigger severe and damaging US dollar depreciation and/or large and harmful interest rates hikes. This would lead not only to a US recession but also induce a worldwide recession. High world interest rates hikes will also worsen the debt and debt service burden of indebted developing and emerging economies, and affect negatively their economic growth prospects (IMF 2004, Rajan 2006).

Given the consensus view that indeed this situation needs to be addressed, the next question to ask is that of its causes.⁶ This is important because the nature of the causes will determine the type of policies to address the problem. Here, again, there are two very distinct views. The first one, opposite to the optimistic views summarized in the Introduction, is that the imbalance is the result of the US policies, in particular the US fiscal deficit, and is mostly independent of developments in the rest of the world. Under this view, the US is solely responsible for the situation, and the US has to bear the adjustment, essentially in terms of expenditure reduction policies. Expenditure-switching policies as a result of adjustment in exchange rates will not help much.

The other view of the imbalances is that in today's world, economic outcomes are the result of a number of factors, many of which are outside a single country's actions. This means that the US *alone* cannot be responsible for the current state of affairs. While imbalances are the result of uncoordinated policies intended by their promoters to boost national economic growth (mostly policies in the trade and finance arenas), the debate over global imbalances need not be couched in terms of international rivalry. Quite the contrary, the existence of global imbalances simply reflects deep economic linkages between countries in

⁵It is important to stress that investing international reserves in US assets need not be a waste of resources. This would be true only if the US assets yielded negative or very low rates of return. Increases in international reserves will be accompanied by increases in domestic currency, as the central bank captures the dollars in exchange for domestic currency, which has a potential of increasing domestic growth because of monetary and credit expansion. It all depends on whether the central bank sterilizes the increase in money supply. Developing countries can use international reserves to repay foreign debt, for example.

⁶See, for example, Bernanke (2005), Eichengreen (2004), McKinnon (2005), and Roubini (2005).

an increasingly global economy, whose development has created a unique symbiosis. This has led to a situation of *de facto* stability as both surplus and deficit nations know that moving one piece affects another one. Indeed, a large part to the Asian current account surpluses is invested in countries with current account deficits, such as the US, which supports demand in the latter. Conversely, the US buys cheap imports from Asia, which support export-led growth in the Asian countries. Consumers in the US have benefited directly from relatively cheap imports;⁷ and indirectly, as these imports have held down inflation and interest rates. Moreover, cheap money has fueled a housing-price boom that has supported consumer spending even as real wages have stagnated. The problem with this situation is that some commentators feel this cannot go on forever, because if these flows were to adjust rapidly due to poorly coordinated international macroeconomic policies, the costs of adjusting to a new landscape would surely be high. An internationally coordinated and credible approach is therefore required to reduce the imbalances to a more manageable and acceptable level, such that it would not be perceived as a threat to the stability of the global economy. In the view of most economists, this approach will include at least some depreciation of the US dollar relative to key Asian currencies (particularly the PRC's renminbi), policies to increase the savings rate in the US and to reduce the fiscal deficit, as well as fiscal and monetary policies in the European Union (EU) and Japan designed to make up for slowing US demand. Given the international benefits of coordination, but the localized costs of implementation, the debate is really over who should move first, and how far.

Current account imbalances can be looked upon from the point of view of the savings–investment gap. From this point of view, the mirror image of the large US current account deficit is the large savings–investment surpluses that other parts of the world have. From the policy perspective, it is important, therefore, to discuss if this gap has been caused by a worldwide *savings glut* (Bernanke 2005); or whether the world suffers from an *investment drought*. These two views of the causes of the global imbalances seem to be almost tautological; however, it is interesting to look at the issue from these two seemingly opposing points of view, for they provide different perspectives and can lead to different policies to address the situation, especially in the Asian context.

The savings glut hypothesis argues that the glut appeared during the last decade, and it is the result of two developments. First, one source of saving is savings of industrial countries with aging populations. Indeed, as the labor forces of the developed world grow older, these countries are making large provisions for retirement pensions. Where are these savings being invested? Most of them are in the US. The reason, the argument goes, is that with its sound economy, the

⁷Wal-Mart, for example, imported goods from the PRC worth \$18 billion in 2004.

US is the most attractive investment destination due to the sophistication of its financial markets as well as to the special international status of the US dollar. The second source of savings is the developing world. Probably, the most important reason that has led to the large accumulation of savings throughout the developing world is a precautionary motive following the financial crises in the second half of the 1990s. In response to these crises, developing countries saw the need to accumulate large amounts of reserves in order to defend their currencies should a situation similar to that of the 1990s arise, given that, unlike the EU countries or the US, developing countries cannot print reserve currency. This is most clear throughout Asia, where a number of countries have accumulated large amounts of reserves and become net exporters of capital.⁸ These countries have also sent their excess savings to the US and invested them in US Treasuries.

The result is that the current account of the US has adjusted *endogenously* to these changes in financial market conditions. From the trade perspective, stock market wealth induced higher consumption among US consumers. A strong US dollar made imports cheap and exports expensive. From the savings–investment point of view, perceived profit opportunities led to higher capital investment, and the increase in household wealth and expectations of future income gains reduced US consumers’ perceptions of the need to save. The conclusion is that the increase in the US current account deficit between 1996 and 2004 has been the result of a global savings glut combined with an appetite for investing in the US. Under this view, the global savings glut is keeping interest rates low, which makes the financing of the US current account feasible.

The investment drought view of the savings–investment surpluses argues that the alleged savings glut is not really the cause of the savings–investment imbalances, as private and public savings are falling in many parts of the world (Japan and the US have large public deficits; private savings are very low in the US). What has happened is that investment collapsed in both the developed and developing countries during the late 1990s and in 2000, and has failed to recover.

In the following three sections we look into the Asian current account surplus and analyze the two views described above, that is, we ask whether the evidence appears to support the view that Asia suffers from a *savings glut*, or from an *investment drought*. In particular, we examine if there have been significant changes after the 1997 Asian financial crisis.

⁸As of June 2005, the combined stock of reserves in PRC; Hong Kong, China; India; Indonesia; Korea; Malaysia; Philippines; Singapore; Taipei, China; and Thailand amounted to \$1.7 trillion.

III. THE ASIAN CURRENT ACCOUNT SURPLUS IN PERSPECTIVE

A. Global Current Account Imbalances

As indicated above, Asian countries, in particular the PRC, are committed to policies of export-led growth whose goal is to promote exports as a way of stimulating growth. This has led to large current account surpluses and reserves.⁹

Tables 1b and 1c show that about 58% of the developing world current account surplus in 2004 (\$197.1 billion) and 55% of the developing world change in the current account position between 1996 and 2004 was due to Asia (\$235.3 billion). Asia went from a combined deficit of \$38.2 billion in 1996 to a combined surplus of \$197.1 billion in 2004. Moreover, all Asian subregions were net exporters of capital in 2004. The PRC represents 35% of the Asian surplus and 20% of the developing countries' surplus. The PRC had a current account surplus of \$70 billion (4.24% of GDP), the NIEs of \$89.6 billion (7.12% of GDP), South Asia of \$1.1 billion (0.13% of GDP), and Southeast Asia of \$36 billion (5.22% of GDP). This indicates the following: (i) developing Asia is today the largest creditor region in the world; and (ii) the PRC runs a large current account surplus—the largest in developing Asia and only second to Japan's. Nevertheless, as percentage of its GDP, the surplus is not excessively large.

⁹For a discussion of export-led growth see McCombie and Thirlwall (1994). It must be stressed that the idea that payments surpluses in Asia reflect a conscious effort to maintain undervalued exchange rates intended to boost economic growth through exporting does not sit comfortably with the empirical record. Yes, fast growth of exports has been an important feature in the successful development of a number of countries. But where exports have grown quickly, so, too, have imports, particularly of capital and intermediate goods. Also, where fast economic growth has been sustained, it has usually been supported by strong domestic demand, particularly investment (ADB 2005). Over time, there have been significant swings in the contributions of domestic and external demand to growth in developing Asia. A decade ago, developing Asia was a current account deficit region and surging domestic demand was priming debt.

Table 1b. Global Current Account Balance Disaggregated
(billion US dollars)

	1996	2000	2004
Industrial	33.9	-293.3	-420.9
United States	-120.2	-413.5	-665.9
Japan	65.7	119.6	171.8
European Union (Euro 12)	79	-28.5	35.6
Other	9.3	29	37.6
Developing	-86.1	131.7	340.5
Asia	-38.2	89.9	197.1
PRC	7.2	20.5	70
NIEs	-2.3	40.1	89.6
Hong Kong, China	-4	7.1	15.9
Korea, Rep. of	-23.1	12.3	26.8
Singapore	13.9	11.9	27.9
Taipei, China	10.9	8.9	19
South Asia	-12	-7.4	1.1
Afghanistan	—	—	—
Bangladesh	-1	-0.7	-0.7
Bhutan	0	0	0
India	-6.1	-4.6	2.1
Maldives	0	-0.1	-0.1
Nepal	-0.2	0.2	0.2
Pakistan	-4.1	-1.2	0.3
Sri Lanka	-0.7	-1.1	-0.6
Southeast Asia	-31.4	36.5	36
Brunei Darussalam	2	3.5	4.2
Cambodia	-0.2	-0.1	-0.1
Indonesia	-7.3	8	7.3
Lao People's Democratic Republic	-0.2	0	-0.2
Malaysia	-4.5	8.5	15.7
Myanmar	-0.5	0.4	0
Philippines	-3.9	6.3	3.9
Thailand	-14.4	9.3	7.3
Viet Nam	-2.4	0.6	-2
Other Asia	0.3	0.1	0.4
Middle East	11.4	69.5	112.5
Africa	-5	6.5	1.1
Middle East and Africa	6.4	76	113.6
Latin America	-39	-47.8	15.9
Eastern Europe and the former Soviet Union	-15.4	13.7	13.8
Statistical Discrepancy	-52.3	-161.6	-80.4

Source: *World Economic Outlook Database* (IMF 2005).

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**Table 1c. Global Current Account Balance Disaggregated
(percent of GDP)**

	1996	2000	2004
Industrial	0.1	-1.2	-1.4
United States	-1.54	-4.21	-5.68
Japan	1.4	2.52	3.68
European Union (Euro 12)	1.1	-0.47	0.38
Other	0.3	0.86	0.76
Developing	-1.2	1.8	3.5
Asia	-1.25	2.76	4.45
PRC	0.89	1.9	4.24
NIEs	-0.21	3.72	7.12
Hong Kong, China	-2.56	4.28	9.65
Korea, Rep. of	-4.14	2.39	3.94
Singapore	15.04	12.88	26.1
Taipei, China	3.91	2.87	6.23
South Asia	-2.42	-1.25	0.13
Afghanistan	—	—	—
Bangladesh	-2.4	-1.44	-1.19
Bhutan	6.52	-1.68	-2.01
India	-1.62	-1	0.31
Maldives	-1.56	-8.17	-11.82
Nepal	-5.4	3.21	2.5
Pakistan	-6.49	-1.89	0.34
Sri Lanka	-4.88	-6.42	-3.18
Southeast Asia	-4.8	7.26	5.22
Brunei Darussalam	37.17	81.7	76.29
Cambodia	-6.35	-3.01	-2.26
Indonesia	-2.93	4.87	2.82
Lao People's Democratic Republic	-12.66	-1.44	-8.46
Malaysia	-4.42	9.4	13.3
Myanmar	-10.29	4.2	-0.4
Philippines	-4.66	8.37	4.56
Thailand	-7.89	7.6	4.46
Viet Nam	-9.86	2.06	-4.59
Other Asia	3.58	1.49	4.85
Middle East	2.17	11	13.68
Africa	-1.15	1.48	0.16
Middle East and Africa	0.67	7.09	7.56
Latin America	-2.13	-2.43	0.8
Eastern Europe and the former Soviet Union	-1.43	1.41	0.78
Statistical Discrepancy	-0.2	-0.5	-0.2

Source: *World Economic Outlook Database* (IMF 2005).

B. Increase in International Reserves in East and Southeast Asia

As noted above, Asian countries have accumulated a large stock of reserves during the last few years. To what extent have capital inflows, vis-à-vis

trade flows (i.e., the trade account), been responsible for the increase in reserves? Table 2 shows the current and capital accounts as well as the change in and stock of reserves of a number of East and Southeast Asian countries. Up until 1996, many Asian countries had current account deficits, but positive net capital inflows more than compensated the deficits. An important part of these capital inflows was probably made up of short-term speculative loans and portfolio flows. The Asian crisis and its immediate aftermath led to large negative outflows on the nonforeign direct investment (FDI) (i.e., portfolio) capital account of many countries. Following a sharp depreciation of the real effective exchange rates, current account surpluses supported accumulation of international reserves. This situation continued for a number of years in countries like Indonesia, Malaysia (until 2003), Philippines, Singapore, and Thailand. For Taipei, China, the late 1990s were marked by large current account surpluses and negative net capital flows. The current account surpluses, however, dominated the net capital outflows in most years, contributing to growing international reserves. During the last few years, it has enjoyed both current account surpluses, the major contributor to the increase in international reserves, and positive net capital flows. Hong Kong, China enjoys large current account surpluses but also large capital outflows, especially in 1998 and during 2002–2004.

From the mid-1990s through 2003, FDI was the main contributor to capital inflows in the PRC. These large inflows dominated the current account surplus. However, large non-FDI outflows led to negative capital accounts between 1997 and 2000. In 2001 and 2002, non-FDI outflows decreased substantially, with the consequence that FDI inflows dominated and made the capital account positive again, even eclipsing the current account surplus. Starting in 2003, non-FDI flows turned strongly positive as the PRC opened its equities market to foreigners. By 2004, all three—portfolio flows, current account, and FDI—contributed positively to the increase in international reserves, with the capital account overshadowing the current account.

Finally, Republic of Korea (Korea) saw a strong recovery in net capital flows after 1998. This was caused initially by increases in both FDI and non-FDI flows (between 1999 and 2001). However, starting in 2001, non-FDI (i.e., portfolio) flows dominated the capital flows (although the current account surplus dominated the capital flows). Thus, international reserves in Korea during this period increased due to both current account surpluses and net capital inflows.

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**Table 2. Balance of Payments—Current and Capital Account (% of GDP),
Reserves and Real Exchange Rates**

	1996	1997	1998	1999	2000	2001	2002	2003	2004
PRC									
Current Account	0.9	4.1	3.3	2.1	1.9	1.5	2.8	3.2	4.2
Capital Account (net)	3	-0.1	-2.7	-1.3	-0.9	2.6	3.1	5	8.3
FDI	4.7	4.6	4.3	3.7	3.5	3.2	3.7	3.3	3.2
Non-FDI	-1.7	-4.8	-7	-5	-4.4	-0.6	-0.6	1.7	5.1
Overall Balance	3.9	4	0.7	0.9	1	4	5.9	8.2	12.5
Real Exchange Rate	91.7	98	103.2	97.5	100	105	102.5	97.8	96.4
Stock of Reserves (billion US\$)	107.04	142.76	149.19	157.73	168.28	215.61	291.13	408.15	614.5
Hong Kong, China									
Current Account	n.a.	n.a.	1.5	6.4	4.3	6.1	7.9	10.3	9.7
Capital Account (net)	n.a.	n.a.	-5.6	-0.2	1.8	-3.2	-9.4	-9.7	-7.8
FDI	n.a.	n.a.	-1.3	3.2	1.6	7.6	-4.9	5.2	-3.5
Non-FDI	n.a.	n.a.	-4.3	-3.4	0.2	-10.9	-4.5	-14.9	-4.3
Overall Balance	n.a.	n.a.	-4.1	6.2	6.1	2.9	-1.5	0.6	2
Real Exchange Rate	97.2	105.2	113.6	105.5	100	101.8	101.3	95	90.3
Stock of Reserves (billion US\$)	63.81	92.8	89.65	96.24	107.54	111.16	111.9	118.36	123.54
Indonesia									
Current Account	-3.1	-2.1	3.9	3.8	4.8	4.2	3.9	3	1.2
Capital Account (net)	4.9	-1.4	-7.2	-2.5	-2.5	-4.2	-1.4	-1.5	-1.1
FDI	2.2	1.9	-0.2	-1.2	-2.8	-1.8	0.1	-0.3	0.4
Non-FDI	2.6	-3.3	-7	-1.3	0.3	-2.4	-1.5	-1.3	-1.5
Overall Balance	1.8	-3.4	-3.3	1.2	2.4	0	2.5	1.5	0.1
Real Exchange Rate	145.1	134.9	68	103.7	100	96.3	116	122.8	114
Stock of Reserves (billion US\$)	18.25	16.59	22.71	26.45	28.5	27.25	30.97	34.96	34.95
Korea, Rep. of									
Current Account	-4.2	-1.6	11.6	5.5	2.4	1.7	1	2	4.1
Capital Account (net)	4.4	-2.8	-4.1	2	2.3	1.1	1.2	2.2	1.6
FDI	-0.4	-0.3	0.2	1.2	0.8	0.2	0	0	0.5
Non-FDI	4.8	-2.5	-4.3	0.8	1.4	0.9	1.2	2.3	1.1
Overall Balance	0.3	-4.4	7.4	7.5	4.6	2.8	2.1	4.3	5.7
Real Exchange Rate	113	105.2	83.9	93.8	100	90.3	93.2	92.8	95.5
Stock of Reserves (billion US\$)	34.04	20.37	51.97	73.99	96.13	102.75	121.35	155.28	199

continued.

Table 2. continued.

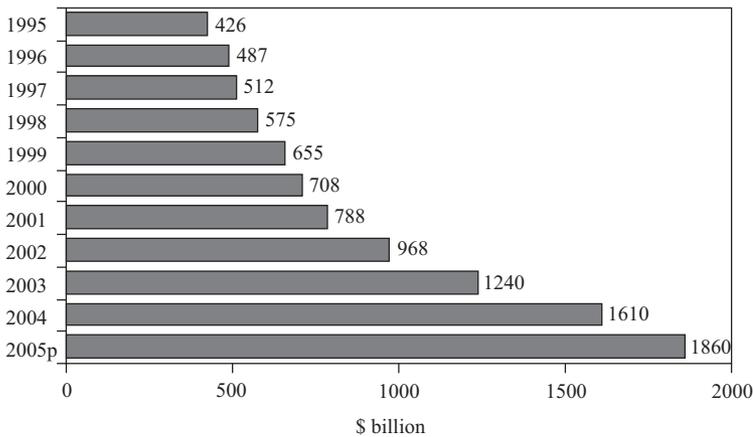
Malaysia									
Current Account	-4.4	-5.9	13.2	15.9	9.4	8.3	7.6	12.9	12.6
Capital Account (net)	6.9	2.1	0.7	-10	-10.5	-7.1	-3.7	-3.1	5.9
FDI	5	5.1	3	3.1	2	0.3	1.4	1.1	2.2
Non-FDI	1.9	-3.1	-2.3	-13.1	-12.5	-7.5	-5.1	-4.1	3.8
Overall Balance	2.5	-3.9	13.9	6	-1.1	1.1	3.8	9.8	18.6
Real Exchange Rate	126.2	122.2	100.6	99.7	100	105.2	105	100.2	95.3
Stock of Reserves (billion US\$)	27.01	20.79	25.56	30.59	29.52	30.47	34.22	44.52	66.38
Philippines									
Current Account	-4.8	-5.3	2.4	9.5	8.4	1.9	5.8	4.3	1.9
Capital Account (net)	10	1.5	-0.4	-4.7	-8.9	-1.5	-5.9	-4.4	-2.2
FDI	1.6	1.3	3.3	2.3	1.9	1.6	2.3	0.2	0.1
Non-FDI	8.4	0.2	-3.7	-7	-10.8	-3.1	-8.2	-4.6	-2.3
Overall Balance	5.2	-3.8	2	4.8	-0.5	0.4	-0.1	-0.1	-0.3
Real Exchange Rate	129.5	121.7	96.6	103	100	107.5	111.7	107.1	101
Stock of Reserves (billion US\$)	10.06	7.3	9.27	13.27	13.09	13.48	13.33	13.65	13.12
Singapore									
Current Account	15.1	15.7	22.6	18.5	14.3	18.7	21.4	30.5	26.1
Capital Account (net)	-7.1	-7.2	-19	-13.5	-7	-19.8	-19.9	-23.3	-14.8
FDI	1.6	1.2	5.6	10.3	12.9	-2.5	2.2	6.4	5
Non-FDI	-8.7	-8.4	-24.6	-23.8	-19.9	-17.3	-22.1	-29.7	-19.8
Overall Balance	8	8.5	3.6	5.1	7.3	-1	1.5	7.2	11.3
Real Exchange Rate	101.8	99.1	94	92.4	100	99.6	97.9	97.4	99.3
Stock of Reserves (billion US\$)	76.85	71.29	74.93	76.84	80.13	75.37	82.02	95.75	112.23
Taipei, China									
Current Account	3.9	2.4	1.3	2.8	2.9	6.5	9.1	10.2	6.2
Capital Account (net)	-3.5	-2.7	0.5	3.7	-2.1	-0.3	2.9	2.7	2.5
FDI	0.7	-1	-1.4	-0.5	-0.6	-0.5	-1.2	-1.8	-1.7
Non-FDI	-2.8	-1.6	1.9	4.2	-1.5	0.2	4.1	4.6	4.2
Overall Balance	0.4	-0.3	1.8	6.5	0.8	6.2	12	13	8.7
Real Exchange Rate	106.1	107.1	100	96.3	100	95.5	93.1	89	90.9
Stock of Reserves (billion US\$)	90.31	88.04	83.5	90.34	106.2	106.74	122.21	161.66	206.63
Thailand									
Current Account	-8.1	-2	12.7	10.1	7.6	5.4	5.5	5.6	4.5
Capital Account (net)	9.3	-10.1	-15.1	-9	-9.1	-3.4	-1.2	-5.2	-1
FDI	0.8	2.2	6.4	4.7	2.8	3.1	0.7	1	0.4
Non-FDI	8.5	-12.3	-21.6	-13.7	-11.8	-6.5	-1.8	-6.2	-1.4
Overall Balance	1.2	-12.1	-2.4	1.1	-1.5	2	4.4	0.4	3.5
Real Exchange Rate	118	109	98.6	102.4	100	96.4	100.5	99.9	100.7
Stock of Reserves (billion US\$)	37.73	26.18	28.83	34.06	32.02	32.35	38.05	41.08	48.66

FDI means foreign direct investment.

Note: Net errors and omissions was added to the capital account.

Figure 3 shows the stock of foreign exchange reserves of developing Asia for 1995–2005. Capital flows to Asia have supplemented current account surpluses, leading to an expansion in Asia's foreign currency reserves. In 1995, the region had total reserves of \$426 billion. By 2005, the stock had increased to \$1.86 trillion, a difference of \$1.43 trillion. A large (though not precisely measured) share of these reserves is reinvested in US dollar-denominated assets, mostly US Treasury bonds. These figures indicate that of the increase in reserves over this period, about 72% (\$1.03 trillion) was accounted for by current account surpluses, while the rest was accounted for by capital account surpluses.

Figure 3. Current Account Balances, as Percentage of World GDP



Sources: *International Financial Statistics* (IMF various years), *Asian Development Outlook 2006* (ADB 2006).

C. Real Exchange Rate and Current Account

Table 2 also provides the real exchange rate.¹⁰ The table indicates that there is a relationship between movements in the real exchange rate and the current account. When the countries hit by the Asian crisis (Indonesia, Korea, Malaysia, Philippines, and Thailand) exhibited “strong” exchange rates in 1996, they were also running significant current account deficits. These deficits turned into high current account surpluses in 1998 due to sharp currency depreciations. This represented the beginning of the accumulation of international reserves up to the present, and the positive savings–investment gap.

¹⁰This is the real exchange rate based on trade-weighted indices, with 2000=100, calculated by JP Morgan (taken from DATASTREAM).

The currencies of most of these countries recovered from their weakest level (1998) within the next couple of years, but they weakened again in recent years (especially in 2003 and/or 2004), although they have not gotten back to the low levels of 1998. This explains partly the high current account surpluses, especially in Malaysia, and also in Korea and Thailand. Indonesia and the Philippines have run substantially lower current account surpluses in 2004 due to higher import growth than export growth.

In the cases of PRC; Hong Kong, China; Singapore; and Taipei, China, the currencies weakened significantly during the last few years, especially in 2003 and 2004. This was accompanied by very high current account surpluses.

IV. SAVINGS AND INVESTMENT RATES ACROSS ASIA

The other side of the current account surplus is the savings–investment gap. Figures 4 to 7 show gross domestic savings and gross domestic investment as percentage of GDP for the PRC; NIEs (Hong Kong, China; Korea; Singapore; Taipei, China); ASEAN-4 (Indonesia, Malaysia, Philippines, Thailand); and South Asia (Bangladesh, India, Nepal, Pakistan, Sri Lanka).¹¹

Figure 4 indicates that the NIEs' savings–investment gap widened in the post-Asian crisis period. On the other hand, the ASEAN-4 (Figure 5) savings–investment deficit switched after 1997 into a large surplus. South Asia (Figure 6) has been able to reduce the savings–investment deficit that was so pervasive throughout the 1980s. Thus, for the NIEs and ASEAN-4, savings–investment surpluses have become quite large in the post-Asian crisis period, while in South Asia, the savings–investment deficits have been eliminated.

Only the PRC seems to be going against the trend. Figure 7 shows that even if during most of the late 1980s and through the 1990s the PRC had sizeable savings–investment surpluses, these seem to be dwindling and even turned into deficit in 2003 and 2004.

¹¹These regional savings and investment rates are weighted averages, where the weights are the shares in investment.

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Figure 4. NIEs: Savings and Investment Rates

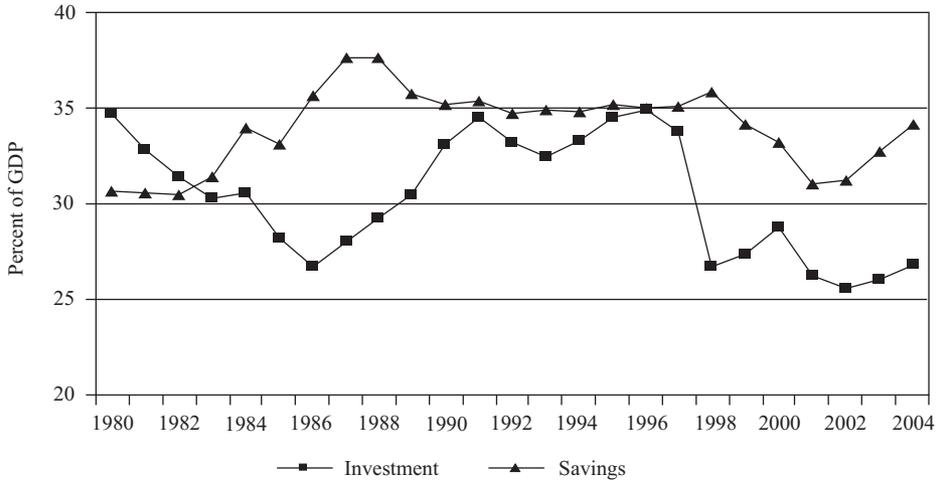


Figure 5. ASEAN 4: Savings and Investment Rates

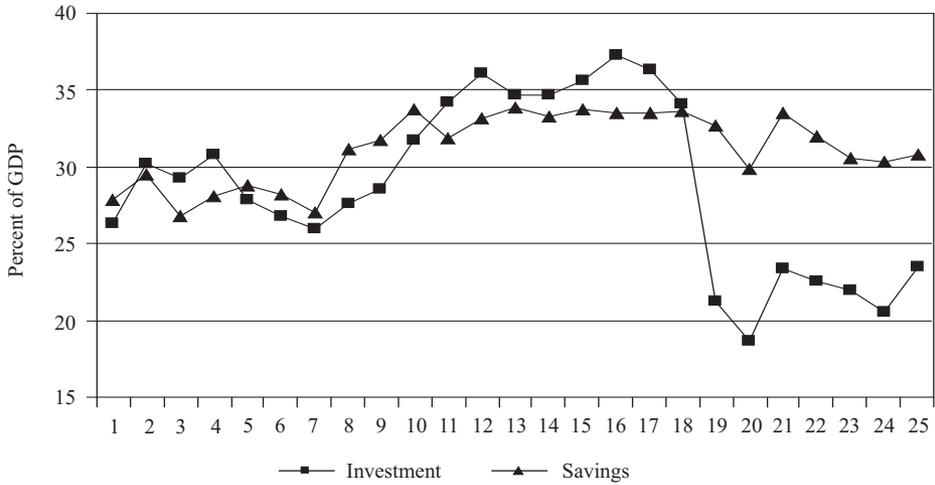


Figure 6. South Asia: Savings and Investment Rates

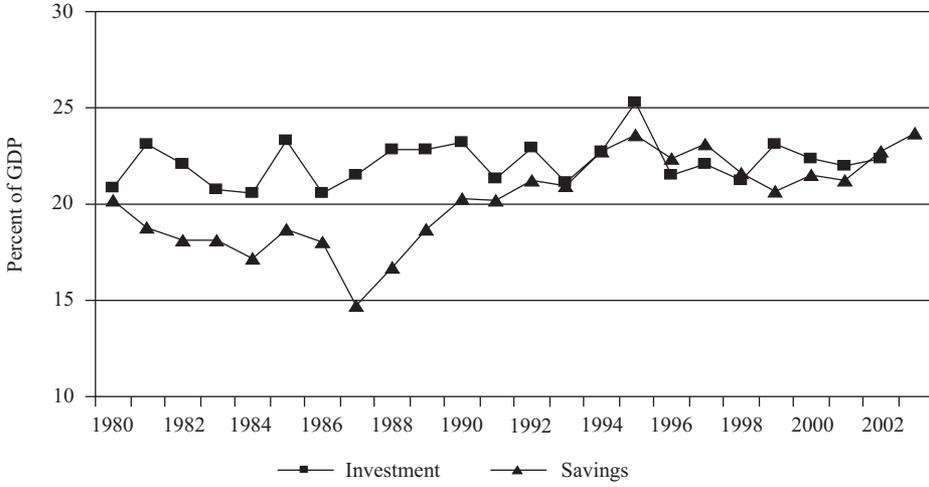
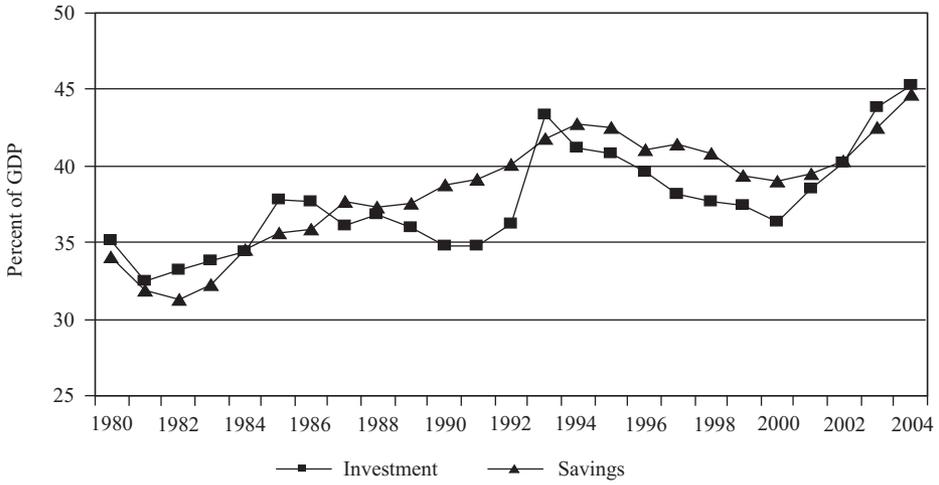


Figure 7. The PRC: Savings and Investment Rates



A. Breakdown of the Savings–Investment Gap

Table 3 shows the savings–investment gap, disaggregated into the fiscal deficit and the private sector savings–investment gap for a number of East and Southeast Asian countries. Algebraically, it is shown in Equation (1):

$$(S - I) = \frac{(S_p - I_p)}{Y} + \frac{(S_g - I_g)}{Y} = \frac{(S_p - I_p)}{Y} + \frac{(T - G)}{Y} \quad (1)$$

where

S = Gross domestic saving

I = Gross domestic investment

Y = Gross domestic product

S_p = Private savings

I_p = Private investments

S_g = Government savings

I_g = Government investments

T = Taxes

G = Government spending = Government consumption + I_g

Table 3. Savings Investment Gap—Government and Private (percent of GDP)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross Domestic Savings – Gross Domestic Investment Gap									
East Asia									
PRC	1.5	3.3	3.1	2	2.6	1	0.1	-1.3	-0.5
Hong Kong, China	-2.4	-4.3	0.2	4.6	3.6	3.7	7.7	8.7	8.6
Korea, Rep. of	-3.1	-0.2	12.9	6.6	2.9	2.6	2.3	3.1	4.8
Taipei, China	2.5	1.4	0.5	1.8	1.5	4.5	6.6	6.9	2.7
Southeast Asia									
Indonesia	-0.6	-0.3	9.8	8.1	9.6	9.5	5.9	7.3	2.5
Malaysia	1.4	0.9	22	25.1	20	18.4	18.3	21	21.4
Philippines	-9.4	-10.6	-7.9	-4.4	-3.9	-1.9	1.4	2.9	3.8
Singapore	15.2	12.8	20.7	17	14.9	18.1	21.4	32	29.7
Thailand	-5.3	2	14.8	12.4	10.2	7.8	8.4	8.3	6.3
Fiscal Balance									
East Asia									
PRC	-1.85	-2.01	-2.56	-3.23	3.1	-2.83	-3.2	-2.66	-1.47
Hong Kong, China	2.12	6.46	-1.82	0.8	-0.61	-4.99	-4.95	-3.29	0.93
Korea, Rep. of	0.24	-1.42	-3.87	-2.47	1.13	1.17	3.31	1.05	0.72
Taipei, China	-1.41	-1.65	0.15	-1.3	-4.82	-6.64	-3.03	-2.48	-2.2

continued.

Table 3. continued.

Southeast Asia									
Indonesia	1.02	0.47	-1.69	-2.5	-1.08	-2.4	-1.49	-1.68	-1.06
Malaysia	0.72	2.35	-1.77	-3.15	-5.74	-5.51	-5.6	-5.31	-4.34
Philippines	0.29	0.06	-1.88	-3.8	-4	-4.05	-5.32	-4.65	-3.86
Singapore	10.47	11.7	3.43	7.15	10.04	5.13	4.31	6.48	5.61
Thailand	0.94	-1.5	-2.79	-3.33	-2.23	-2.4	-1.41	0.4	0.07
Crude Estimate of Private Savings – Investment Balance									
East Asia									
PRC	3.3	5.3	5.6	5.2	5.7	3.8	3.3	1.3	0.9
Hong Kong, China	-4.5	-10.7	2.1	3.8	4.2	8.7	12.7	12	7.7
Korea, Rep. of	-3.4	1.2	16.7	9.1	1.8	1.4	-1	2	4.1
Taipei, China	3.9	3	0.4	3.1	6.3	11.1	9.6	9.3	4.9
Southeast Asia									
Indonesia	-1.6	-0.7	11.4	10.6	10.7	11.9	7.3	9	3.6
Malaysia	0.7	-1.4	23.8	28.2	25.7	23.9	23.9	26.3	25.7
Philippines	-9.7	-10.6	-6.1	-0.6	0.1	2.2	6.7	7.6	7.7
Singapore	4.8	1.1	17.3	9.9	4.9	13	17.1	25.5	24.1
Thailand	-6.3	3.5	17.6	15.7	12.4	10.2	9.8	7.9	6.2

The private savings–investment gap is a “crude” estimate, obtained by subtracting the fiscal gap from the gross domestic savings–investment gap.¹² Note that the private savings–investment gap comprises, by definition, the combined savings–investment gaps of the corporate and household sectors.

It can be seen that most countries hit by the Asian crisis—Indonesia, Korea, Philippines, Thailand—had negative savings–investment gaps (both in terms of the gross domestic savings–investment gaps and in terms of the private savings–investment gap) due to the high domestic demand expansion during the 1990s, prior to the outbreak of the Asian crisis (see ADB 2005). In Malaysia, which was also hit by the crisis, the gross domestic savings–investment gap was positive, but very low (less than 1.5% of GDP) in 1996 and 1997; and the private savings–investment gap was negative in 1997. Hong Kong, China also had a negative savings–investment gap prior to the crisis. PRC; Singapore; and Taipei, China had positive savings–investment gaps during 1996–1998 and did not exhibit the domestic demand expansion of the crisis-hit countries (especially in the private savings–investment gap).

The deep recessions and very sharp depreciation of 1998 led to a reversal from the negative savings–investment gap to very positive in Indonesia, Korea,

¹²The fiscal gap was derived from the *Key Indicators* series of ADB (various years). It is a “crude” estimate because the fiscal data include revenues and expenditures that should not be included as part of the real sector estimation of savings and investments, e.g., the sale of assets and the payment of loans. However, it is difficult to separate these in the total fiscal figures provided by the statistics.

Malaysia, and Thailand. The positive savings–investment gaps of these countries remain until the present. Especially high is the savings–investment gap of Malaysia. The savings–investment gap of the Philippines was still negative in the immediate postcrisis period but the magnitude declined significantly during 1998–2001, and eventually turned positive in 2002.

In the cases of Hong Kong, China; Singapore; and Taipei, China the savings–investment gap has increased very significantly in the recent period of 2002–2004. The PRC, on the other hand, has experienced a declining savings–investment gap since 1999 and the gap turned negative in 2003 and 2004.

Except in Hong Kong, China; Korea; Malaysia; and Philippines, there has been a significant decline in the savings–investment gap, although it remains highly positive in the other countries (except in the PRC).¹³ It can be seen that most countries, with the notable exception of Korea and Singapore, exhibited fiscal deficits during much of the period 1996–2004. In all countries, the high savings–investment gap discussed earlier was mainly the result of the high private savings–investment gap. The notable exception is the PRC, whose private savings–investment gap clearly declined in 2003 and 2004.

B. Is there an Asian Savings Glut?

Given the analysis above, it seems that the answer is a clear no. Table 4 shows gross domestic savings rates across Asia for 1986, 1990, and for 1996–2004. The table reveals that there have not been significant increases in savings rates across the region so as to justify the view that there is a savings glut in Asia. Savings rates were not higher in 2004 than in 1996, before the financial crisis. This is most likely due to the fact that savings rates are determined by reasons not particularly sensitive to macroeconomic events and policy changes (e.g., fertility rates and demographic structure) and because consumption is quite stable over time. The exception is the PRC, where the gross domestic savings rate reached an all-time high of 44.7% of GDP in 2004.¹⁴

In the case of Korea, the savings rate declined slightly until 2002, and started recovering only in 2003 and 2004, when it reached again the 1996 level of

¹³The inconsistency between the negative savings–investment gap in Table 3 and the current account surplus in Table 2 is the result of statistical discrepancy.

¹⁴In a recent paper, Modigliani and Cao (2004) discuss the puzzle of the very high PRC saving ratio. They explain it in terms of the life-cycle hypothesis, that is, the savings ratio depends on the long-term rate of income growth of the economy. Indeed, they argue that the major systematic determinants of the rate of private savings in the PRC are the rate of growth of income and the demographic structure of the economy (the ratio of people under 15 years of age to the working population).

about 35%. Something similar happened in Singapore and Thailand. Perhaps the most significant change has occurred in Indonesia, where the savings rate in 2004 was about 5 percentage points below the rate in 1996. There are only two cases where a significant increase has taken place, the Philippines (from 14.5% in 1995–1996 to 20.9% in 2004) and Viet Nam (from 17% in 1996 to 28.2% in 2003).

Table 4. Gross Domestic Savings (percent of GDP)

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
East Asia											
PRC	35.9	38.7	41.1	41.5	40.8	39.4	39	39.4	40.3	42.5	44.7
Hong Kong, China	32.2	35.2	29.7	30.2	29.4	29.8	31.7	29.6	31.1	31.6	31.6
Korea, Rep. of	35.6	37.2	35.7	35.8	37.9	35.8	33.9	31.9	31.4	33	35
Mongolia	13.7	8	—	—	14.3	14.6	10.4	5.7	3.7	8.8	—
Taipei, China	36.9	27.6	25.7	25.6	25.4	25.2	24.3	22.2	23.3	23.5	23.4
Southeast Asia											
Cambodia	—	2.3	-5.5	1.9	-0.5	4.9	7.1	9.7	12.2	—	—
Indonesia	27.3	32.3	30.1	31.5	26.5	19.5	31.8	31.5	26.8	24.9	25.3
Lao People's Dem. Rep.	—	—	—	—	—	—	—	—	—	—	—
Malaysia	32.1	34.4	42.9	43.9	48.7	47.4	47.3	42.3	42.1	42.3	43.8
Myanmar	10.1	11.7	11.5	11.8	11.8	13	12.3	11.3	—	—	—
Philippines	19	18.7	14.6	14.2	12.4	14.3	17.3	17.1	19	19.5	20.9
Singapore	38	43.3	51.1	52.1	53	49	47.4	44.2	44.2	46.8	48
Thailand	26.4	34.3	36.5	35.7	35.2	32.9	33	31.9	32.2	33.3	33.4
Viet Nam	—	2.9	17.2	20.1	21.5	24.6	27.1	28.8	28.7	28.2	—
South Asia											
Afghanistan	—	—	—	—	—	—	—	—	—	—	—
Bangladesh	12.5	12.9	14.9	15.9	17.4	17.7	17.9	18	18.2	18.6	19.5
Bhutan	8.9	28	35	24.6	22.3	25	19.5	27.4	32.4	—	—
India	18.9	21.4	23.8	24.6	22.6	21.6	22.6	22.1	23.9	24.9	—
Maldives	—	—	—	—	—	—	—	—	—	—	—
Nepal	—	—	—	—	—	—	—	—	—	—	—
Pakistan	10.9	13.5	14.5	13.2	16.7	14	16.1	16.1	16.7	17.3	17.9
Sri Lanka	10.9	13.2	15.3	17.3	19.1	19.5	17.4	15.8	14.4	15.9	15.9
Central Asia											
Azerbaijan	—	—	—	—	—	—	—	—	—	—	—
Kazakhstan	—	—	19.8	17.1	15.9	16.1	26.4	28.7	30.1	32	—
Kyrgyz Republic	—	3.7	-0.6	13.8	-6.1	3.2	14.3	17.7	13.8	11.6	—
Tajikistan	—	—	—	—	—	—	—	—	—	—	—
Turkmenistan	—	—	—	—	—	—	—	—	—	—	—
Uzbekistan	—	—	—	—	—	—	—	—	—	—	—

continued.

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Table 4. **continued.**

The Pacific											
Cook Islands	—	—	—	—	—	—	—	—	—	—	—
Fiji Islands	—	—	—	—	—	—	—	—	—	—	—
Kiribati	—	—	—	—	—	—	—	—	—	—	—
Marshall Islands, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Micronesia, Fed. States of	—	—	—	—	—	—	—	—	—	—	—
Nauru	—	—	—	—	—	—	—	—	—	—	—
Palau, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Papua New Guinea	12	16.1	31	22.4	22.6	13.2	23.7	12.6	11.7	—	—
Samoa	—	—	—	—	—	—	—	—	—	—	—
Solomon Islands	—	—	—	—	—	—	—	—	—	—	—
Timor-Leste, Dem. Rep. of	—	—	—	—	—	—	—	—	—	—	—
Tonga	-20	-12.7	-32	-22.2	-29.6	-20.4	-14.6	-23.7	—	—	—
Tuvalu	—	—	—	—	—	—	—	—	—	—	—
Vanuatu	—	—	—	—	—	—	—	—	—	—	—

— means not available.

Source: *Key Indicators* (ADB various years).

In the Indian subcontinent, the savings rate of Bangladesh increased by about 6 percentage points and that of Bhutan has fallen. No significant changes occurred in the rest of the countries, including India, where the savings rate is about 24%.

The scattered data that exist for the Central Asian Republics and for the Pacific islands indicates that the savings rate doubled in Kazakhstan between 1995 (15.3%) and 2003 (32%), and that of Papua New Guinea fell from 41.3% in 1995 to 11.7% in 2002.

The conclusion is that the hypothesis that there is an Asian savings glut does not seem to be supported by the data, except in the case of the PRC. Nevertheless, even here the savings–investment surplus is decreasing. Moreover, there does not seem to be any significant difference between the savings rates before and after the Asian crisis.

C. Is there an Asian Investment Drought?

We now examine the alternative view that what Asia's current account really shows is not a savings glut but an investment drought. Table 5 shows gross domestic investment rates where the picture is very different from that of savings rates. Indeed, it can be noted that an across-the-board decline in gross investment rates took place between 1997 and 2003. In 2004 there was a generalized increase in investment rates. The clear exception is the PRC, where the investment rate increased from 37–38% in 1997–1998 to 45.3% in 2004.

The declines in the investment rate in the four NIES are very significant. The average investment rate of these four economies in 1997 was 33.4%. In 2003 it was 21.05%. The most significant decline took place in Singapore, where the rate went from 39.2% in 1997 to 14.8% in 2003. It is worth noting that the collapses did not take place simultaneously in all countries. Indeed, while in the case of Korea the investment rate declined by 11 percentage points between 1997 and 1998, the decline in Singapore was relatively smooth between 1998 and 2002, but the rate declined by 8 percentage points between 2002 and 2003. As indicated above, investment rates picked up in 2004, and in Singapore and Taipei, China, the rate increased by 4 percentage points between 2003 and 2004.

The declines have also been significant in other countries across Asia. Indonesia's savings rate in 2003 (17.6%) was about half that of 1997 (31.8%). The declines in Malaysia, Philippines, and Thailand between 1997 and 2003 were also very pronounced. The average of these four countries in 1997 was 33.32% while in 2003 it was 20.55%. As in the case of the NIEs, the investment rates picked up in 2004. In Indonesia, for example, it increased by more than 5 percentage points between 2003 and 2004.

Table 5. **Gross Domestic Investment (percent of GDP)**

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
East Asia											
PRC	37.7	34.7	39.6	38.2	37.7	37.4	36.3	38.5	40.2	43.8	45.3
Hong Kong, China	23.8	27.5	32.1	34.5	29.2	25.3	28.1	25.9	23.4	22.8	23
Korea, Rep. of	29.1	37.7	38.9	36	25	29.1	31	29.3	29.1	30	30.2
Mongolia	57.4	34.3	—	—	35.2	37	36.2	36.1	32.2	29	—
Taipei, China	17.5	23.1	23.2	24.2	24.9	23.4	22.8	17.7	16.7	16.6	20.7
Southeast Asia											
Cambodia	—	8.3	14.7	15.1	11.9	17	17.2	21.2	22.2	—	—
Indonesia	28.3	30.7	30.7	31.8	16.8	11.4	22.2	22	20.9	17.6	22.8
Lao People's Dem. Rep.	—	—	—	—	—	—	—	—	—	—	—
Malaysia	26	32.4	41.5	43	26.7	22.4	27.3	23.9	23.8	21.4	22.5
Myanmar	12.7	13.4	12.3	12.5	12.4	13.4	12.4	11.3	—	—	—
Philippines	15.2	24.2	24	24.8	20.3	18.8	21.2	19	17.6	16.6	17
Singapore	37.6	36.4	35.8	39.2	32.3	32	32.5	26	22.8	14.8	18.3
Thailand	25.9	41.4	41.8	33.7	20.4	20.5	22.8	24.1	23.9	25	27.1
Viet Nam	—	12.6	28.1	28.3	29	27.6	29.6	31.2	33.2	35.1	—
South Asia											
Afghanistan	—	—	—	—	—	—	—	—	—	—	—
Bangladesh	16.7	17.1	20	20.7	21.6	22.2	23	23.1	23.1	23.4	24
Bhutan	40.5	32	44.7	34.1	37.6	43	48.4	52	53.3	—	—
India	21	24.1	21.8	22.6	21.4	23.7	22.6	22.4	22.9	—	—

continued.

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Table 5. **continued.**

Maldives	—	—	—	—	—	—	—	—	—	—	—
Nepal	—	—	—	—	—	—	—	—	—	—	—
Pakistan	18.8	18.9	19	17.9	17.7	15.6	17.4	17.2	16.8	16.7	18.1
Sri Lanka	23.1	21.2	24.2	24.4	25.2	27.3	28	22	21.4	22.2	25
Central Asia											
Azerbaijan	—	—	—	—	—	—	—	—	—	—	—
Kazakhstan	—	—	16.1	15.6	15.8	17.8	18.1	26.9	27.3	26.6	—
Kyrgyz Republic	—	24.3	25.2	21.7	15.4	18	20	18	17.6	16.2	—
Tajikistan	—	—	—	—	—	—	—	—	—	—	—
Turkmenistan	—	—	—	—	—	—	—	—	—	—	—
Uzbekistan	—	—	—	—	—	—	—	—	—	—	—
The Pacific											
Cook Islands	—	—	—	—	—	—	—	—	—	—	—
Fiji Islands	—	—	—	—	—	—	—	—	—	—	—
Kiribati	—	—	—	—	—	—	—	—	—	—	—
Marshall Islands, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Micronesia, Fed. States of	—	—	—	—	—	—	—	—	—	—	—
Nauru	—	—	—	—	—	—	—	—	—	—	—
Palau, Rep. of	—	—	—	—	—	—	—	—	—	—	—
Papua New Guinea	19.7	24.4	22.7	21.1	17.9	16.1	21.3	21.8	19.8	—	—
Samoa	—	—	—	—	—	—	—	—	—	—	—
Solomon Islands	—	—	—	—	—	—	—	—	—	—	—
Timor-Leste, Dem. Rep. of	—	—	—	—	—	—	—	—	—	—	—
Tonga	—	—	22.8	18.8	19.9	22	21.8	—	—	—	—
Tuvalu	—	—	—	—	—	—	—	—	—	—	—
Vanuatu	—	—	—	—	—	—	—	—	—	—	—

— means not available.

Source: *Key Indicators* (ADB various years).

The investment rate in other Asian countries has not changed much, except in Bangladesh, where it increased from 34.1% in 1997 to 53.3% in 2002 (the investment rate in this country declined from over 40% in the early to mid-1990s to 34% in 1997). The investment rate is stable in India, at about 22–23%.

The conclusion we derive from the analysis in this section is that indeed, investment rates in East and Southeast Asia fell after the Asian crisis and they have not recovered yet, although a change in the trend seems to emerge between 2003 and 2004.¹⁵ It could be argued, nevertheless, that the 1997 investment rates,

¹⁵Similar conclusions arise when the data is analyzed in terms of the level of investment (in real terms). There was a clear collapse during the Asian financial crisis and still today investment in real terms is below the 1997 values in most countries. In Singapore, for example,

just before the financial collapse, reflected excesses that led to poor investment decisions. In fact, it has been argued that this is one of the reasons behind the crisis. Hence, the investment declines partly reflect a correction and a return to more sensible investment levels. This is possible, but impossible to know with certainty. The truth is that investment rates in the region show an increasing trend. The 1986 average for the NIEs was 27%, and for the four Southeast Asian countries 23.85%. The corresponding 1990 averages were 31.17% and of 32.17%, respectively. This indicates that the 2004 investment rates are, with some exceptions, starting to approach those of the 1990s before the financial crisis.

V. WHY IS THERE AN INVESTMENT DROUGHT IN ASIA?

Having concluded in the previous sections that Asia's current account surpluses probably reflect an investment drought rather than a savings glut, in this section we discuss a number of possible explanations. In particular we discuss four possible reasons: (i) an increase in interest rates that led to an increase in the cost of financing investment, (ii) a decline in credit, (iii) a decline in profit rates, and (iv) a very high capacity utilization rate before the Asian crisis that led to excess capacity after the crisis.

Table 6 shows the real lending rates for the countries where investment declined. It indicates that the general decline in investment rates between 1998 and 2003 coincided with a generalized decline in lending rates across East and Southeast Asia after 1998. Therefore, it seems that the hypothesis that increases in lending rates drove down investment rates is not supported by the data.

With regard to credit (Table 6), all countries that suffered declines in investment rates between 1998 and 2003, except Korea, saw a stagnation or decline in the ratio of domestic credit to GDP during much of this period. Interestingly, this stagnation or decline in domestic credit to GDP continued in 2004 when investment rates started recovering. This probably indicates that the investment undertaken in 2004 was probably financed mainly out of retained earnings. The stagnation or decline in the ratio of domestic credit to GDP may be related to shaky financial confidence in the crisis-hit ASEAN-4. The harsher requirements of higher capital-adequacy ratios and higher loan-loss provisions may also have contributed to the more cautious lending of financial institutions. The "overlending" and "overborrowing" syndrome characteristic of the pre-Asian crisis period seems to have been followed by a period of extreme caution in terms of lending, except in Korea, where the domestic credit-to-GDP ratio increased after the Asian crisis. Here, there were loan default problems during 2002–2004, especially in consumption-oriented credit (linked to credit card default payments). Financial lending restraint also affected financially more sophisticated

the 2003 and 2004 levels of real investment were only 50% and 65%, respectively, that of 1997.

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places, such as Hong Kong, China; Singapore; and Taipei,China. The restraint can only be explained by the lack of demand for investment funds.

Table 6. **Real Lending Rates and Domestic Credit, 1986–2004**

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real Lending Rates (%)											
East Asia											
PRC	0.7	6.3	1.8	5.8	7.2	7.3	5.6	5.4	6.1	4.2	n.a.
Hong Kong, China	n.a.	-0.3	2.1	3.7	6.1	12.5	13.3	6.7	8.0	7.6	5.4
Korea, Rep. of Taipei,China	7.0	1.4	3.9	7.5	7.7	8.6	6.3	3.6	4.1	2.7	2.3
Southeast Asia											
Indonesia	12.4	13.0	11.3	15.6	-26.2	7.2	14.7	7.0	7.1	10.4	7.9
Malaysia	10.1	6.2	6.5	8.0	6.9	5.8	6.1	5.7	4.7	5.2	4.6
Philippines	10.3	10.9	7.3	10.7	7.5	5.8	7.0	5.6	6.1	6.0	4.1
Singapore	5.6	3.9	4.9	4.3	7.7	5.8	4.5	4.7	5.8	4.8	3.6
Thailand	8.2	8.5	7.6	8.1	6.3	8.7	6.3	5.6	6.3	4.1	2.7
Domestic Credit (% of GDP)											
East Asia											
PRC	77.8	90.0	97.9	106.8	121.9	130.4	132.7	138.6	165.8	177.9	166.9
Hong Kong, China	n.a.	154.9	154.8	165.5	147.8	139.3	139.1	141.7	145.9	147.8	147.9
Korea, Rep. of Taipei,China	53.7	57.1	56.9	62.7	71.9	77.8	82.9	87.8	94.2	97.8	92.6
	67.2	103.6	160.1	162.9	164.9	163.5	163.6	165.1	156.5	159.0	167.4
Southeast Asia											
Indonesia	17.1	41.4	50.2	54.5	54.7	56.9	61.3	53.9	51.3	48.6	48.8
Malaysia	81.3	75.7	107.8	126.6	122.6	113.8	110.6	116.0	116.0	118.5	116.0
Philippines	28.0	23.3	67.9	78.5	70.1	64.2	63.2	59.6	57.6	56.7	54.8
Singapore	77.6	61.5	66.5	72.9	88.9	86.2	79.4	94.1	76.7	83.3	76.4
Thailand	65.3	69.9	100.7	131.9	133.3	127.4	111.0	100.2	101.8	96.0	91.7

Note: Lending rates for 1986 are for 1987. Real lending rates were computed as the difference between the nominal lending rate and the consumer price index.

Source: *International Financial Statistics* (IMF various years).

Table 7 shows the demand components of GDP for a number of countries. It is clear that the decline in investment rates that took place between 1998 and 2003 was compensated only to a very small extent by increases in consumption in Korea; Malaysia; Singapore; Taipei,China; and Thailand. Instead, the significant decline in investment rates during this period was largely compensated by large net export surpluses, especially in Hong Kong, China; Indonesia; Malaysia; Singapore; Thailand; and Taipei,China. Net exports have replaced investment as the source of growth stimulus from the demand side in these countries.

Table 7. Consumption, Investment, and Net Export Share to GDP, 1986–2004

	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
Private and Government Consumption (% of GDP)											
East Asia											
PRC	64.1	61.3	58.9	58.5	59.2	60.6	61.0	60.6	59.7	57.5	55.3
Hong Kong, China	67.8	64.8	70.3	69.8	70.6	70.2	68.3	70.4	68.9	68.4	68.4
Korea, Rep. of	64.4	62.8	64.3	64.2	62.1	64.2	66.1	68.1	68.6	67.0	65.0
Taipei, China	63.1	72.4	74.3	74.4	74.6	74.8	75.7	77.8	76.7	76.5	76.6
Southeast Asia											
Indonesia	72.7	67.7	69.9	68.5	73.5	80.5	68.2	68.5	73.2	75.1	74.7
Malaysia	67.9	65.6	57.1	56.1	51.3	52.6	52.7	57.7	57.9	57.7	56.2
Philippines	81.0	81.3	85.4	85.8	87.6	85.7	82.7	82.9	81.0	80.5	79.1
Singapore	62.0	56.7	48.9	47.9	47.0	51.0	52.6	55.8	55.8	53.2	52.0
Thailand	73.6	65.7	63.5	64.3	64.8	67.1	67.0	68.1	67.8	66.7	66.6
Gross Domestic Investment (% of GDP)											
East Asia											
PRC	38.0	32.2	39.3	38.0	37.4	37.1	36.4	38.0	39.3	42.7	45.3
Hong Kong, China	23.8	27.5	32.1	34.5	29.2	25.3	28.1	25.9	23.4	22.8	23.0
Korea, Rep. of	29.1	37.7	38.9	36.0	25.0	29.1	31.0	29.3	29.1	30.0	30.2
Taipei, China	17.5	23.1	23.2	24.2	24.9	23.4	22.8	17.7	16.7	16.6	20.7
Southeast Asia											
Indonesia	28.3	30.7	30.7	31.8	16.8	11.4	22.2	22.0	20.9	17.6	22.8
Malaysia	26.0	32.4	41.5	43.0	26.7	22.4	27.3	23.9	23.8	21.4	22.5
Philippines	15.2	24.2	24.0	24.8	20.3	18.8	21.2	19.0	17.6	16.6	17.0
Singapore	37.6	36.4	35.8	39.2	32.3	32.0	32.5	26.0	22.8	14.8	18.3
Thailand	25.9	41.4	41.8	33.7	20.4	20.5	22.8	24.1	23.9	25.0	27.1
Net Exports (% of GDP)											
East Asia											
PRC	-1.8	4.0	1.5	3.3	3.1	2.0	2.6	1.0	0.1	-1.3	-0.5
Hong Kong, China	8.3	7.6	-2.4	-4.3	0.2	4.6	3.6	3.7	7.7	8.7	8.6
Korea, Rep. of	6.5	-0.5	-3.1	-0.2	12.9	6.6	2.9	2.6	2.3	3.1	4.8
Taipei, China	19.4	4.5	2.5	1.4	0.5	1.8	1.5	4.5	6.6	6.9	2.7
Southeast Asia											
Indonesia	-1.0	1.5	-0.6	-0.3	9.8	8.1	9.6	9.5	5.9	7.3	2.5
Malaysia	6.1	2.0	1.4	0.9	22.0	25.1	20.0	18.4	18.3	21.0	21.4
Philippines	3.8	-5.5	-9.4	-10.6	-7.9	-4.4	-3.9	-1.9	1.4	2.9	3.8
Singapore	0.3	6.9	15.2	12.8	20.7	17.0	14.9	18.1	21.4	32.0	29.7
Thailand	0.5	-7.1	-5.3	2.0	14.8	12.4	10.2	7.8	8.4	8.3	6.3

Source: *Key Indicators* (ADB various years).

To shed light on the argument that the decline in investment was driven by a decline in profit rates, we computed average profit rates for Indonesia, Malaysia, Philippines, Singapore, and Thailand.¹⁶ Table 8 shows that the declines in profit rates were relatively small compared to the sharp decline in investment rates, except perhaps in Indonesia, where the profit rate declined by almost 7 percentage points between 1997 and 1998. In the Philippines, the profit rate has

¹⁶ Average profit rates were computed as the ratio of total profits (“surplus” in national accounts terminology) to the stock of capital.

not declined. In Malaysia, Singapore, and Thailand the profit rate declines were rather mild.

Table 8. Profit Rates (percent)

	1981	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003
Indonesia	37.6	21.9	19.0	14.9	15.8	18.4	11.7	14.7	14.0	14.1	14.8
Malaysia	16.2	9.0	13.5	15.5	14.7	11.2	11.3	11.2	14.0	14.0	14.2
Philippines	9.4	8.4	10.9	12.5	12.3	11.5	11.9	11.6	12.0	12.0	12.6
Singapore	22.9	14.5	16.9	17.8	17.5	15.2	15.5	16.3	13.8	13.8	13.6
Thailand	7.5	7.1	10.5	10.2	8.8	7.0	5.9	6.6	6.9	7.6	8.0

Source: Authors' calculations.

The fourth hypothesis is that the fall in investment rates was due to the fact that many countries in the region worked at very high rates of capacity utilization before the crisis, which led to the creation of excess capacity afterward. For this purpose, we computed the ratio of the growth rate of the capital stock to the profit rate or throughput ratio. One can interpret the throughput ratio as an indicator of the degree to which the growth potential of the economy is being utilized (Shaikh 1999). A ratio below one indicates that the country's capacity for investment is not fully utilized. The more this ratio approaches one, the higher the probability that excess demand will end up accelerating inflation rather than boosting growth. In some sense, it is an indicator of the tightness of the economy and a proxy for capacity utilization: when the ratio approaches one, the investment potential of the economy is being realized to its fullest. Then the economy starts creating excess capacity. When a crisis erupts the ratio falls mostly due to the fall in capital accumulation.¹⁷

Table 9 shows the throughput ratio for the same groups for four countries. The Philippines is a clear case where the lack of investment is related to the country's political situation. The Philippines clearly did not work at high levels of capacity utilization during the 1990s, prior to the financial crisis.

Table 9. Throughput Ratio (percent)

	1981	1986	1990	1996	1997	1998	1999	2000	2001	2002	2003
Indonesia	37.4	55.9	66.7	82.0	76.1	39.7	49.6	43.1	46.0	43.5	39.9
Malaysia	74.8	50.4	64.6	79.8	82.7	35.3	29.6	47.3	28.0	29.4	24.1
Philippines	70.8	3.8	33.7	32.5	37.9	28.2	23.4	24.0	22.4	22.3	21.2
Singapore	50.2	64.6	36.7	48.0	59.2	68.0	52.8	41.1	50.3	41.6	31.7
Thailand	115.7	79.4	129.0	106.0	69.4	5.1	2.1	6.9	7.2	11.7	20.5

Source: Authors' calculations.

¹⁷The Polish economist Kalecki (1939), asking the question "What causes periodical crises?" argued that the tragedy of investment is that "it causes crises because it is useful" (Kalecki 1939, 148–9).

In the other four cases, the situation is different. In Indonesia the throughput ratio reached its peak in 1995–1996 (86% and 82%, respectively). Then it started falling, and between 1997 and 1998 it collapsed. It has not recovered yet. In Malaysia it reached the peak in 1983 (92.5%). Then it declined during the rest of the decade but started rising in the early 1990s, reaching a peak again in the years before the Asian crisis, with values around 80%. In 1997 it collapsed. In Singapore, the ratio increased between 1981 and 1986, when it reached a value of 95%. The ratio then experienced a sharp decline of about 30 percentage points between 1985 and 1986 and then it further declined through the late 1980s and early 1990s. Then it increased through the 1990s and reached a value of 68% in 1998. The ratio then lost about 27 percentage points between 1998 and 2000, and another 10 percentage points between 2002 and 2003. Overall, Singapore did not create substantial excess capacity between the mid-1980s and mid-1990s, i.e., before 1997–1998. In the case of Thailand it is very clear that the economy worked at a very high capacity utilization rate before the crisis. The throughput ratio was very high during the period 1981–1996, very close to unity, if not above. Then in 1997 it underwent a sharp decline and in 1998 it completely collapsed due to the stagnation of capital accumulation. Thailand is a clear case where the decline in investment appears to be associated with the creation of large excess capacity after the Asian crisis.

The conclusion of this brief analysis is that the two most likely reasons why investment rates fell following the Asian financial crisis are the stagnation of credit and the creation of excess capacity. To test these hypotheses, we estimated a regression of the investment rate (I/Y) using panel data for Indonesia, Malaysia, Philippines, Singapore, and Thailand for 1986–2003. Results are shown in Table 10. The explanatory variables are investment rate lagged one period (I/Y_{-1}), real domestic credit as percent of GDP (CRE); the profit rate, current (PRO) and lagged one period (PRO_{-1}); the throughput ratio, current (THR) and lagged one period (THR_{-1}); an interaction term between the throughput ratio and the profit rate ($PRO*THR$); country dummies (D_{INO} , D_{MAL} , D_{PHI} , D_{SIN} , D_{THA}) and year dummies ($D1987$ through $D2002$). The default for the country dummy variables is the Philippines, and the default for the years is 2003.¹⁸

¹⁸A corresponding regression for savings was not estimated as the savings glut hypothesis was dismissed above. Eichengreen's (2006) analysis shows that the savings rate is positively correlated with GDP growth, and negatively related to the dependency rate and the efficiency of financial intermediation. This explains the fact that the savings rates of the East Asian countries declined slightly. It also explains why the savings rate in Europe and Japan are not increasing due to an aging population. The high growth rate of the PRC, as well as its

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Table 10. **Determinants of Investment Rates in Southeast Asia**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.016253	0.035325	0.460089	0.6472
(<i>I/Y</i> ₋₁)	0.580077	0.109384	5.303146	0
(<i>CRE</i>)	0.04513	0.029942	1.507245	0.1373
(<i>PRO</i>)	0.639397	0.287768	2.22192	0.0303
(<i>PRO</i> ₋₁)	-0.69223	0.22435	-3.085487	0.0031
(<i>THR</i>)	0.046633	0.048071	0.970074	0.3361
(<i>THR</i> ₋₁)	-0.109763	0.030315	-3.62078	0.0006
(<i>D_INO</i>)	-0.026173	0.011877	-2.203627	0.0316
(<i>D_MAL</i>)	-0.010911	0.017385	-0.627589	0.5328
(<i>D_SIN</i>)	0.000621	0.012751	0.048683	0.9613
(<i>D_THA</i>)	0.014774	0.0195	0.757679	0.4518
<i>D1987</i>	0.053728	0.015508	3.464595	0.001
<i>D1988</i>	0.043263	0.016092	2.688517	0.0094
<i>D1989</i>	0.060368	0.015827	3.81431	0.0003
<i>D1990</i>	0.053307	0.016137	3.303337	0.0017
<i>D1991</i>	0.057595	0.016968	3.39433	0.0013
<i>D1992</i>	0.053859	0.017088	3.151867	0.0026
<i>D1993</i>	0.051893	0.015951	3.253352	0.0019
<i>D1994</i>	0.043135	0.016027	2.691415	0.0093
<i>D1995</i>	0.049416	0.015709	3.14571	0.0026
<i>D1996</i>	0.041869	0.015627	2.679266	0.0096
<i>D1997</i>	0.04432	0.015597	2.841477	0.0062
<i>D1998</i>	-0.008024	0.015848	-0.506278	0.6146
<i>D1999</i>	0.01692	0.013368	1.265743	0.2108
<i>D2000</i>	0.051991	0.012881	4.036404	0.0002
<i>D2001</i>	0.015396	0.01295	1.188871	0.2394
<i>D2002</i>	0.017625	0.012512	1.408711	0.1644
<i>PRO * THR</i>	1.114999	0.375739	2.967485	0.0044
R-squared	0.959185	Mean dependent var		0.288951
Adjusted R-squared	0.939851	S.D. dependent var		0.079884
S.E. of regression	0.019592	Akaike info criterion		-4.768182
Sum squared resid.	0.021879	Schwarz criterion		-3.963544
Log likelihood	230.6477	F-statistic		49.61245
Durbin-Watson stat	1.937304	Prob(F-statistic)		0

Note: Dependent variable: (*I/Y*).

Method: least squares.

No. of observations: 85.

underdeveloped consumer credit and financial markets explain partly the country's high savings rate.

The most important results are as follows:

- (i) The regression displays a very high fit, explaining about 96% of the variation in investment rates.
- (ii) The real interest rate was dropped from the analysis for it had a positive sign.
- (iii) Real domestic credit (as a percent of GDP) is marginally significant and positively related to the investment rate.
- (iv) The profit rate, by itself, has a nil effect on the investment rate (the sum of the coefficients of the current and lagged profit rate is approximately zero), but the interaction effect of profit rate with the throughput ratio is positive. This indicates that a higher profit rate, together with high capacity utilization, leads to higher investment rates, and vice versa.
- (v) The interaction effect shows that that high capacity utilization, together with high profit rates, will lead to higher investment rates (while low capacity utilization together with low profit rates will lead to lower investment rates). But without the interaction effect, the throughput ratio has a negative sign (sum of the current and lagged coefficient). This means that high capacity utilization, unsupported by high profit rates, will lower the investment rate.
- (vi) The country dummies show no significant effects (outside the explanatory variables mentioned above) for Malaysia, Singapore, and Thailand. The dummy variable for Indonesia has a negative sign, which means that, controlling for the effects of the other explanatory variables, this country has a lower investment rate than the Philippines.
- (vii) The year dummies indicate that all years have higher investment rates (outside the effects of the explanatory variables) than 2003, except for 1998, the critical year of the Asian financial crisis.

VI. CONCLUSIONS AND FINAL REMARKS: TOWARD AN ORDERLY REDUCTION OF GLOBAL IMBALANCES¹⁹

During the last few years, economists have referred to the existence of a global imbalance in the world, mainly reflected in a large and increasing US current account deficit. To some extent, the counterpart of this deficit is a

¹⁹At the time of completion of this paper's final draft in April 2006, it was announced that the International Monetary Fund had been given the mandate to start negotiations between countries with the largest trade imbalances. The goal is to secure agreements and cooperation to reform economic and exchange rate policies to close trade gaps and prevent a global financial crisis. This is an acknowledgement that the imbalances are not exclusively the result of the US budget deficit, but the product of global forces.

significant current account surplus in many Asian countries. The analysis in this paper indicates that the counterpart of this surplus is the collapse of investment following the Asian financial crisis of 1997–1998, and it is not due to a savings glut in the region, as some have argued.

We have explored four hypotheses in an attempt to shed light on the reasons behind the investment collapse. The first one is that the decline in investment was the result of an increase in interest rates that has led to an increase in the cost of financing investment. The second hypothesis is that after the financial crisis there was a decline in credit. The third hypothesis is that there was a decline in profit rates. The final hypothesis is that many countries in the region worked at very high rates of capacity utilization before the crisis, which led to the creation of excess capacity.

Regression analysis has shed light on the relevance of these four hypotheses. The conclusion is that credit availability, profit rate, and throughput ratio are important variables explaining variations across countries and across time in investment rates.

The countries hit by the Asian crisis were criticized for overborrowing and for maintaining fixed exchange rate regimes that led to overvalued currencies. This situation led to an undue emphasis on domestic demand expansion and overinvestment, triggering current account deficits. At this point in time, when global imbalances have turned the other way and the countries affected by the financial crisis (and many of their neighbors) have changed their policies and gone into more (net) export-led growth (partly by allowing significant depreciations of their currencies), the criticisms have turned around: now these countries are asked to reduce their net export orientation and return to a more domestic-demand-driven growth. It is important that contradictions in policy prescriptions for the Asian economies be acknowledged and reconciled.

The analysis in the paper shows that the recent accumulation of a significant amount of international reserves across many Asian countries is the result of both current and capital account surpluses. The current account surpluses reflect a combination of declines in investment after the Asian crisis, and of increasing trade surpluses. The large decline in investment rates in East and Southeast Asia is, to a large extent, a correction of the domestic-demand-driven growth during the 1990s, which led to excessive overborrowing and overinvestment. Investment rates are back today to where they were in the late 1980s. As our analysis above shows, except in the PRC, the fall in investment rates has been more than offset by increases in net exports, as East and Southeast Asian countries have returned to a more outward orientation.

It has been argued, mostly in the US, that the current account and savings–investment surpluses as well as the accumulation of international reserves of some East and Southeast Asian countries, particularly the PRC, are

causing an international imbalance. This perception, however, should be put in proper perspective. Indeed, US trade deficits with Asia (excluding Japan) made up only 37.8% of the US trade deficit in 2004, while 62.2% of the deficit came from deficits with other regions of the world. The current account surpluses of the Asian countries have to do with surpluses among themselves and with other developed countries (e.g., exports of Hong Kong, China; Korea; and Taipei, China, rely a lot on the PRC market). The PRC has trade deficits with developing countries as a whole, and with Asia as a whole. It is only with the US and the EU that the PRC enjoys large trade surpluses.

What can Asian countries with large international reserves do to reduce the current global imbalances? The analysis in this paper indicates that there are a number of interlinked issues for an orderly and concerted reduction in international imbalances, in line with the most balanced proposals (Rajan 2006, Eichengreen 2006):²⁰

- (i) There is a need for a worldwide adjustment in current account balances. It is obvious that a substantial reduction in the US current account deficit must entail deterioration in somebody else's current account. However, it is important to stress that many Asian countries are important contributors to the financing the US deficit. This situation is seen by many as rather shaky and prone to leading toward a crisis if the US current deficit continues to widen, as the Asian countries could decide to place their reserves somewhere else. The solution has to entail an *overall* reduction in imbalances, as this is not a bilateral issue. For this reason, it is not easy to determine how it can be done.

There have been strong calls for the Asian countries to return to a more domestic-demand-driven growth. Part of this policy recommendation is to allow their currencies to significantly appreciate, especially against the US dollar. But memories of the Asian crisis and the PRC's sizeable trade deficits with the developing world (especially with the Organization of Petroleum Exporting Countries) may limit these countries' enthusiasm to pursue this route. Indeed, given that one of the lessons of the Asian crisis was that countries with large international reserves and current account surpluses were able to withstand financial and foreign exchange crises, it will be difficult to persuade countries in the region to give up their export-led strategy and switch back to domestic-demand-led growth.

²⁰To this, it must be added that the US must do its part to reduce its current account balance. The US must reduce the budget deficit and increase its savings rate. Europe and Japan should also contribute by increasing domestic demand growth relative to output growth, reducing their savings–investment balance and through real currency appreciation. See Mussa (2005).

- (ii) Except for the PRC (until July 2005), the currencies of many East and Southeast Asian countries have appreciated moderately with respect to the US dollar, especially in 2005 and 2006. The pressure is now on the PRC to further appreciate its currency (which started in July 2005) with respect to the US dollar. However, the issue is more complex and will require a multilateral approach. What is needed is a gradual process of upward adjustment vis-à-vis the US dollar of a number of Asian currencies. In this respect two caveats are needed:
- (a) The PRC has sizeable trade deficits with other developing countries. Its trade surpluses are largely with the US and the EU. For this reason, a large appreciation of the renminbi might not be advisable. A very significant currency appreciation may very well lead to a serious switch into a current account deficit with the US and the EU, and a surplus with the developing world (as had happened to Korea after its currency appreciation in 1985–1986). Perhaps a maximum of 10% appreciation in the short or medium term may be first experimented upon and its impact assessed before any further appreciation is allowed.²¹
 - (b) Lau and Sitgitz (2005) have recently suggested that more than an appreciation of the renminbi, the solution might lie in export taxes on products exported by the PRC to the US. The authors indicate that the imposition of taxes on the PRC's exports has the advantage that they would not lead to financial losses for the PRC holders of dollar-denominated assets (e.g., the PRC's central bank). Perhaps, parallel tariff cuts on PRC imports from the US should also be studied. This will limit the effects of these measures to trade between the two countries, rather than affect the PRC's trade with all countries. This would also prevent undesired effects on FDI. Other East and Southeast Asian countries with large trade surpluses with the US can also contemplate similar policy options. Export taxes and reductions in import tariffs, like a currency appreciation, reduce the net export orientation of the economy and shift it toward domestic-demand-driven growth. But, unlike currency depreciation, they allow the Asian countries to implement selective and targeted interventions to ensure that their current accounts do not deteriorate in an uncontrolled fashion and trigger another crisis.

²¹See Park (2005) on the possible effects of an appreciation of the renminbi.

- (iii) The US needs to increase its domestic savings rate, reduce its fiscal deficit, and increase its household savings.
- (iv) The international community needs to put in place mechanisms to prevent financial crises. The important question is that one reason for the East and Southeast Asian countries' large accumulation of reserves has been a precautionary motive in order to be able to face a potential financial crisis like that of the late 1990s. The situation today is significantly different because if such a crisis materialized, the US would not play today the same role as in the past, namely, that of absorbing the affected countries' exports. For this reason, all involved countries have an interest in avoiding possible future developing-country financial crises.

It is important to note that lurking beneath Asia's rising current account surpluses and international reserves are significant structural challenges (Felipe et al. 2006). Outside of the PRC, recent current account surpluses in developing Asia are associated with investment rates that are well below historical averages. Investment rates also appear low compared to assessments of needs, in particular in terms of the gaps that exist in physical infrastructure provision in Asia. If these infrastructure constraints are not addressed, they will eventually limit potential growth. To make this happen, improvements will be needed in legal, regulatory, and financial systems. Strengthened governance will be crucial to most of these changes. In the PRC, current account surpluses appear to reflect more of a glut of savings rather than a drought of investment. The new Eleventh Five-Year Program (ADB 2006, 117–24) foreshadows important shifts in government priorities that should help address stresses and emerging imbalances.

A second important challenge that fast reserve accumulation in developing Asia points to is the need for deeper and more efficient domestic and regional capital markets. Cross-border investment originating in Asia is still predominantly directed to the US and Europe, despite savings deficits in some parts of the region. This possibly reflects an inadequate supply of profitable investment outlets, but a weak domestic institutional investor base, information gaps, regulatory weaknesses, and shallow markets have added to the outflow and left central banks to play a prominent intermediation role. A more efficient use of surpluses will require determined efforts to deepen private sector participation in both domestic and regional capital markets. This, in turn, will require legal, regulatory and other institutional reforms, the success of which will hinge on improved governance.

Finally, the imbalances debate and heightened concerns about global economic stability serve as a timely reminder of the need to buttress social protection and insurance mechanisms, and the importance of public expenditure

policies that are pro-poor and which provide adequate support for sustainable livelihoods for the poor and vulnerable. Developing Asia must also recognize that as its international economic footprint gets larger, so too should it prepare for the possibility of global economic shocks.

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Asia's Race to Capture Post-MFA Markets: A Snapshot of Labor Standards, Compliance, and Impacts on Competitiveness

YANA VAN DER MEULEN RODGERS AND GÜNSELİ BERİK

Labor regulations designed to protect workers, promote workplace equality, and improve working conditions achieve social objectives and affect international competitiveness. Considering these dual outcomes has taken on added urgency as Asian economies adjust to an increase in global competition in textiles and clothing following the end of the Multi-Fiber Agreement, with large projected gains for the People's Republic of China and potential losses for other Asian producers. Countries that stand to lose from the MFA phase-out face low cost and high quality production from the People's Republic of China, whose competitive threat lies in its extremely poor compliance record with its own and international labor standards. Yet empirical evidence generally supports the argument that the costs of raising and enforcing labor standards are offset by dynamic efficiency gains and macroeconomic effects. This evidence supports the case for Asian economies to pursue the "high road" in their race to capture post-MFA markets in textiles and clothing.

I. INTRODUCTION

Labor standards that protect basic worker rights, enhance workers' job security, and improve their terms of employment may have the unintended effect of raising labor costs and undermining international competitiveness. Considering the potential tradeoffs between social objectives of labor standards and their economic competitiveness has taken on added urgency as textile- and clothing-exporting countries in Asia adjust to a sudden increase in global competition following the end of the Multi-Fiber Agreement (MFA). Quota eliminations are expected to cause significant changes in world patterns of textile and clothing production and trade, with large expected gains for the People's Republic of China (PRC) and India and potential losses for most other low-cost producers that

Yana van der Meulen Rodgers is Associate Professor, Women's and Gender Studies Department, Rutgers University; and Günseli Berik is Associate Professor of Economics and Gender Studies, University of Utah. The authors thank Arnab Basu, Ethel Brooks, Elizabeth King, David Kucera, Ronald Martin, Andrew Mason, William Rodgers, Sanchita Saxena, Ian Spaulding, Franck Wiebe, Joseph Zveglic, and an anonymous reviewer for their helpful comments. We also thank Nursel Aydinler-Avsar for excellent research assistance. Participants at the Rutgers University School of Management and Labor Relations Proseminar, the Asia Foundation's Working Roundtable in Bangkok on the MFA Phase-Out, and the "Gender, Growth and Inequality" Panel at the 2006 ASSA meetings also provided useful suggestions. This research is supported by funding from The Asia Foundation and a University of Utah Proposal Initiative Grant. All opinions are the authors' and do not necessarily represent those of their respective institutions.

are not protected with alternative favorable trade arrangements (USITC 2004, OECD 2003). Any shift in production will cause disproportionate job losses for women workers, especially in clothing production where they constitute around three quarters of employment.¹ The PRC's competitiveness in textiles and clothing stems from a combination of factors, including low labor costs. Less clear is the extent to which the PRC's low labor costs are explained by weak labor laws.

Global policy dialogues are focused on what countries can do to respond to this change in trade rules. One potential response of Asian exporters is to dismantle or weaken labor regulations in order to compete with the PRC on the basis of labor costs. This option is consistent with the policy conclusions of static microeconomic theory that shows the adverse effects of labor regulations on the demand for labor. Alternatively, these countries could increase compliance with labor market regulations and invest in the skills of workers. Such measures allow the pursuit of an export strategy that enhances international competitiveness on the basis of higher labor costs consistent with higher productivity. This strategy is supported by an argument that highlights dynamic microeconomic efficiency gains, macroeconomic effects, and social benefits from higher labor standards. Either strategy could also be enhanced by improvements in nonlabor costs, such as infrastructure, ease of entry, and operations in order to enhance international competitiveness. Given the high share of female workers in textiles and clothing, either of these options will have gendered effects.

This paper evaluates which scenario is more likely by examining the theory and evidence on the relationship between labor standards and international competitiveness. We also examine statutory labor regulations and actual compliance across Asia to determine the PRC's relative standing on labor standards. Our findings indicate that the PRC has low labor standards both in terms of its ratification of International Labour Organization (ILO) conventions on core labor standards and its national laws on the core standards, job security provisions, and terms of employment. While its legislative status is neither unique nor the worst in Asia, the PRC's competitive threat lies in its extremely poor record on violations of its own and international labor standards. The PRC's erosion of labor standards coupled with its dominance in textiles and clothing is difficult to reconcile with the results from empirical studies on core labor standards. The empirical literature generally supports the argument that higher labor standards do not undermine competitiveness, whether measured in terms of foreign direct investment (FDI) flows or exports. This evidence, which suggests

¹The percent female in textiles production is generally lower than in clothing production. In textiles, available data for Asian economies from the United Nations Industrial Organization's INDSTAT3 2005 (UNIDO 2005) indicate that the share of women employees ranges from 8% in India to 70% in Viet Nam, with an average close to 50%. In clothing, the percent female ranges from 27% in Nepal to 84% in Sri Lanka, with an average close to 75%.

that the costs of raising and enforcing labor standards are offset by dynamic efficiency gains and macroeconomic effects, supports the case for Asian economies to pursue the “high road” in their race to capture post-MFA markets in textiles and clothing.

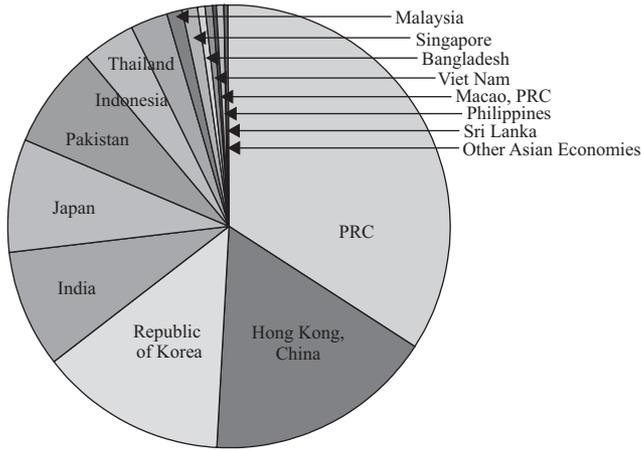
II. THE PRC'S COMPETITIVENESS IN TEXTILES AND CLOTHING

With the end of the MFA, major Asian producers of textiles and clothing face not only loss of quota-guaranteed market access but also the PRC's low production costs that combine with high quality. The PRC has become the prime location for production of not only textiles and clothing but also other high-volume, standardized products, contributing to the ongoing shift of the supply chain toward it. Even under the MFA, the PRC clearly dominated among Asian exporters of textiles and clothing, as illustrated in Figure 1. In 2003, textile exports out of the PRC constituted one third of all Asian textile exports, with another 17% accounted for by Hong Kong, China.² Export dominance is even more pronounced for clothing, with an export share of 45% for the PRC and another 20% for Hong Kong, China.

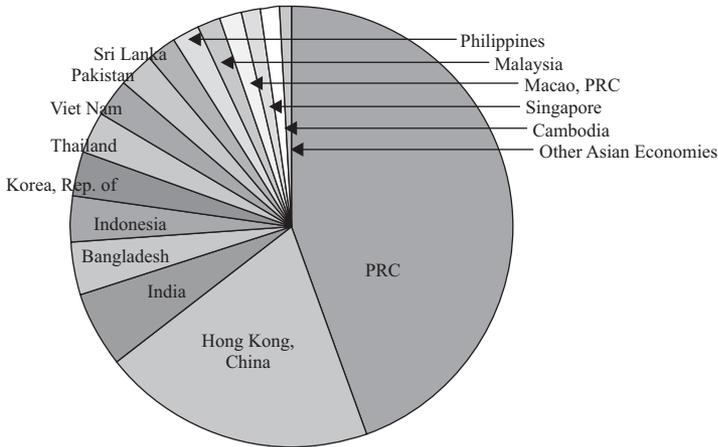
²The figure on Asian exports of textiles and clothing is constructed using the United Nations' COMTRADE data for the most recent year available (UN 2003).

Figure 1. Value of Asian Exports to Rest of World in Textiles and Clothing, 2003

Panel A: Textiles, Yarns, and Fabrics (SITC Rev. 3, Category 65)



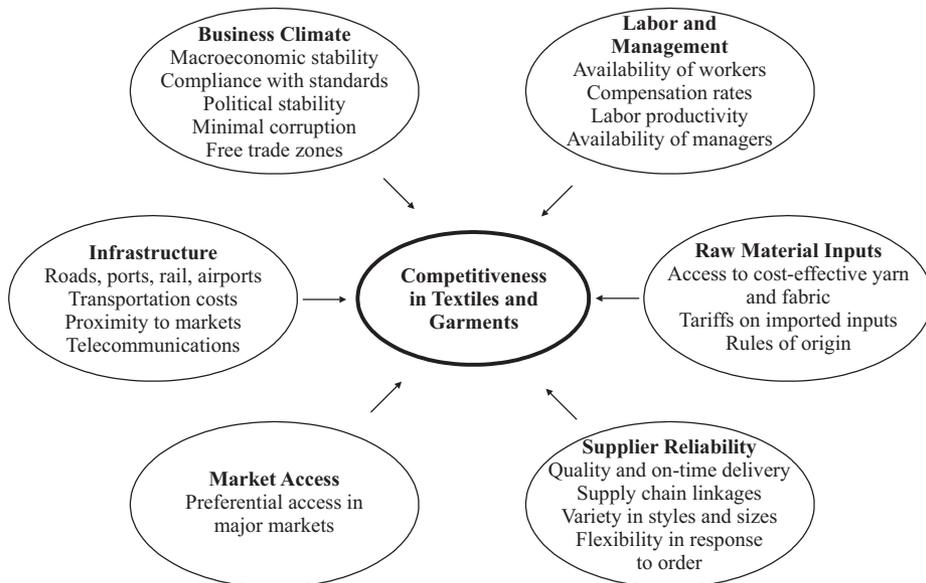
Panel B: Clothing and Accessories (SITC Rev. 3, Category 84)



Labor costs are one piece, albeit an important one, of the picture determining the countries from which buyers in destination countries will choose their goods and where multinational corporations will choose sites for foreign investment. Other factors include infrastructure, ease of entry and operations, and governance (Figure 2). Improvements in infrastructure—including shorter times for clearing customs, fast and regular shipping lines, a reliable transportation network, and modern telecommunications—can go a long way to increase exports and attract FDI. Streamlining regulations associated with starting a new business and reducing problems with corruption will also improve the investment climate.

In the case of clothing, encouraging vertical integration such as building knitting mills and dye facilities nearby, can also improve competitiveness. One indication that labor costs may be of less concern comes from survey responses by firms in textiles and clothing in Indonesia, Republic of Korea (henceforth Korea), Philippines, and Thailand, which identify delays in clearing customs and limited access to finance for working capital as the top two bottlenecks in production.³

Figure 2. **Determinants of Competitiveness in Textiles and Clothing**



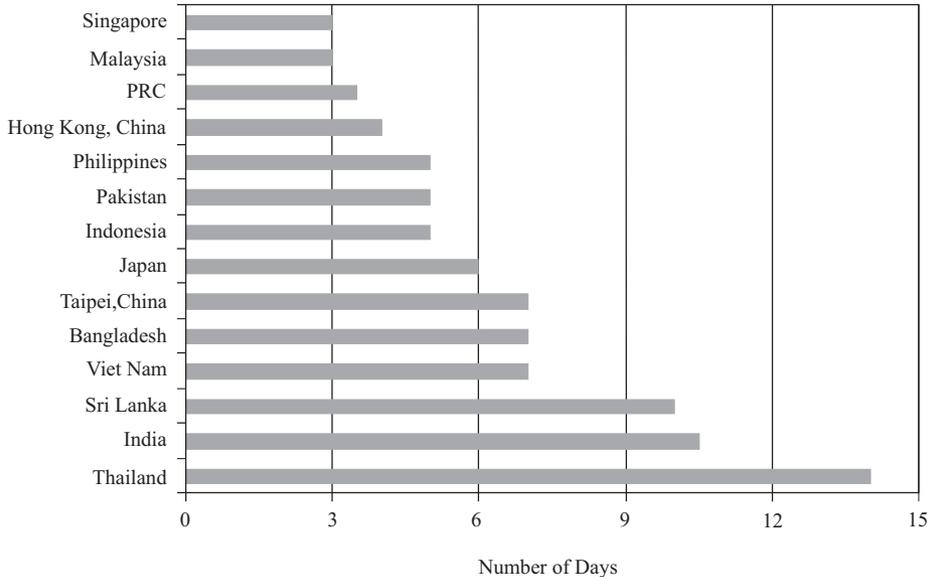
Source: USITC (2004).

The PRC’s low production costs result from a combination of competitive factors in the overall investment climate, not just low wages. For example, Figure 3 shows that the PRC ranks among the fastest countries in Asia for clearing goods through customs and keeping shipments moving, with an average of just 3.5 days for standard dry cargo to clear customs. In contrast, its compensation rates are certainly not the most competitive in the region. Countries vary considerably in their baseline compensation rates to workers in textiles and clothing, with the PRC falling in the middle of the distribution rather than the

³The World Bank’s *Investment Climate Surveys* for Indonesia, Korea, Philippines, and Thailand for the late 1990s (<http://rru.worldbank.org/InvestmentClimate/>). Our tabulations of these surveys also help quantify the relative importance of labor costs, which make up between 23–32% of total production costs in textiles and clothing.

bottom (Table 1). Nonetheless, low wages are a part of the package of advantages for producing in the PRC. The government's policy of maintaining undervalued exchange rates and generous incentives are additional factors that increase the country's appeal as a supplier to foreign companies.

Figure 3. Average Customs Clearance Times in Asia, 2005



Note: Data points represent the average number of days for standard dry cargo to clear customs. For economies that reported a range of days, we chose the midpoint.

Source: International Exhibition Logistics Association (2005).

Table 1. Hourly Compensation in Textiles and Clothing across Asia (in US dollars)

	Textiles	Clothing
Newly Industrialized Economies and Japan		
Hong Kong, China	\$6.15	...
Japan	...	...
Singapore	...	...
Korea, Rep. of	\$5.73	...
Taipei, China	\$7.15	...
PRC and India		
PRC (noncoastal)	\$0.41	\$0.88
PRC (coastal)	\$0.69	\$0.88
India	\$0.57	\$0.38

continued.

Table 1. **continued.**

Southeast Asia		
Cambodia	...	...
Indonesia	\$0.50	\$0.27
Lao PDR	...	...
Malaysia	\$1.16	\$1.41
Philippines	...	\$0.76
Thailand	\$1.24	\$0.91
Viet Nam	...	...
Other Asian Economies		
Bangladesh	\$0.25	\$0.39
Mongolia	...	...
Myanmar	...	...
Nepal	...	...
Pakistan	\$0.34	\$0.41
Sri Lanka	\$0.40	\$0.48

... means not available.

Note: Hourly compensation includes wages and fringe benefits. Data are for 2002. The compensation rate for clothing in the PRC reflects compensation for moderate to better quality clothing; the figure for lower-quality clothing is \$0.68. For the PRC, textiles but not clothing costs are broken down by coastal and noncoastal areas.

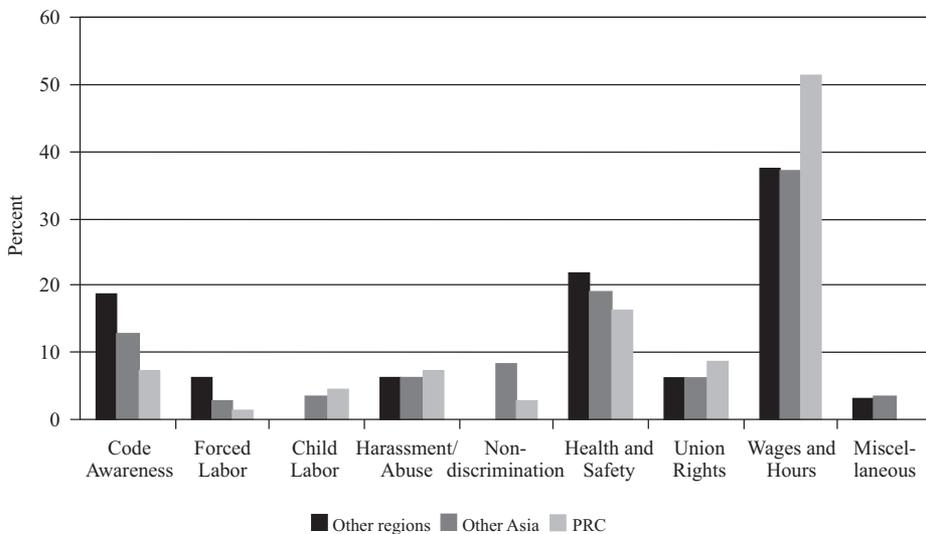
Source: USITC (2004).

One contributor to the PRC’s low labor costs is unusually poor compliance with international labor standards and its own labor laws. The oversupply of labor along with employment conditions that encourage long working hours by young, female migrant workers contribute to poor labor standards and low unit labor costs (FLA 2005). The PRC has a worse track record on wage and hour violations than most other Asian countries and other regions, as indicated by data on the observance of labor standards generated through factory visits by the Fair Labor Association (FLA).⁴ Figure 4 shows the distribution of violations of the FLA workplace code of conduct in clothing factories in the PRC in 2003 relative to

⁴The Fair Labor Association (FLA) is a multi-stakeholder organization that combines the efforts of industry, universities, and consumer, labor, and human rights NGOs to improve the observance of labor standards in factories that supply goods for FLA-affiliated companies. In addition to the core labor standards of the ILO, the FLA uses key terms of employment criteria and a code awareness criterion (which records awareness of the FLA workplace code of conduct in the factory) as the basis for monitoring the factories. The companies make a commitment to promote labor standards in their suppliers (and apply the higher standard if the national laws differ from the FLA codes). Companies have to convey the expected standards to their suppliers, monitor them, work on remediation when violations are identified on independent monitoring visits by the FLA, and make public reports. Thus, factories that produce for FLA-affiliated companies are likely to have a better compliance record than the state of affairs in suppliers overall.

other regions.⁵ The major violation is noncompliance with wages, hours of work, and overtime compensation codes, which accounted for 52% of all violations in the PRC and around 37% each in other Asian countries and other regions. In contrast, factories in the PRC displayed greater awareness of the codes compared to factories elsewhere, and had fewer code violations on health and safety regulations, forced labor, and nondiscrimination.

Figure 4. **Workplace Code of Conduct Violations in Clothing Factories Monitored by the Fair Labor Association, 2003**



While noncompliance and failed audits have increased factory turnover for major retailers and branded companies in the PRC, other determinants of its comparative advantage have outweighed this drawback and ensured the country's position as the dominant producer in textiles and clothing. Even a strategy of technological upgrading and producing higher value-added products does not seem to protect the export processing zones in Central America from losing employment and exports to the PRC (FLA 2004 and 2005, Sargent and Matthews 2004). Nonetheless, Asian economies that are seeking to mitigate losses in textiles and clothing production face the same determinants of competitiveness as the PRC within their economies. These factors are potentially subject to

⁵Country-level data were compiled by the authors from the tracking charts generated in each factory visit. We identified a total of 210 violations in clothing factories that were documented by the FLA in 2003. Figure 4 reports whether or not a code violation was observed, not its severity. Eighty-two percent of factories monitored by the FLA in 2003 were clothing factories, and the rest produce footwear and equipment.

manipulation in order to enhance the investment climate and new market opportunities. Changes include better enforcement of labor legislation to help attract foreign investors that value labor standards and to orient production toward niche markets and higher quality goods.

III. LABOR STANDARDS AND COMPETITIVENESS: CONCEPTUAL FRAMEWORK

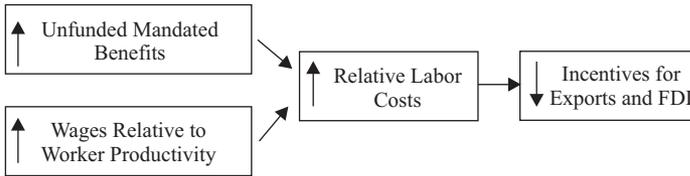
Labor standards are often discussed solely in terms of labor costs within the framework of static microeconomic efficiency. This approach highlights the negative impacts of increased compliance with labor standards. If firms in countries with stronger and better enforced labor legislation bear the costs of mandated benefits and higher wages relative to productivity, they will face higher relative labor costs. As shown in Figure 5, higher labor costs could lead to lower FDI and exports. Firms could then resort to hiring fewer workers and relying on labor-saving technologies or casual home-based workers who remain uncovered. Under rules of trade and capital account liberalization, firms may also move to locations with weaker labor standards. Such adjustments to policies that raise labor costs relative to productivity could generate the oft-cited “race to the bottom.”⁶

There are countervailing forces that may prevent the decline in labor standards and are often overlooked in the labor standards debate. As Figure 5 also highlights, laws that allow workers to freely associate and bargain collectively promote social and political stability, which in turn enhances economic growth and incentives for FDI and exports. Standards that eliminate discrimination and child labor in the workplace contribute to higher levels of education, an important determinant of economic growth and innovation. Contributing to these positive links, the increase in economic growth also has positive feedback effects for FDI and exports. Furthermore, surveys of corporate managers and firm owners indicate that compliance with labor standards is actually an important reason to source from countries or to choose them as the destination for FDI (Kucera 2002, USITC 2004). Social stability, labor quality, and the regulatory environment are all ranked more highly than labor costs as a criterion for attracting FDI. In fact, violating union rights is particularly likely to generate bad publicity and product boycotts.

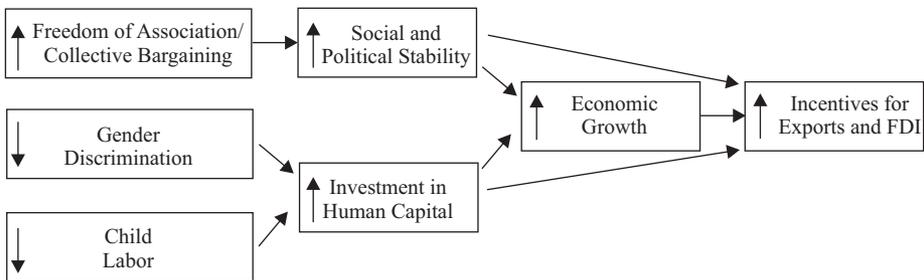
⁶The anticipated job losses or wage reductions resulting from raising labor standards lead some to oppose the use of trade sanctions to raise labor standards in developing countries and to call for use of other strategies to improve labor standards (Kabeer 2004).

Figure 5. Conceptual Framework for Impact of Labor Market Regulations

Negative Impacts (Microeconomic)



Positive Impacts (Macroeconomic)



Source: Modified from Kucera (2002).

IV. THEORY AND EVIDENCE ON IMPACT OF LABOR LAWS

As an organizing scheme, major labor laws are categorized into three groups: basic rights (core labor standards of the ILO), job security, and terms of employment. Table 2 shows these groups and lists examples of important policies in each category. Within the framework of standard microeconomic analysis, labor market regulations are viewed as distortions that have the unintended effect of hurting the very workers that they are designed to help. According to this type of analysis, workers do not have the option of improving their working conditions without jeopardizing their jobs. Although this approach does not account for social benefits and dynamic, productivity-enhancing effects of labor legislation, the analysis can be broadened in scope to consider the net effects of policy and the achievement of the intended safety nets (Elson 1999, Palley 2004).

Table 2. **Categorization of Labor Legislation**

Category	Policy Examples
Basic Rights	No child labor No forced labor No discrimination Freedom of association and collective bargaining rights
Job Security	No arbitrary dismissal Permission from government required for dismissal Pension and retirement compensation Survivors' compensation Unemployment benefits
Terms of Employment	Minimum wage Standard work week Overtime hours and compensation Accident compensation Health and safety Alternative employment contracts Maternity leave

Source: Modified from Galli and Kucera (2004).

A. Basic Rights (Core Labor Standards)

The abolition of child labor, forced labor, and labor market discrimination has obvious objectives. Although there is widespread disagreement about the best way to enforce legislation regulating basic rights, a consensus has emerged that these rights cannot be compromised. The *abolition of child labor* is expected to have a positive impact on trade and FDI, mostly through the channel of human capital investment, although the immediate trade-off is the loss of vital income for poor families. School enrollment rates are a key determinant of economic growth, and economic growth in turn is positively associated with more FDI and greater exports. Another link to FDI is the tendency for multinationals to invest in or source from countries abiding by this fundamental labor standard. Empirical evidence supports the argument that a reduction in child labor encourages economic growth (Galli 2001, Kucera 2002), and that openness to trade and higher FDI stocks are associated with lower incidences of child labor (Neumayer and de Soysa 2004). Similar arguments are made for the *abolition of forced labor*, and evidence in Busse and Braun (2003) suggests a negative relationship between FDI and the extent of forced labor.⁷

⁷Busse and Braun, however, do find a weak positive relationship between forced labor and comparative advantage in trade in unskilled-labor intensive goods, suggesting the need for raising awareness about the problem and effective interventions.

In an effort to eliminate *discrimination* in employment and pay against women, most countries have adopted policies that promote equal treatment in the workplace. Given that women worldwide are often more constrained than men in participating in the labor market or in higher status occupations, such policies focus on ending discriminatory employment practices and creating new job opportunities for women. The “equal pay for equal work” clause requires employers to provide equal pay for workers performing the same job with equal efficiency, regardless of gender. The legislation is often applied to narrow job titles within establishments. Under perfect competition, equal pay legislation should raise women’s relative wages if women work in jobs that contain within-job pay inequities. The relative pay increase for women may come at the cost of employment losses if employment is demand-determined.

In practice, equal-pay legislation tends to have more success in industrialized countries where collective bargaining is common and differential pay rates by gender are legislated but relatively easy to change (Blau and Kahn 1995). Equal pay has less impact in countries where the wage setting mechanism is more decentralized. Enforcement has proven to be a major obstacle, particularly in developing countries that do not have sufficient resources to create viable enforcement methods. Another obstacle to improving women’s relative wages is gender segregation in employment by occupation and industry. Governments have tackled this problem by promoting women’s access to occupations in which they formerly had few opportunities through equal opportunity provisions that prohibit sex-based discrimination in hiring, training, promotion, and firing. In theory, if equal opportunity measures are effective in reducing discrimination against women in male-dominated occupations, firms will hire more women at any given wage. On the supply side, the creation of new job opportunities will encourage some women to shift occupations and other women to join the labor force. Women’s relative wages should rise if the legislation succeeds in reducing women’s concentration in relatively low-paying occupations.

Freedom of association and collective bargaining rights, hereafter referred to as “union rights,” are predicted to lead to higher labor costs even when labor productivity is taken into consideration. Stronger union rights are likely to result in higher unionization rates, and union members tend to receive higher wages than non-union members. There is an ambiguous impact on the demand for labor in the formal sector occurring through a macroeconomic and a microeconomic channel. One view on the macroeconomic side is that stronger civil liberties and rights are conducive to economic growth and stability (Stiglitz 2002, Rodrik 1999). Stronger rights cause less conflict and more stability, both of which are

favorable in attracting FDI. Increased investment, in turn, encourages economic growth and the creation of new jobs in the formal sector.⁸

On the microeconomic side, stronger bargaining positions for workers are likely to raise wages in the formal sector and cause the formal sector demand for workers to shrink. Yet Galli and Kucera (2004) argue that it is not union rights by themselves, but rather policies that increase the difficulty of letting go of workers in adverse business conditions, which are the potential culprits behind an employment shift from the formal sector to the informal sector. Hence high wages allocated to an immobile labor force, rather than simply high wages, serve as a detracting force in the business climate. Given these conflicting forces through the macro and the micro channels, the impact on employment and the economic environment becomes an empirical issue.

Empirical evidence on the macro channel alone tends to support the argument that greater union rights are conducive to stability and economic growth. In particular, collective bargaining is linked to improved information flow and coordination among workers, which is associated with a lower incidence of strikes (Aidt and Tzannatos 2002). Evidence for the net impact of the macro and micro channels is indicative of either no statistically significant relationship (Rodrik 1996, OECD 1996, Flanagan 2003) or a positive net effect.⁹ For example, Cooke and Noble (1998) show that ratification of ILO standards on unions and bargaining in host countries is positively related to US FDI outflows. Further, in a study for over 100 countries, Kucera (2002) finds that stronger union rights are associated with greater FDI, with the positive effect from the macro channel outweighing the negative effect from the micro channel. Most recent cross-country analysis shows that neither trade openness nor export success depend on weaker compliance with union rights (Neumayer and de Soysa 2006, Kucera and Sarna 2006). In fact, there is a strong positive relationship between aggregate manufacturing exports and trade union rights, suggesting that the positive effects of union rights on greater stability offset the negative effects associated with higher labor costs.¹⁰ Although the danger exists for a competitive reduction in standards and regulations, evidence reviewed in Kucera (2002) indicates that governments have not used systematic competitive cuts in union rights to alter their comparative advantage. Any erosion in standards appears to be taking place through declining compliance with labor standards rather than

⁸Others point to the instability that may ensue if countries rapidly expand union rights, which may in turn stifle economic growth and push workers into the informal sector (Singh and Zammit 2000).

⁹Busse (2002) stands out as an exception. Stronger union rights as measured by the Freedom House civil liberties index and the OECD's (2000) union rights index are associated with lower trade ratios, with precisely estimated coefficients.

¹⁰For labor-intensive manufacturing exports, however, the association with trade union rights is highly sensitive to the classification of industries and model specification.

systematic changes in the legal structure governing labor markets (ADB 2005, FLA 2005).

B. Job Security

The most important regulations in the area of job security include no arbitrary dismissal and the right to a pension and retirement compensation. The literature on the effects of these regulations focuses on two areas: first, the impact on turnover rates and employment cyclicalities in the formal sector, and second, the impact on formal and informal sector employment. Stronger job security rights are expected to reduce job turnover rates, particularly for workers in the formal sector who have the least tenure, which may reduce costs of turnover for firms. Over the course of the business cycle, however, stronger job security rights are associated with lower variability of formal sector employment. These regulations make it more difficult for firms to let go of workers during economic slowdowns and raise labor costs. Further, the potential of high dismissal costs in the future discourage firms from taking on new workers during economic recoveries (Bertola 1990, ADB 2005). These costs help to explain empirical findings in Cooke and Noble (1998) that government restrictions on layoffs are negatively related to US FDI outflows.

The impact of job security rights on formal and informal sector employment has more ambiguities. The common argument is that these regulations limit employers' flexibility and raise worker costs, thus pushing workers from formal sector employment to the uncovered informal sector. Similarly, one would expect to see countries with weaker job security regulations to have less informal-sector employment. However, Galli and Kucera (2004) argue that there are short-term and long-term effects. In particular, if a country were to weaken its job security rights, the immediate impact would be more worker dismissals than hires in the formal sector, resulting in an increase in the share of workers in the informal sector. However, in the longer term as firms face relatively low costs associated with worker dismissal, the equilibrium outcome is a net gain in formal sector employment as firms restructure the composition of their workforce.

C. Terms of Employment

Terms of employment policies cover a host of worker needs and protections.¹¹ To limit the scope of the analysis in this broad area, we focus on

¹¹Note that alternative types of employment contracts are becoming more prevalent globally as firms are able to pursue these legally and thereby reduce the labor costs associated with a standing workforce. In most Asian countries, available data in Botero et al. (2004) indicate that part-time employees are not exempt from receiving benefits that are mandated for

three policies that can potentially increase labor productivity as well as affect labor costs and employment: the minimum wage, working hour restrictions for female workers, and maternity leave benefits. Although the *minimum wage* is primarily used as a vehicle for lifting the incomes of poor workers, the policy may entail distortionary costs.¹² Under assumptions of perfect competition, an increase in a binding minimum wage causes a decline in the demand for labor. Jobs become relatively scarce, and some workers who would ordinarily work at a lower market wage are displaced while other workers see an increase in their wage. Critics claim that employment losses can be large in developing countries, while advocates argue that employment losses are small, especially in industrialized economies. The prediction of adverse employment effects in developing countries is based on the existence of large informal sectors and high rates of disguised unemployment in these countries (World Bank 1995). The minimum wage primarily protects workers in the urban formal sector, whose earnings already exceed by a wide margin the earnings of workers in the rural and informal sectors. Employment losses in the regulated formal sector translate into more workers seeking jobs in the unregulated informal sector. The end result could be lower, not higher, wages for most poor workers.

In practice, there is limited compliance with minimum wage regulations and the minimum wage is subject to erosion in real terms (ADB 2005). Noncompliance is widespread in developing countries and is directly related to difficulty of enforcement (Squire and Suthiwart-Narueput 1997). Compliance is especially difficult to enforce in small firms in the informal sector. Moreover, the minimum wage is more binding and compliance is more costly in these firms since they tend to hire more unskilled workers, young workers, and female workers, who are paid lower wages on average. Noncompliance can take the form of outright evasion, legal exemptions for such categories as part-time and temporary workers, and cost-shifting through the avoidance of overtime premiums. Employers may also opt to comply with the minimum wage but reduce nonwage benefits that remain uncovered, such as paid sick days, holidays, health insurance, and retirement benefits.

Empirical evidence suggests that noncompliance can be greater for female workers. Rama (1996) finds lower compliance rates among female workers in Indonesia, while Squire and Suthiwart-Narueput (1997) show similar gender differences in compliance rates in Mexico and Morocco. Also, labor force participation rates drop more for women than men when the minimum wage rises relative to income per adult (Schultz 1990). In Indonesia, the minimum wage in 1994 amounted to roughly 60% of average wages for all workers, but over 80%

full-time employees. The evidence on benefits granted to workers covered by other types of contracts with fixed limits on the employment period is less clear. Such contracts bring workers less long-term job security (Standing 1999).

¹²This debate is carefully reviewed in Card and Krueger (1995).

of average wages for women (World Bank 1996). Because women are concentrated in labor-intensive manufactured export industries such as textiles and clothing, they are likely to experience the brunt of employment cutbacks that firms may make in order to reestablish their international competitiveness.

The most common types of *working-hour restrictions* are limits on overtime and night-work prohibitions. Overtime stipulations require firms to compensate workers with a higher wage for hours worked beyond the legal work day, and many governments constrain the number of overtime hours that workers may work. Night-work prohibitions constrain the time of day when workers can be employed. These restrictions, traditionally more severe for female workers, were once justified by the need to reduce the danger that women face when they travel to and from work late at night, and the need to have working women spend more time at home. When coverage differs by gender, these restrictions cause firms to have less flexibility in their hiring of female workers. Firms could substitute away from female workers toward male workers or capital, causing a reduction in women's total hours and employment.¹³ On the supply side, a night-work prohibition reduces women's flexibility in determining the time of day at which they work and, when binding, leads to fewer working hours. Overtime limits lower the cap on the number of hours that a worker may supply and, when binding, also lead to fewer working hours. The effect on employment depends on how women value the opportunity to work at night and to work extended hours. For example, overtime limits may encourage more women with family responsibilities who value shorter work days to join the labor force, causing a positive employment effect. Moreover, women with jobs in exploitative working conditions may welcome the prohibition of night work and strict limits on the number of overtime hours that employers can force them to work.

Empirical evidence on the labor market impact of working hour restrictions that differ by gender is mixed for industrialized countries and scant for developing countries. For example, Goldin (1988) finds that maximum-hours legislation did not change women's employment share in manufacturing and actually increased their employment share in sales, another covered sector. Shorter workdays appear to have encouraged more women with household responsibilities to enter the labor market. In contrast, in Taipei, China, overtime limits and night-work prohibition led to a significant reduction in both women's working hours and their employment compared to men (Zveglic and Rodgers 2003).

Finally, *mandated maternity leave benefits* can entail complexities that, if addressed through public finance, can lead to positive labor market outcomes.

¹³Hamermesh (1993) provides a summary of studies that estimate the substitutability between different groups of workers, between workers and hours, and between capital and labor.

When maternity benefits are financed by firms rather than the government, the mandate acts as a tax on the employment of the beneficiary. Firms' demand for young female workers declines in order to compensate for the expected cost of complying with the mandate. On the supply side, those workers who value the benefit will accept a lower wage for a given quantity of labor supplied (Summers 1989). Therefore, the supply of workers likely to use the benefits increases. These changes in labor demand and supply cause the relative wages of beneficiary workers to decline. The change in relative employment is indeterminate and depends on the differential values that firms and workers assign to the benefits. For example, for a mandated maternity leave, firms consider the wage cost of the paid leave, the probability that their workers take leave, and any costs involving temporary replacement workers. If leave benefits are financed mostly by the government, then the demand curve shifts less. The value that workers place on the leave benefits depends first on the level of compensation and duration of the leave. Workers may also assign value to the employment guarantees that generally accompany maternity leave legislation. Job-protected maternity leaves help women to maintain favorable job matches and to avoid search costs from seeking alternative employment.

Dynamic considerations can counteract the static restrictive effects of maternity benefits on labor demand. Waldfogel (1998) argues that maternity leave raises the probability that women will remain in the labor force and return to their former employer after childbirth. By strengthening women's attachment to the labor force and increasing their investment in firm-specific experience and training, a job-protected maternity leave can enhance the productivity of female workers. In this case one might observe higher wage offers from firms over time, possibly large enough to overcome the initial pecuniary cost of maternity benefits. Maternity benefits also have social benefits in the form of healthier women and infants, which provide the argument for their public funding.

Empirical evidence on the labor market effects of maternity leaves is mixed for industrialized countries and sparse for developing countries. Studies have generally found positive employment effects, although not always significant, in industrialized economies.¹⁴ The wage effect, which has been estimated as positive, close to zero, and negative, is more controversial. Research on mandated maternity benefits generally finds that wage changes for female workers following the mandate are either inconsequential or negative depending on the wage compensation rate, leave duration, and the degree to which employers bear the costs.

¹⁴Gruber (1994) has evidence for the United States and Ruhm (1998) for Europe.

V. LEGISLATION AND COMPLIANCE ACROSS ASIA

Since legislation relevant to a given labor standard or worker right does not indicate either enforcement of the law or firms' compliance with it, the analysis concludes with a comparison across Asian economies of legislation and compliance measures. How the PRC compares relative to other economies in Asia, especially in terms of compliance, indicates the extent of pressure on others to emulate the PRC. In terms of the core labor standards, most Asian countries' standing on the ILO conventions is poor. Several have not ratified ILO conventions prohibiting forced labor, child labor, and discrimination.¹⁵ Notably, PRC, Korea, and Viet Nam have not ratified either of the forced labor conventions (No. 29 and No. 105). India and Myanmar are not signatories to either of the child labor conventions that stipulate a minimum age for work (No. 138) and seek to eliminate the worst forms of child labor (No. 182), while Bangladesh, Cambodia, and Pakistan have not ratified one or the other of these conventions. Almost all Asian countries uphold the equal remuneration convention (No.100), while Lao PDR, Malaysia, Myanmar, Singapore, and Thailand have not ratified the discrimination convention (No. 111). The summary of legislation prohibiting child labor and discrimination in Asian economies in Table 3 shows that most countries set a higher standard in their national legislation than in their record on the ILO conventions. While all have regulations governing the use of child labor, there is wide variation in the minimum working age, with several countries permitting work below age 14. Most nations also prohibit discrimination, mostly via an equal-pay clause, but fewer than half of these countries go the next step by prohibiting sex-based employment discrimination. Published evidence on the impact of this type of legislation in Asia is limited but seems to point in the direction of little to no impact due to the lack of enforcement.¹⁶

Several Asian countries have not ratified either of the ILO conventions No. 87 and No. 98 that promote the freedom of association and collective bargaining rights. The PRC, India, Korea, Lao PDR, Thailand, and Viet Nam stand out in this regard. Table 4 shows that Asian countries vary considerably in terms of codified union rights. Several Asian countries do not recognize the right to unionize and collectively bargain in their constitution. Workers have some rights in the form of workers' councils instead of or in addition to unions. In terms of unionization rate (which includes the mandate to form workers' councils), several countries have lower unionization levels than the PRC. Most countries require third party arbitration of labor disputes and provide job

¹⁵Information on country ratifications of the ILO core labor standards is readily available from the International Labour Organization's APPLIS database (ILO 2005c).

¹⁶For example, Behrman and Zhang (1995) point to the lackluster performance of equal opportunity legislation in Asian developing economies.

protection for strikers. The labor laws in Asia thus combine highly restrictive worker rights with paternalism on the part of the state. Based on the legal framework and when multiple dimensions of union rights are considered, the PRC does not appear to be the country with the weakest union rights.

Table 3. **Indicators of Laws against Discrimination and Child Labor in Asia**

	Child Labor Minimum Working Age	Labor Discrimination Prohibited By Sex	Labor Discrimination Prohibited By Race
Newly Industrialized Economies and Japan			
Hong Kong, China	13	Yes	Yes
Japan	15	Yes	Yes
Singapore	12	No	Yes
Korea, Rep. of	15	Yes	No
Taipei, China	15	Yes	Yes
PRC and India			
PRC	16	Yes	Yes
India	14	Yes	Yes
Southeast Asia			
Indonesia	12	Yes	No
Malaysia	14	No	Yes
Philippines	15	Yes	No
Thailand	13	Yes	Yes
Viet Nam	18	Yes	Yes
Other Asian Economies			
Kazakhstan	16	Yes	Yes
Kyrgyz Republic	18	Yes	Yes
Mongolia	14	Yes	Yes
Pakistan	14	Yes	No
Sri Lanka	15	Yes	Yes

Note: The discrimination measures indicate if the economy has legislation that prohibits discrimination in the constitution, the labor code, or a special law. The minimum working age indicates the age at which a child can be employed in an apprenticeship or full-time outside the family business without requiring official permission.

Source: Botero et al. (2004).

Table 4. Indicators of Union Rights in Asia

	Collective Bargaining Rights				Collective Disputes			Unions
	Right to Unionize	Right to Bargain Collectively	Employers Must Bargain with Unions	Workers' Councils Mandated	Wildcat Strikes Legal	Third Party Arbitration in Dispute	Employers May Not Fire Strikers	Percent of Workforce Unionized
Newly Industrialized Economies and Japan								
Hong Kong, China	Yes	No	No	No	Yes	No	No	0.220
Japan	Yes	Yes	Yes	No	No	No	Yes	0.240
Singapore	No	No	Yes	No	Yes	Yes	Yes	0.240
Korea, Rep. of	Yes	Yes	Yes	Yes	No	Yes	Yes	0.138
Taipei, China	No	Yes	No	Yes	No	Yes	Yes	0.350
PRC and India								
PRC	No	No	No	Yes	No	Yes	Yes	0.140
India	No	No	No	Yes	Yes	No	Yes	0.030
Southeast Asia								
Indonesia	No	No	Yes	No	Yes	Yes	Yes	0.012
Malaysia	No	No	No	No	No	Yes	Yes	0.100
Philippines	Yes	Yes	Yes	No	Yes	Yes	Yes	0.120
Thailand	Yes	Yes	Yes	No	No	No	Yes	0.100
Viet Nam	Yes	No	Yes	Yes	Yes	Yes	Yes	0.500
Other Asian Economies								
Kazakhstan	Yes	Yes	Yes	Yes	No	Yes	Yes	...
Kyrgyz Republic	Yes	No	Yes	Yes	No	No	Yes	...
Mongolia	No	No	Yes	No	No	Yes	Yes	...
Pakistan	No	No	Yes	Yes	No	Yes	Yes	0.100
Sri Lanka	Yes	No	No	Yes	Yes	Yes	Yes	0.700

... means data not available.

Source: Botero et al. (2004).

These union rights, though, mean very little if they are not enforced. The Kucera indicator of trade union rights represents one attempt to quantify observance of freedom of association and collective bargaining rights as defined in the ILO conventions for 160 countries for the mid-1990s (Kucera 2004). The indicator is constructed on the basis of textual analysis of three well-known sources on labor standards using criteria on 37 types of violations of freedom of association and collective bargaining rights.¹⁷ According to the indicator, on average, workers in Asian countries have less trade union rights compared to other developing regions. This pattern holds when severity of the violations is taken into account (weighted) and when they are not factored into the indicator (unweighted). The average value of the weighted indicator for the 20 Asian countries reported in Figure 6 is 3.72 compared to the averages for Latin America (4.82), Sub-Saharan Africa (5.43), and Middle East-North Africa (3.90). When the severity of violations is factored in, most scores improve, indicating that the violations observed are relatively less severe. In a few countries (Cambodia, India, Nepal, Sri Lanka) the violations tend to be severe, reducing the scores on the union rights indicator. The PRC scores the lowest, along with Lao PDR, Myanmar, and Viet Nam, owing to the general prohibitions against formation of unions, union activity, and collective bargaining. This precedent could serve as a powerful negative incentive for other Asian economies in the post-MFA environment in terms of a further weakening of union rights.

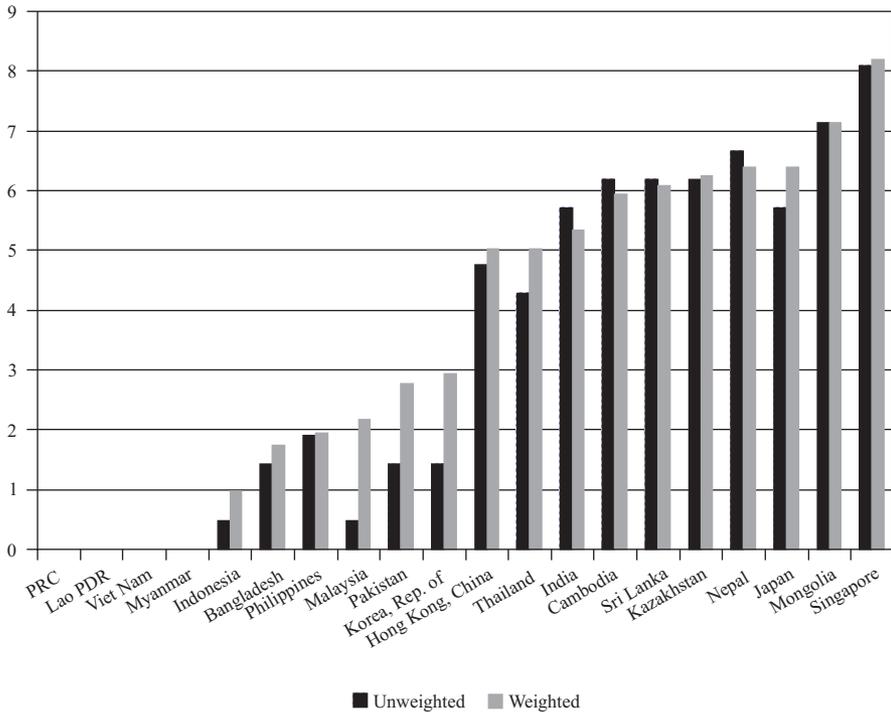
In terms of job security regulations, Table 5 points to a wide regional variation. Employers have anywhere from zero weeks (in Indonesia) to 13 weeks (in India) to give notice that they are dismissing a redundant worker, and the severance pay in this situation ranges from zero weeks in several countries to 25 weeks worth of wages (in Indonesia and Thailand). Although employers in most Asian economies are prohibited from dismissing workers without a just cause, workers in a few countries (including Malaysia and Thailand) are vulnerable to potentially unjustified dismissal. A number of countries, notably India and Sri Lanka, have legislation that requires larger employers to obtain prior government approval for collective dismissals and for the layoff of a single redundant worker, suggesting strong job protection for formal sector workers.¹⁸

¹⁷These sources are discussed in Kucera (2004). The coded violations are wide-ranging, and include murder or disappearance of union members or organizers (or violence against their families), dismissal for union activity, restrictions on right to unionize or right to strike in tradable/industrial sectors, and nonmembership in unions as a condition for employment.

¹⁸ India, Indonesia, Kazakhstan, Kyrgyz Republic, Philippines, Sri Lanka, and Viet Nam, have such legal requirements (ADB 2005). In India industrial establishments with 100 or more workers are required to seek prior approval from the relevant government authority, which verifies the validity of the retrenchment claim (i.e., that it is not sought as an unfair labor practice). Sri Lanka's Termination of Employment of Workers Act is broader in scope. It applies to firms that employ 15 or more workers in a wide range of industries. These firms must seek prior authorization from the labor commissioner to dismiss workers who have more

However, recent evidence indicates that due to either weak compliance or legislated options for firms in determining their employment levels (i.e., increasing employment under less certain contractual terms), workers experienced an erosion of job protections since the early 1990s (ADB 2005).¹⁹

Figure 6. Kucera Indicator of Trade Union Rights for Asia, Mid-1990s



Note: Economies that prohibit the right to establish and join unions or have general prohibitions of collective bargaining have a score of zero. Weighted indicator indicates the severity of violations, while unweighted indicator weighs violations equally.
Source: Kucera (2004).

than 6 months of service and must abide by the decision without recourse to appeal (ILO 2005d).

¹⁹For example, in India and the Philippines there is evidence of increasing use of contract labor and other forms of nonregular workers (e.g., piece-rate, part-time, commission workers) along with rising nonenforcement of or noncompliance with labor laws in the 1990s (ADB 2005).

Table 5. Indicators of Job Security in Asia

	Dismissal Procedures					Old-age Benefits	Unemployment Benefits
	Redundancy Notice Period	Redundancy Severance Pay	No-Cause Notice Period	No-Cause Severance Pay	Cost of Firing Workers	Benefits Index for Retirement, Disability, and Death	Social Security System Covers Unemployment
Newly Industrialized Economies and Japan							
Hong Kong, China	1.0	8.6	1.0	8.6	0.178	0.813	Yes
Japan	4.3	0.0	4.3	0.0	0.080	0.636	Yes
Singapore	2.0	12.9	Not allowed	Not allowed	0.604	0.585	No
Korea, Rep. of	4.3	12.8	Not allowed	Not allowed	0.617	0.597	Yes
Taipei, China	4.3	12.9	Not allowed	Not allowed	0.613	0.674	Yes
PRC and India							
PRC	4.3	12.9	Not allowed	Not allowed	0.599	0.560	Yes
India	12.9	6.4	Not allowed	Not allowed	0.623	0.429	No
Southeast Asia							
Indonesia	0.0	25.8	Not allowed	Not allowed	0.685	0.532	No
Malaysia	6.0	2.1	6.0	6.4	0.195	0.585	No
Philippines	1.4	12.9	Not allowed	Not allowed	0.575	0.614	No
Thailand	8.6	25.7	8.6	25.7	0.632	0.621	No
Viet Nam	6.4	12.9	Not allowed	Not allowed	0.621	0.622	No
Other Asian Economies							
Kazakhstan	8.6	8.6	Not allowed	Not allowed	0.605	0.585	No
Kyrgyz Rep.	8.6	4.3	Not allowed	Not allowed	0.569	0.574	Yes
Mongolia	4.3	4.3	Not allowed	Not allowed	0.527	0.479	Yes
Pakistan	4.3	0.0	Not allowed	Not allowed	0.485	0.551	No
Sri Lanka	4.3	0.0	Not allowed	Not allowed	0.484	0.583	No

Note: The first four rules refer to the length in weeks of the notice period for dismissing one redundant worker, severance pay for dismissing one redundant worker, notice period for dismissing one worker for no cause, and severance pay for dismissing one worker for no cause. The cost of firing workers is the ratio of the wage bill (after firing 20 % of a firm's workers) to the old wage bill. The old-age benefits index is an average of four normalized measures of old age, disability, and death benefits where higher values indicate more protection.

Source: Botero et al. (2004).

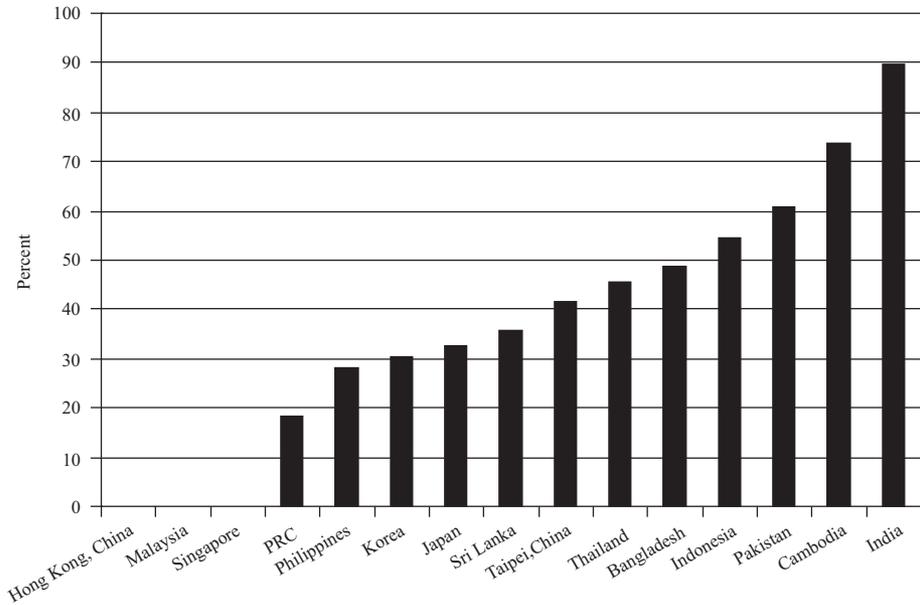
In legal terms the cost of firing workers is higher in Asia compared to other regions (as computed by Botero et al. 2004). Relatively high costs of firing workers in Indonesia, India, and Thailand translate into more worker protection, while in Hong Kong, China; Japan; and Malaysia, the low cost of firing workers corresponds with high flexibility for employers but less worker protection. Unemployment insurance has become more established in the newly industrialized economies, but this benefit is more of a rarity in the other Asian economies. According to these indicators, the PRC does not offer the weakest job security for workers in Asia: employers cannot legally dismiss a worker without cause, the redundancy notice period and the severance pay are not the lowest in Asia, and the cost of firing workers is relatively high. The PRC is among the small number of countries that have unemployment benefits, but its old-age benefits are less generous compared to other Asian countries. However, the fact that the PRC's labor laws do not appear to present restrictions on firms that seek to adjust their employment levels (ADB 2005) suggests that pressure on governments to weaken job protections for formal sector workers in Asia is likely to increase.

Turning to minimum wage laws, whether or not this legislation has much of a "bite" in terms of employment effects depends on the legal wage floor relative to prevailing wage rates. Figure 7 compares the monthly wage floor in local currencies to average monthly manufacturing wages in local currencies (Figure 7).²⁰ Among the sample countries for which we were able to obtain minimum wage data, three countries (Hong Kong, China; Malaysia; and Singapore) have no comprehensive minimum wage laws. Of the countries that do have minimum wages, the overall picture suggests that the minimum wage does not have much relevance for formal sector workers in much of Asia. The legal floor is quite high in Cambodia and India, with the implication that a large proportion of workers are earning the minimum.²¹ On the low end is the PRC, whose wage floor amounts to just 18% of average manufacturing sector wages. This ratio is at least 10 percentage points below all the other countries, which suggests that there will be increasing pressure on Asian governments to resist raising their minimum wage levels.

²⁰For those economies that only reported hourly, daily, or weekly wages, we converted to monthly wages assuming 8 hours per day, 5 days per week, and 4 weeks per month. For economies with multi-tiered minimum wage structures, we used the minimum wage most relevant to the overall manufacturing sector. All data are for 2003 or the closest year possible.

²¹At the high end, India has a number of minimum wage rates set by the government for some sectors and by collective agreement for others. For Figure 7, we used the ILO-cited (2005b) minimum wage of 52 rupees/day for the lowest minimum wage level, set for unskilled workers in rural areas (the minimum wage for unskilled workers in urban areas is higher). This wage level, multiplied by 20 days/month, amounts to 90% of average manufacturing sector wages of 1158.6 rupees/month (ILO 2005a).

Figure 7. Statutory Minimum Wages as a Share of Average Manufacturing Wages, 2003



Sources: ILO (2005a and 2005b), US DOL (2000).

Working-hour restrictions are widespread in Asia (Table 6). The PRC is among the countries that stipulate the lowest statutory work hours in Asia, where the norm is 8 hours per day /48 hours per week. Night-work prohibition is common in Asia, although the severity of the legislation varies considerably. For example, Thailand deviates considerably from the ILO standard by starting the restricted hours at midnight and specifying only six consecutive hours of rest. At the other extreme, Indonesia requires women to end work by 6:00 p.m. and not resume work before 6:00 a.m. Bangladesh, Myanmar, and Pakistan ban night work by women entirely.²² Special overtime limits for female workers are less common. Most Asian countries have adopted overtime limits for their workers while fewer than half of these countries have overtime limits that differ across sex. Some countries, such as India and Bangladesh, ban overtime work for women but not for men. There is evidence that the dormitory arrangements in industrial enterprises in the PRC are conducive to violations of the PRC's hours regulations (FLA 2005). The PRC is one of the few countries that do not restrict women's working hours at night, and it does not stipulate overtime limits that

²²India's national labor law also bans women's night work, but in 2005 the Cabinet approved an amendment to the Factory Act that would allow women to work late-night shifts. According to media accounts, the Act is being amended following court proceedings and legal cases made by women's groups.

differ for women and men. Its gender-egalitarian approach in hours regulations is likely to put pressure on its poorer Asian competitors to follow suit, but such a change will help women only if they no longer face the dangerous or exploitative work conditions from which the regulations are protecting them.

Maternity leave provisions are just as prevalent among Asian countries as they are in other regions of the world. Leave benefits in the East Asian newly industrialized countries are among the least generous in the region (Table 6). For example, Singapore and Taipei, China have just 8 weeks of maternity leave, albeit at full pay. At the other extreme, Viet Nam's legislation calls for 4–6 months of fully paid leave. The PRC offers a 3-month, paid maternity leave that is fully financed by employers, which is the most common arrangement in Asia. Asian governments tend to mandate paid maternity benefits without funding them, which contrasts with other regions. In terms of enforcement, evidence in Zveglic and Rodgers (2003) for Taipei, China indicates that only after the administration began to strictly enforce the 1984 Labor Standards Law did the maternity leave provisions begin to have a positive impact on women's employment. Further evidence from Malaysia indicates that of all cases when women employed in the covered formal sector were eligible for a maternity leave, fewer than one half resulted in a leave received (Bernasek and Gallaway 1997). This result could reflect either poor compliance among firms or a lack of worker awareness of the policy. Lack of awareness is also problematic in Bangladesh, where a survey of female clothing workers showed that few knew they were entitled to paid maternity leave (World Bank 1995). Fear of job loss if the leave is taken could be a further concern among women workers, particularly if employers signal such threats.

Table 6. Terms of Employment that Differ by Gender

	Statutory Work Hours	Overtime Limits for Men	Overtime Limits for Women	Restricted Hours for Women	Maternity Leave Duration	Portion of Leave Employer-financed
Newly Industrialized Economies and Japan						
Hong Kong, China	8/day, 48/week	—	2/day, 200/year	23:00-6:00	10 weeks	80% (0%)
Japan	8/day, 40/week	—	6/week, 150/year	22:00-5:00	14 weeks	0% (60%)
Singapore	8/day, 44/week	4/day, 72/month	Same as men	—	8 weeks	100%
Korea, Rep. of	8/day, 48/week	12/week	2/day, 6/week, 150/year	22:00-6:30	60 days	100%
Taipei, China	8/day, 48/week	3/day, 46/month	2/day, 24/month	22:00-6:00	8 weeks	100%
PRC and India						
PRC	8/day, 40/week	3/day, 36/month	Same as men	—	90 days	100%
India	9/day, 48/week	3/day, 12/week	0/day	19:00-6:00	12 weeks	0% (100%)
Southeast Asia						
Cambodia	8/day, 48/week	2/day	Same as men	—	90 days	100%
Indonesia	7/day, 40/week	14/week	Same as men	18:00-6:00	3 months	100%
Lao PDR	8/day, 48/week	3/day, 30/month	Same as men	22:00-5:00	90 days	0% (100%)
Malaysia	8/day, 48/week	4/day	Same as men	22:00-5:00	60 days	100%
Philippines	8/day, 48/week	—	Same as men	22:00-6:00	60 days	0% (100%)
Thailand	48/week	—	Same as men	24:00-6:00	90 days	100%
Viet Nam	8/day, 48/week	4/day, 200/year	Same as men	—	4-6 months	0% (100%)
Other Asian Economies						
Bangladesh	9/day, 48/week	1/day, 12/week, 416/year	0/day	20:00-7:00	12 weeks	100%
Mongolia	8/day, 46/week	4/2 days, 120/year	Same as men	—	101 days	0% (100%)
Myanmar	8/day, 44/week	—	0/day	18:00-6:00	12 weeks	0% (67%)
Nepal	8/day, 48/week	4/day, 20/week	Same as men	18:00-6:00	52 days	100%
Pakistan	9/day, 48/week	—	0/day	19:00-6:00	12 weeks	100%
Sri Lanka	8/day, 48/week	4/day	Same as men	22:00-5:00	12 weeks	100%

— means not applicable or not stated.

Note: The share of the maternity leave financed by public funds is in parentheses in the last column.

Source: Nataraj, Rodgers, and Zveglic (1998).

VI. POLICY OPTIONS

This study has demonstrated a strong economic rationale for increasing compliance with labor-market regulations that are consistent with fundamental worker rights, job security, and fair terms of employment. Empirical evidence indicates that regulations consistent with the ILO's core labor standards have a positive impact on exports and FDI, with improvements in the quality of human capital and political stability serving as the key channels that outweigh any static costs. While labor laws that provide greater job security and better terms of employment can entail trade-offs, empirical evidence suggests that these trade-offs are offset through dynamic channels and may entail benefits for society at large. Hence greater compliance with labor standards is a viable option for Asian textile and clothing producers that are adjusting to the new post-MFA trade rules. Asian countries may also consider combining an export strategy with a strategy that orients their production structures toward greater reliance on domestic demand. This approach is more compatible with higher wages, stronger labor standards, and a higher quality of growth.²³

Yet the PRC's lower labor standards and especially its poor compliance record are likely to generate pressure on its competitors to weaken enforcement of their labor regulations in a number of areas: union rights, minimum wage, and working hours. While the PRC does set a higher standard in a number of other labor regulations, such as child labor and maternity leave benefits, rather than emulate the PRC, its competitors may be tempted to achieve lower labor costs by resisting any improvements in these areas as well. For sustained industrialization to occur, this study has argued that Asian countries take the "high productivity" route to growth rather than the "low wage" route by ratifying core labor standards and promoting adherence through domestic legislation and enforcement. Whether or not the high-road strategy retains support as Asian economies adjust to the post-MFA trade regime in textiles and clothing is an area for active research.

Asian countries generally have paternalistic regulatory structures for labor markets that grant workers limited rights while at the same time seeking to protect workers through a variety of other means. These countries must seek to broaden the set of basic worker rights, update and enforce existing legislation, and implement regulations that have strong positive impacts on human capital. Although legislation on the terms of employment is widespread among Asian economies, evidence indicates that a significant number of all workers are either not covered by the legislation, unaware they are entitled to benefits, or employed in covered firms that fail to comply with the legislation. Measures such as safe

²³See Palley (2004) for arguments in favor of a strategy based more on domestic demand, and Felipe and Lim (2005) for evidence on the contribution of both exports and domestic demand to macroeconomic performance across Asia.

workplace conditions, overtime pay, and paid benefits, although potentially costly to implement, promote lower turnover rates, improved well-being for workers, and extended firm-specific tenure. As a policy priority, these measures need to be provided to a broader range of workers by removing exemptions and promoting awareness of benefit availability. Measures to back mandated benefits with public funds, ideally through a system of national insurance, can go a long way to ensuring greater compliance among firms.

Some job security measures, which appear to impose higher costs on employers compared to the PRC's regulations, could be revised if they are deemed to have outlived their usefulness. For example, working-hour restrictions for female workers ought to be removed once the measures can no longer be justified by dangerous and exploitative working conditions. Working-hour restrictions that constrain women more than men can hinder women's progress toward equity in the labor market. The measures contribute to the exacerbation of occupational segregation by sex as some employers become resistant to hiring women who have less flexible working-hour options. Another example is the regulations that make it exceedingly difficult or expensive for firms to let go of workers in times of structural change. These restrictions may be relaxed provided public systems are in place to alleviate the inevitable hardship for workers.

Consumer demand for products made under "sweat-free" conditions can also be effective in moving to higher labor standards. There are hundreds of nongovernment organizations (NGOs) that monitor whether companies are abiding by codes of conduct, and high-profile incidents in the media have made compliance a real issue. These NGOs are often organized into larger monitoring groups, such as the Fair Labor Association, the Collegiate Licensing Company, and Worldwide Responsible Apparel Production, with the resources to track violations and put pressure on major retailers in textiles and clothing to comply with standards. With this pressure and the negative consequences of media exposure in the case of noncompliance, particularly in the last decade, corporations are paying more attention to labor standards in the countries where they produce or buy their products. Most major retailers and manufacturers now have their own compliance programs, with each program establishing a set of guidelines under which a factory must operate. Programs are administered by company-employed inspectors or by independent audit companies. The prevalence of these codes of conduct and firms' efforts to enforce them in the factories from which they source may go a long way to improve working conditions and to significantly reduce the incidence of child labor and forced labor in textiles and clothing.

Even if consumer-led corporate codes of conduct are proliferating, relying on companies to self-regulate compliance is not sufficient, especially in light of strong consumer demand for low-cost clothing, the lack of agreement among corporations and monitoring groups over a common set of labor standards, and

the large number of factories and subcontractors that remain outside the scope of private monitoring efforts. Government enforcement, hence funding for viable enforcement structures, thus remains a top policy priority. Asian countries have comprehensive labor codes, yet these labor laws mean little without adequate enforcement. As an example of a policy action to remedy enforcement shortcomings, Taipei, China's administration backed up its 1984 Labor Standards Law with the creation of a cabinet-level enforcement agency. Within just a few years, this agency had inspected thousands of establishments and penalized close to half the employers with fines and court sentences. The Labor Standards Law had little observable impact on labor market outcomes until after these enforcement remedies. This example contains fruitful lessons for other Asian governments, particularly as they seek effective measures to improve workforce productivity in the race to capture post-MFA markets in textiles and clothing.

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Employment Generation for the Rural Poor in Asia: Perspectives, Patterns, and Policies

ROEHLANO M. BRIONES

This paper reviews the literature on rural employment and employment generation. It considers three models of rural employment: neoclassical, dual economy, and dynamic linkages. Evidence favors the third model, which explains rural underemployment in terms of labor surplus, and points to local economic linkages as a means for the rural economy to absorb its own surplus labor. The paper summarizes other patterns particularly in relation to the determinants of rural employment, and enumerates elements of an employment strategy for rural Asia. Two of these elements remain controversial, namely, asset reform and prioritization of agriculture. In some cases both elements prove to be beneficial in terms of generating employment; however the evidence is not sufficiently conclusive for a generalization. Hence the rural employment strategy, while rightfully focusing on the rural economy, should be flexible in terms of specifying the mix and focus of interventions within the sector.

I. INTRODUCTION

Labor is a factor of production that the poor possess in relative abundance. Reducing poverty entails the provision of decent work opportunities for the poor. As poverty in Asia remains largely a rural phenomenon, employment generation is a key strategy in reducing rural poverty. In the neoclassical model of rural employment generation, labor market allocation is viewed as efficient. Hence, the potential for further employment expansion is minimal. Employment policies may aim at increasing returns from employment through skill formation and promoting technical change; however there is no justification for a special treatment of rural areas. In the dual economy model, the pervasiveness of market failure in the rural economy is recognized. Underemployment is considered as a serious problem; however, the main engine of employment generation is the urban and not the rural economy. The third model, dynamic linkages, likewise recognizes the underemployment problem, but identifies the rural economy itself

Roehlano M. Briones is Senior Fellow of Brain Trust, Inc., a private consulting firm on sustainable development based in Manila. An earlier version of this paper was prepared as a background paper for the special chapter of *Key Indicators 2005* ("Labor Markets in Asia: Promoting Full, Productive, and Decent Employment") published by the Asian Development Bank (2005).

as the main source of employment. The key to employment generation is the sustained expansion of nonagricultural activities in rural areas.

Each of the three models has dramatically different implications for policy. Identifying the right facts about rural employment is therefore crucial for formulating an employment strategy. The weight of the evidence favors the third view. Based on this and other stylized patterns, one may identify the elements of a rural employment strategy that offers the best prospect for sustained poverty reduction.

This paper synthesizes theoretical and empirical work on the broad theme of rural employment generation. The review is organized around the three different perspectives of the rural labor market. The rest of the paper is organized as follows: Section II discusses the three models of rural employment in greater detail. Section III compares the evidence for the three models. Section IV examines more evidence, highlighting factors that determine patterns of rural employment. Section V draws implications for the rural employment strategy. Section VI concludes.

II. MODELS OF RURAL EMPLOYMENT

A. The Neoclassical Model

The neoclassical model assumes that labor markets are flexible and wages clear the market. The economy therefore operates at full employment, where labor is paid its marginal product. As pointed out in Rosenzweig (1988), the neoclassical model may be more relevant to the rural setting, where the ideal of free and flexible markets is more closely approximated. Of course regulation and organized labor are not literally absent in rural areas; in some countries, government regulations do reach rural labor markets (for example, migration restrictions in People's Republic of China [PRC]), and agricultural labor may be unionized (for example, in many plantations). Relatively speaking though, the notion of an unregulated informal sector is highly applicable to the rural economy.

There are three immediate challenges to the neoclassical model: first is the presence of unemployment or underemployment; second is the diversity of wages, suggestive of market segmentation; third is the prevalence of self-employment, which seems to be outside the standard depiction of workers hiring themselves out for wages.

The model however can be extended to incorporate these features. One can incorporate a "natural" rate of unemployment corresponding to unavoidable frictions in matching labor supply with labor demand. Another important extension is the concept of "human capital", embodied in labor. The diversity of wages observed in labor markets may simply be reflecting payments for different

marginal productivities, created by previous investments in education and skill formation. Lastly, self-employment can be incorporated by introducing an agricultural household model. The household is endowed with labor and assets (including land). These endowments can be sold to a factor market, or employed in household production. The household maximizes utility from consumption and leisure, subject to the factor endowment, factor prices, and the household production function. Self-employment results from the allocation of household labor time to household production. Depending on the land-labor ratio, the household may be a net supplier or net buyer of labor.

Based on this model, the economy will exhibit little potential for generating more jobs, as the labor market is already at or near full employment. Rather, employment generation will be limited to increasing the productivity of labor. This is done by human capital formation, which improves the quality of the labor being supplied; another measure is to promote labor-augmenting technical change, which (by raising labor productivity) increases the derived demand for labor. Even so the neoclassical model does not justify a special treatment for rural employment.

B. The Dual Economy Model

Contrary to the neoclassical model, the dual economy model takes seriously the existence of unemployment and underemployment. As originally conceived by Lewis (1954), the economy is divided into a traditional and a modern sector. In the traditional sector, the relative abundance of labor drives its marginal product practically to zero. The wage however remains above the marginal product, as wages are determined by social sharing conventions related to average product. The result is surplus labor in the traditional sector. Meanwhile the wage in the modern sector is an exogenous differential above the traditional sector wage.

Under this model employment generation certainly make sense as a distinct policy goal. However the model takes a very dim view of employment potential within the traditional sector. Rather, it is capital accumulation in the modern sector that is responsible for the absorption of surplus labor. During the initial stage of this process, the marginal product of labor in the traditional sector remains low and wages are constant; eventually the reallocation of labor raises its marginal product. Ultimately wages equalize between the two sectors, marking the transition from the dual to the neoclassical stage of economic development.

Under this formulation, surplus labor may be present in the gamut of casual occupations both within and outside agriculture. Such occupations disguise unemployment among workers who are not actually working at full capacity. The explicit identification of the surplus labor sector with subsistence agriculture was

made by Ranis and Fei (1961). Since then the dual economy model has been taken to mean that agriculture is the traditional sector, while urban-based manufacturing is the modern sector. Accordingly, long-run growth and the provision of decent work require mass migration from the countryside to urban-based industries. Nevertheless, productivity growth in agriculture remains necessary to ensure adequate food supplies for both urban and rural populations.

Even from Malthus' time, the limited labor requirement of agriculture has been fairly well understood. Hence, the stereotype association of rural areas with agriculture is largely responsible for the notion that the rural economy has a weak employment potential. Hymer and Resnick (1969) were first to call attention to the rural nonagricultural economy; however, instead of refuting the notion of limited local employment opportunities, their study simply reinforced it. In their model, nonfarm activities arise from the autarky-like condition of backward rural areas. These nonfarm activities produce nontradables, called "Z-goods", composed of inferior products and services, and low-productivity manufacturing. Rural development entails market integration and trade with the mainstream economy, which leads to increasing specialization in agriculture and displacement of the Z-goods sector.

Once Z-goods and surplus labor had been conceptualized, the temptation to link the two became irresistible. For example, the monsoon economy hypothesis (Oshima 1986a and 1986b) associates swings in nonfarm employment with the agricultural cycle in monsoon Asia. Farm employment is divided into absolute and seasonal components. The latter is reserve labor for farm work during the peak agricultural season, and is channeled to nonfarm work during off-peak periods (Choe 1986). Surplus labor in rural areas is now seen to be disguised in the form of casual labor in both farm and nonfarm activities, that is, in Z-goods production (Mazumdar 1999).

C. The Dynamic Linkages Model

From the 1970s onward however, an alternative view of the rural nonfarm sector has gained prominence. Mellor (1976) and others argued that rural nonfarm activities play a vital role in propelling and sustaining growth in the rural economy. Agriculture remains important in the initial stage, as it catalyzes the development process by undergoing modernization. As the income of agriculture-dependent households increases, due to their higher propensity to consume locally made goods, demand for rural nonfarm goods increases. Labor is reallocated from the farm to the nonfarm sector as food supply and labor productivity in the former rises. Mutual causation drives the growth process, as the nonfarm sector supplies inputs to agriculture and in turn is supplied raw materials for processing (Timmer 1988). According to this line of thinking (Rosegrant and Hazell 2000, 81):

During the economic transformation, the emergence and rapid expansion of the nonfarm economy in rural areas and the towns that serve them becomes a major source of growth in incomes and employment. From a relatively minor sector, often largely part-time and subsistence-oriented in the early stages of development, the rural nonfarm economy develops to become a major motor of economic growth in its own right, not only for the countryside but for the economy as a whole.

Ranis and Stewart (1993) show how a simple extension of Hymer-Resnick analysis can reverse the prediction of a vanishing rural nonfarm economy. They differentiate between *traditional Z-goods* and nontraditional or *modern Z-goods*; from the consumer's viewpoint, modern Z-goods are comparable in quality to imported products or urban-manufactures. With increased productivity of nontraded agriculture (in staples), modern Z-goods production in the rural economy expands together with export-oriented agriculture.

The concept of surplus labor makes an analogy to Keynesian unemployment inevitable. As a counterpart to the aggregate demand multiplier, the rural development literature formulates localized, value-added multipliers (Bell and Hazell 1980, Haggblade and Hazell 1989). The value-added multiplier arises from intermediate demand linkages between farm and nonfarm sectors in the rural area, consumption linkages with a household sector, and existence of excess capacity as exemplified by surplus labor. These multipliers may be calculated through social accounting matrix analysis (Pyatt and Round 1979 and 1985) conducted at the community level. The multiplier approach synthesizes the surplus labor model with the production linkages framework of Hirschman (1958), although departing from the latter's pessimism regarding the linkage prospects of agriculture.

Most recently, a few studies have shown that surplus labor and undercapacity are not the only means for deriving demand multipliers. These multipliers may be obtained from "new economic geography" models, which assume locally increasing returns in the rural nonfarm sector. Fafchamps and Helms (1996) model a village economy with multiple equilibria, arising from nonhomothetic preferences combined with internal economies of scale. These features lead to local externalities, which may place the village economy in a poverty trap. The multiplier effect is observed as rural industrialization propels the village economy from a low-level to a high-level equilibrium. Another rural poverty trap is obtained by Murata (2002) from insufficient specialization in agricultural intermediate inputs, arising from insufficient labor supply to this sector.

It is premature to say whether the presence of scale economy models will replace surplus labor as the main explanation for a multiplier effect. One crucial difference is that in the excess capacity models, any demand injection is expected to have a multiplier effect, whereas in the new economic geography models, a boost must exceed some critical threshold to have a multiplier effect. Reinert (1998) hints that a synthesis of underemployment with increasing returns should make for more empirically useful models.

III. RURAL EMPLOYMENT: THE EVIDENCE

A. The Existence of Surplus Labor

Lack of employment seems to be a pervasive feature in rural labor markets. Dasgupta (1993) cites studies for India showing that even during peak agricultural periods, unemployment of casual workers can range from 14% to 20%. Note however that lack of employment need not show up as outright unemployment, but may be more accurately captured by underemployment. For 2000, labor survey data for India estimated about 11% underemployment among males, and about 8% among rural females (NSSO 2000). For the PRC, data cited in Brooks and Ran (2004) arrives at a figure of about 150 million underemployed rural workers in 2002 (about 20% of the total labor force). The proportion has remained relatively stable, i.e., earlier estimates set the surplus labor at 25% of the rural labor force in the 1980s (Banister and Taylor 1989).

For Indonesia, Wiebe (1996) finds that 13% of the rural labor force is underemployed. Half of underemployment is accounted for by workers under 30 years of age (who make up less than a third of the labor force); nearly 80% of underemployment is accounted for by workers under 40 (who comprise about 60% of the labor force). That is, underemployment is not concentrated among older and presumably less productive workers about to exit the labor force. Finally, workers in farming and plantation agriculture have above-average levels of underemployment. Among the classified occupations, the highest rates of underemployment are found for livestock, fisheries, forestry, and hunting.

These magnitudes and patterns appear to warrant an explanation beyond mere frictions in the labor market. The more natural interpretation is that persistent underemployment represents surplus labor. However, several studies do suggest the presence of measurement error in reckoning underemployment. For example, the massive surplus labor figures for the PRC are considered highly overestimated (Ng et al. 2000). On the other hand, also for rural PRC, another study has found that during macroeconomic downturns, agriculture has shown a capacity to reabsorb labor it had earlier contributed during periods of high aggregate demand (Zhang et al. 2003). This is consistent with a hypothesis of disguised farm unemployment.

B. The Agricultural Household Model

Self-employment is common in agriculture. For example, in Bangladesh a survey of rural households in 2000 shows that agricultural self-employment is the primary occupation for 36.7% of households, whereas agricultural wage employment is the primary occupation for only 11.8% (Hossain et al. 2003). Similarly, in a Philippine village, off-farm agricultural work accounted for only 16% of household agricultural income (Leones and Feldman 1998). A survey of villages in India for 2001 shows that agricultural wage labor accounts for as low as 29% of farm employment (Som et al. 2002).

The agricultural household model, as exemplified by the family farm, provides an obvious explanation for this form of employment. It also provides a framework for stating more rigorously both the neoclassical and surplus labor perspectives. Sen (1966) shows that if labor markets are missing entirely, then the agricultural household can disguise unemployment by keeping the family workers on-farm, even though these workers are redundant at the margin. On the other hand, the neoclassical model requires complete markets that adhere to the law of one-price (that is, free of market segmentation). Both types of assumptions yield their respective testable predictions. Under the missing-markets assumption, household production should be highly (at the extreme, perfectly) inelastic to marginal changes in the household labor endowment. On the other hand, under the complete-markets assumption, agricultural households behave in accordance with separability: allocation of household resources should be determined purely by profit maximization, and would be independent of household preferences.

The empirical literature has addressed these polar hypotheses. Rosenzweig (1988) points to a number of instances in which the hypothesis of inelastic household production fails the empirical test. As a matter of fact, household production does fall when a family worker detaches from the household. However the opposite extreme of complete markets (a standard feature in market clearing and neoclassical models) also appears to be empirically unfounded. The evidence for separability is mixed, at best; the majority of the studies reviewed in Behrman (1999) reject the assumption.

The reality is not as extreme as the hypothesis of complete or missing markets. Nevertheless, within this large middle ground, the existence of surplus labor is perfectly possible. As discussed above, accepting its existence appears to be a more natural approach to reconcile the available data on underemployment.

C. Wage Rigidities

The neoclassical and the dual economy models make very different assumptions about wage setting. While the neoclassical model treats wages as

flexible and competitively determined, the dual economy model requires wage rigidity. Wages are based on average rather than marginal product of labor, consistent with sharing rules. However, critics of the dual economy model find appeals to social convention too *ad hoc*, and cite the absence of microfoundations for the alleged wage rigidity. The closest candidate for such a microfoundation is the nutrition efficiency wage. That is, wages that are too low, i.e., below subsistence, reduces the productivity of labor by not allowing enough food consumption. However, empirical confirmation remains elusive; Swamy (1997) for example reviews the available evidence and finds that adequacy of nutrient intake alone could not account for the patterns in the data.

But wage rigidity, in the sense of some dualism between urban and rural factor returns, does show up in the data, for example, in cross-country income regressions (Bourguignon and Morrison 1998). Other than cross-section data, time series information on wages provides additional confirmation. There is a time lag between the period of accelerated productivity growth in agriculture, and the subsequent increase in real wages. This experience has been observed in England (1780–1840); Japan (1870–1920); and Taipei, China (1950–1970). This is consistent with the turning point prediction in the dual economy model, but is not readily explained within a neoclassical framework (Ranis 2004). In short, there is some underlying wage rigidity that needs to be explained, though the explanation (in terms of microfoundations based on optimization) is yet to be found.

D. Employment Composition by Sector

The stereotype of rural as being almost entirely agricultural is refuted by data from village and household surveys worldwide. For Asia, Reardon et al. (1999) find that an average of 44% of rural employment is accounted for by nonfarm activity. For Bangladesh, Indonesia, and Sri Lanka, in 1986 about 34–55% of the rural labor force was engaged in nonfarm activity (Ahmed 1996). The large magnitude of the employment share is consistent with findings on income share. Reardon et al. (1999) averages estimates of the nonfarm income share in rural income, and arrives at a figure of 32% for Asia (35% for East Asia and 29% for South Asia).

A more detailed sectoral breakdown is found in Table 1 with respect to sector of primary occupation. The composition of employment varies widely across countries. These figures are comparable to estimates by Chuta and Leidholm (1979), who indicate a band for manufacturing of around 22–46%. Anderson and Leiserson (1980) meanwhile estimate the breakdown as follows: 20–30% for manufacturing, 20–35% for services, 15–30% for commerce, 10–20% for construction and transport, and the rest in other employment. Islam (1996), reviewing several nationwide surveys in Asia, reports that between 18%

and 34% of the labor force engaged in nonfarm activities is found in manufacturing.

Table 1. **Nonfarm Employment in Rural Areas as a Proportion of Total Employment and Sectoral Breakdown (percent)**

Country	Nonfarm	Manufacturing and Construction	Services	Others (not elsewhere classified)
Bangladesh (1991)	39.9	10.2	35.4	50.2
Sri Lanka (1981)	44.3	26.4	51.5	22.1
India (1994)	23.0	42.3	53.1	4.6
Indonesia (1995)	36.9	33.2	66.6	2.2
Thailand (1996)	50.1	50.8	46.9	1.3

Source: Based on data from Rosegrant and Hazell (2000).

Contrary to the Hymer-Resnick prediction, the rural nonfarm sector appears to expand rather than contract over time. Lanjouw and Lanjouw (2001), in their evaluation of data sets in developing countries, suggest that employment and income shares of the nonfarm sector have on the whole been growing. Moreover, there is some evidence for a shift toward services and away from manufacturing, at least for the smaller, developing localities. The most prominent example of a declining share of agriculture in the rural economy is found for East Asia (Table 2). The exception seems to be Republic of Korea (Korea). Nevertheless, even for Korea, from the 1980s onward, the share of off-farm income in farm household income continued to rise, albeit gradually (relative to the other East Asian high performers), from 22% in 1983 to 41% in 2000 (Suh 2004).

Table 2. **Percentage Shares in Income of Farm Households in Selected Asian Economies**

Japan		Taipei, China		Korea		PRC	
Year	On-farm Income	Year	On-farm income	Year	On-farm Income	Year	Primary Sector ^a
1950	73.0						
1955	71.4						
1960	55.0			1962	84.6		
1965	48.0	1966	72.9	1965	84.3		
1970	36.5	1970	54.7	1970	82.1		
1975	33.6	1975	51.9	1975	86.3	1978	68.6
1980	21.1	1980	34.2	1978	79.7	1980	68.9
						1983	66.7
						1985	57.1
						1987	49.6
						1990	46.0

^aColumn figures denote shares in total product of rural areas.

Sources: Japan; Korea; and Taipei, China from Oshima (1986b); the PRC from Chadha (1992).

Increasing rural diversification has also been found in other countries that have undergone rapid growth. For example in Indonesia, nonfarm earnings rose from a quarter to a half of rural income over a 10-year period (1983–1992), when economic growth averaged 8% per annum (Tambunan 1997). For other Southeast Asian countries the change may not have been so dramatic. In Thailand, the nonfarm share in rural income grew from 46% in 1972 to 63% in 1996 (Onchan 2004). Even slower is the case of Pakistan, which has not entered a phase of rapid and sustained growth. The share of nonagricultural work in rural employment stood at 31% in 1980, and by 1997 the share had risen to less than 40% (Khokhar 2004).

For India the changes in sectoral composition are also gradual; however if one examines the absorption of incremental labor force in the 1990s, a sharp contrast emerges. From 1993 to 2000, in the wake of economic reforms, agriculture absorbed only 22% of the additional rural labor force, as against a 63% absorption in the previous decade (1983–1993). Industry meanwhile absorbed 48% of the additional rural labor force, while services employed 30%. Within manufacturing, 80% of the employment generated for the incremental labor force was for agromanufacturing activities (Chadha 2003).

E. Form of Employment in the Rural Nonfarm Sector

While self-employment is clearly the dominant form of farm employment, it is unclear whether the same holds true for nonfarm employment. If it does, then this suggests the possibility that nonfarm self-employment, parallel with agricultural self-employment, functions as a “sponge” to soak up surplus labor. Some evidence points to the prevalence of self-employment in the nonfarm sector: For a group of Bangladeshi rural households reporting nonfarm employment as the primary occupation in 2000, only one third report wage labor as the main form of employment (Hossain et al. 2003).

The finding is not surprising given that the bulk of rural firms may be classified as microenterprises, with as much as 85% employing fewer than five persons (Leidholm and Mead 1987). In Bangladesh, India, and Pakistan, at least 80% of manufacturing employment is in small and cottage industries; for Nepal and Thailand the shares are, respectively, 96% and 64% (Islam 1986). Hence in a survey of Bangladesh rural enterprises, it is found that paid employment is a low proportion of nonfarm work (Varma and Kumar 1996).

However, if employment is measured at the household level (rather than at the community level) there are indications that wage employment is the more dominant form, considering that household employment income includes migrant remittances. Data reviewed in Saith (1991) suggest that wage and salary employment has been rising in importance within rural nonfarm employment over the decades. This is seen in several villages in the Philippines, where longitudinal

data suggests an evolution of employment form from farm self-employment to wage employment. By 1994, as much as 70% of nonfarm income came from wage employment (Estudillo and Otsuka 1999). Similarly, for the PRC back in 1981, nearly 85% of rural individuals were fully involved with farming. Off-farm workers were three times more likely to reside in their own homes than to live away from home. However, by 2000 residence of off-farm workers were nearly evenly split between home and off-home. Workers continued to send home part of their income; some data indicate that such remittances account for up to 20% of rural incomes (Zhang et al. 2003).

F. Diversity of Labor Earnings

For rural households in the Philippines, Leones and Feldman (1998) calculate average household earnings per day by activity (incorporating information on time per task). Observed variations in daily earnings within the categories of agricultural work are large, as are variations between various types of nonfarm work. On average daily earnings in on-farm work is 48% higher than daily earnings in agricultural off-farm work. Nonfarm work earns 19% more on a daily basis, and is therefore more remunerative than on-farm work. In fact the highest daily earnings are provided by certain types of nonfarm work, such as government employment (116% higher), trading and hauling (77% higher), and carpentry (53% higher).

This diversity has led some authors to abstract a dual structure of earnings in the nonagricultural sector, based on low- versus high-labor productivity. For India, while nonagricultural earnings are found to be higher than agricultural wages, sub-sectors within own-account manufacturing pay wages lower than in those in agriculture. However the larger rural enterprises (six workers and above) paid an average of about double the agricultural wage (Acharya and Mitra 2000).

Similar findings are obtained from Bangladesh. Varma and Kumar (1996) use the distinction between permanent and household establishments in an enterprise survey. They find that labor productivity in permanent establishments is double the agricultural wage for food manufacturing, textiles, transport, wholesale trade, and retail trade. However labor productivity in household establishments does not compare favorably with the agricultural wage, except for tailoring, furniture-making, and wholesale trade. For food manufacturing and textiles, labor productivity in permanent establishments is more than double that of household establishments. Over time, it is the higher-productivity establishments that have grown faster (Bakht 1996, Ahmed 1996).

G. Rural Economic Linkages

According to the monsoon economy hypothesis, nonfarm employment should be countercyclical, as it is substituting for missing agricultural work during the off-season. However, in the Philippines, while such countercyclical behavior is found for some types of off-farm employment (such as government and domestic services); other important categories (manufacturing, construction, commerce, and transportation) are procyclical (Fabella 1986). For a poor region in Bangladesh, nonfarm work tends to be countercyclical only for villages whose workers are better skilled and equipped for off-farm work. Even so this type of work is unable to offset the slack in agriculture (Hossain 1987).

Contrary to the hypothesis, one may view the rural nonfarm sector as a source of meaningful employment in its own right, which may then form production linkages with agriculture. Backward linkages were observed during the Green Revolution in Asia, which led to a manufacturing boom in rural areas for small-scale machinery (Johnston and Kilby 1975). As for forward linkages, a more disaggregated look at the composition of rural industries shows that food, textiles, and garments are the dominant enterprises. For some Asian villages, these enterprises absorb more than half of manufacturing employment. In Bangladesh and India the proportion can rise to as much as 75% (Mukhopadhyay and Chee 1985). In a mostly rural region of Thailand, agroprocessing accounts for 47.5% of manufacturing employment, while textiles comprise 19.4% (Parnwell and Khamanarong 1996).

The final set of linkages is with household consumption, whose strength has been related to household income. The lower-income groups display greater demand elasticity for local products, as in the Philippines (Ranis et al. 1990). However, from the viewpoint of local nonfarm production, the most promising source of demand would be middle- and higher-income groups in the community; in Bangladesh it is these households that tend to have a greater incremental budget share for nonfarm goods (Ahmed and Hossain 1990).

The value added multiplier is a summary indicator of the strength of local economic linkages. Table 3 presents a range of estimates typically obtained from Asia and Africa. The highest multiplier is 1.74, while the lowest is 1.38 for smallholders in Africa. Estimates for Asia, all of them for irrigated areas, belong to the high range. Most of the multiplier effect (from 78% to 91%) arises from consumption linkages.

Table 3. Estimated Multipliers for Irrigated Rice Villages in Developing Countries

	Value	Percent Due to Consumption
By Size of Farm		
Small	1.55	78.2
Medium (average savings)	1.64	81.2
Medium (low savings)	1.74	83.7
By Variety		
Traditional	1.38	84.2
High-yielding (oxen)	1.56	78.5
High-yielding (tractors)	1.56	78.5

Source: Haggblade and Hazell (1989).

Linkages also span industrial relations between rural and urban areas. Studies on supply linkages in nonagriculture show that rural manufacturing enterprises supply labor-intensive goods to urban-based firms for further processing and marketing, often under subcontracting arrangements. Hayami (1998) argues that the appropriate organizational mode for urban-rural production linkages is relational contracting. The theoretical and empirical understanding of such relations remains at a nascent stage, with some recent efforts at modeling organization and location choice by Hanson (1995) and Briones (2002b).

A specific case study of relational contracting for Japanese textiles describes a putting-out system, developed after the opening of Japan to international trade in the 19th century. Traders advanced imported yarn and leased out looms to farm households. This putting-out system has survived technological transformation of textile manufacturing, and has even nurtured the emergence of other high-technology industries (Itoh and Tanimoto 1998). The combination of commercial and paternal relations is also found in the Punggi district in Korea, renowned for its traditional woven fabrics. Most potential entrepreneurs start out as workers, and after a long employment experience, they would spin off as a small business, often as a subcontractor of their original firm. The parent firm assists in establishments by providing machines (paid by installment) and orders. Once stabilized, the new entrepreneur may then seek out other wholesalers (Lee and Suh 1998).

H. Summary

Empirical findings from the literature point out the following:

- (i) There is a significant amount of measured underemployment in rural areas, which corresponds closely with the concept of labor surplus in the dual economy model.

- (ii) Self-employment in agriculture is widespread, due to the prevalence of family farms. However, extreme versions of the neoclassical as well as dual economy models of the agricultural household have failed empirical tests.
- (iii) Wage movements exhibit rigidities that are consistent with the dual economy model, but the microfoundations of these rigidities require more careful elaboration.
- (iv) The rural nonfarm sector is a sizable and growing component in the rural economy. Within rural areas, self-employment is the common form of employment. Occupations within the nonfarm economy exhibit tremendous diversity, with some low-productivity, casual work existing side-by-side with productive activities strongly linked to local demand.
- (v) Local demand linkages for nonfarm activities are mostly in the form of consumption, though forward and backward linkages (especially with agriculture) are also important. Some types of linkages span both rural and urban areas, and are supported by rather novel organizational arrangements.

IV. OTHER STYLIZED PATTERNS IN RURAL EMPLOYMENT

While the foregoing review has covered much ground, a large amount of empirical work relevant to framing a rural employment strategy is yet to be examined. In particular, other stylized patterns that identify factors determining rural employment are discussed in the following.

A. Household Assets and Employment

In rural areas, landholdings are a significant form of access to productive assets. In terms of sector of employment, one expectation (consistent with the agricultural household model) is that as landholding decreases, households would shift from farm self-employment to off-farm employment. Evidence from East Asia suggests that households do rely more on nonfarm employment and earnings as landholdings decrease. As industrialization advances, so does dependence on off-farm income, as in Japan where farm households with the smallest landholdings earned 80% of their incomes from off-farm activities. The same proportion was reached for similar households in Taipei, China as early as 1962, though for Korea this was reached only by 1996. For the largest landholding category, meanwhile, the shares are at most 36% during the same years (Kada 1986, Ho 1986, Choi 1997).

For Bangladesh, Sen (1996) reports that of households with primary occupation in rural off-farm work, 67–87% have zero to negligible landholdings. Van de Walle (2004), in a study of Viet Nam, shows that access to land has a

negative impact on the probability of obtaining off-farm self-employment. For the PRC, a negative correlation between landholding size and individual off-farm employment status has also been detected (Zhang et al. 2001). Household data for two East Asian economies (Korea and Taipei, China) as well as India and Thailand, suggest that as landholding declines, the share of nonfarm income rises (Rosegrant and Hazell 2000). In absolute terms though, bigger landholdings per capita lead to a higher per capita nonfarm income, as was found for India (Lanjouw and Sharif 2004).

Household assets (or wealth) are another important determinant of employment diversification and earnings, particularly when market failure limits credit availability. In fact, poorer households tend to concentrate on labor-intensive nonfarm wage employment, as well as low-wage farm work; enterprises requiring physical capital (such as cottage industry or trade) are undertaken by the wealthiest households (Reardon et al. 1999). In a survey of rural nonfarm entrepreneurs, access to credit appeared as the top-ranked business need, ahead of market access, skills, raw material supply, infrastructure, or social stratification (Som et al. 2002). Wandschneider (2003) synthesizes a set of studies on nonfarm employment covering India, Uganda, and transition economies (including some from Central Asia), and finds that access to formal credit is often the main constraint to investment and entrepreneurship. Hence, investment becomes dependent on the size of household savings, availability of assets readily convertible to cash, access to remittance income, and networks of relatives and friends with loanable funds.

B. Distribution of Earnings from Farm and Nonfarm Employment

The link between household wealth and employment sheds some light on the role of nonfarm work on income distribution and poverty. The rural poor exhibit a greater dependence on off-farm employment, hence off-farm work may reduce income inequality. Sen (1996) finds that poverty incidence among households whose primary occupation is wage labor (including agriculture) is about 84%, whereas among farmers the incidence of poverty is only 41%. Jayaratna (2004) reports that in a household survey for Sri Lanka, poor rural families are observed to obtain nearly half of all income from nonfarm sources. For Viet Nam, van de Walle (2004) shows that it is the poorest households whose earnings are most dependent on farm employment.

Direct evidence on the role played by nonfarm incomes in income inequality is also available. Decomposition analysis for Pakistani villages shows most of the income inequality across households is accounted for by inequality of agricultural incomes, with nonfarm incomes accounting for only 6–19% of overall income inequality (Adams 1994). In the PRC, data from four provinces

point to the distribution of grain income as the primary source of inequality, with the distribution of nonfarm income being a secondary contributor (Ravallion and Chen 1999).

However other data sets point to the opposite direction. For the PRC's counties with off-farm income shares of one third or less of total rural income, the contribution of off-farm income inequality averages nearly one half (Kung and Lee 2001). In a resource-poor village in the Philippines, nonfarm income does increase overall inequality; however, this is mostly due to migrant income, which contributes over half of total income inequality even though it contributes less than a quarter of household income. The rest of the nonfarm income contributes proportionately to income inequality. Moreover, nonfarm income (excluding remittance income) helps reduce income inequality between households with unequal access to land (Leones and Feldman 1998).

Other studies suggest nonmonotonic patterns. Literature reviews by Leidholm and Kilby (1989) as well as Von Braun and Pandya-Lorch (1991) point to a J-curve, in which the lowest and highest household income groups have the greatest dependence on nonfarm income. Again, contrasting results are available for India. Lanjouw and Shariff (2004) find that as household quintile increases, income share from farm self-employment rises, and farm wage labor falls sharply as the household quintile increases. Hence there exists a mild *inverse-U* relationship between household income and nonfarm income share. The lowest income groups are most reliant on farm wage work and the highest group on farm self-employment, rather than nonfarm employment.

C. Individual Characteristics and Employment

Other than physical household assets, human capital endowment is also known to exert considerable influence on employment. Within self-employed agriculture, education has been found to exert a strong and favorable impact on farm productivity. One reason is that in a period of rapid technological change in agriculture, farmers are still learning novel farming techniques. Better-educated farmers may be more adept in learning and applying the new science-based technologies introduced by the green revolution (Ali and Byerlee 1991).

Outside agriculture, Yang (1997) finds that education raises off-farm wages in the PRC. Education also promotes income diversification. In the PRC, increases in experience and education have a positive effect on individuals' decisions to move off-farm (Zhang et al. 2001). Studies for rural India, cited in Coppard (2001), show a positive link between education and nonfarm employment. Aside from mere diversification, the importance of education in securing profitable businesses or high-wage employment is widely acknowledged (Reardon et al. 1999). For Viet Nam, education increases income diversification as well as household welfare (van de Walle 2004). In India, the effect of

education on nonfarm earnings is particularly strong. Other factors constant, a person with secondary education can generally earn over 168% more than a person who has not completed formal schooling (Lanjouw and Shariff 2004).

Another important determinant of rural employment is gender. Women tend to be as active in farming as men, though tasks may be gender-sorted. In India, women have lower participation in the nonfarm sector than men (Coppard 2001). Where women are engaged in nonfarm employment, they tend to be found in manufacturing and services, from 19% for manufacturing in Bangladesh up to 56% for services in the Philippines (Rosegrant and Hazell 2000). A number of studies have pointed to the disadvantages faced by rural women in the labor market. Surveys in rural India cited in Dasgupta (1993) points to the higher rates of unemployment for rural women. Likewise, for Indonesia Wiebe (1996) finds that working women who are underemployed are slightly more numerous in percentage terms than working men who are underemployed (13.8% versus 12.6%).

Women also earn lower than men per unit time of employment; this discrepancy holds for workers in both developing and developed countries, but the gap is greater in the former (Robinson 2001). The gap extends to rural areas, whether one considers agricultural or nonagricultural wages, as for Bangladesh with a differential in the range of 30–40% (Varma and Kumar 1996). What accounts for this difference is unclear, although in rural PRC, the observed male–female market wage differential could be explained by gender differences in reservation wages (Hare 1999). Finally, while rural women in Indonesia and India have benefited in terms of nonfarm employment in recent years, employment growth remains higher for men (Rosegrant and Hazell 2000).

D. Community Characteristics and Employment

A survey of the nonfarm sector for India (Coppard 2001) cites studies that link rural infrastructure to employment outside the farm. The positive role of transport infrastructure and rural electrification is highlighted. The presence of roads meanwhile has different effects, being favorable for trading and nonhousehold manufacturing, but unfavorable for household manufacturing. Likewise Lanjouw and Lanjouw (2001) underscore the importance of rural infrastructure for the growth of nonfarm employment, citing studies on rural electrification for the PRC and Indonesia, as well as for rural roads in the Philippines.

The location of the rural community is also an important factor in the rural nonfarm economy. For India, studies reviewed in Rosegrant and Hazell (2000) show that multipliers from agricultural growth are greatest in areas with better infrastructure, higher population density, and higher per capita incomes from

agriculture. In the case of Viet Nam, location variables explained most of the variations in household consumption and the probability of escaping poverty. Location also explains the variations in probability of off-farm employment as well as labor supply toward off-farm work. Moreover, the favorable influence of location on off-farm employment is positively correlated with the positive impact of location on household welfare (van de Walle 2004).

Location captures numerous interdependent factors. Community infrastructure could be one, although this could vary over time. Agroclimatic condition is a more fixed determinant, obviously for farm productivity, but less obviously for employment diversification and nonfarm productivity. In localities with unfavorable agroclimatic conditions, households tend to earn most of their nonfarm income through temporary migration or migrant remittances. Conversely, areas with favorable agroclimatic conditions households earn nonfarm income locally, usually through activities linked to production or expenditure linkages to agriculture (Reardon et al. 1999). For Asia the available evidence points to some tendency for greater diversification of incomes in unfavorable areas. For example, in seven countries studied in David and Otsuka (1994), villages in irrigated lowland areas tend to have lower nonfarm income shares. Interestingly, income inequality (based on Gini ratios) is lower in these areas.

Finally, location could also be capturing proximity to urban centers and rural towns, which can be crucial for employment diversification and earnings. One estimate of the share of the rural labor force primarily engaged in nonfarm work in Asia is 26% without rural towns, and 36% with rural towns (Hazell and Haggblade 1993). Income diversification tends to be greater around cities, as in Java (Manning, 1988). Nonfarm earnings of villages also appear to diminish in absolute terms as the distance from the urban area increases (Khmana 1992). For Nepal, nonfarm employment concentrates near cities; farm wage employment meanwhile is the main occupation for villages remote from the urban centers. Isolated villages are predominantly subsistence economies (Fafchamps and Shilpi 2005). Rural towns, as dispersed centers of urban activity, also play a critical role in the development of the rural hinterlands. Rural towns generate demand for nonfarm outputs, and provide crucial marketing and financial services to support economic activity in the surrounding areas, thus functioning as “growth poles” in PRC; India; and Taipei, China (Rosegrant and Hazell 2000).

V. POLICIES FOR EMPLOYMENT GENERATION

A. Country Experiences in Generating Employment

The foregoing literature survey, along with a few more case studies at the country level, will be the basis for this section’s discussion on rural employment

generation. Ranis and Stewart (1993) recount the contrasting development experiences of Taipei, China and the Philippines, which have potent implications for the employment generation strategy. In Taipei, China, agricultural modernization was supported by a public investment policy that favored rural infrastructure and technical progress in farming. Land reform had succeeded in eliminating large wealth inequalities in the countryside, creating a wide base of purchasing power. Indirect policies such as tariffs, quotas, investment restrictions, and so forth avoided the anti-agriculture bias common in import-substitution regimes.

However such modernization steps were not taken by the Philippines. The public sector continues to underinvest in rural infrastructure, as well as in research and extension, despite the breakthroughs achieved during the Green Revolution. After several decades, the task of land reform is yet to be completed. Finally, the import substitution regime had made deep inroads into industrial and trade policy, creating serious price distortions against agriculture. While the export juggernaut propelled rural industries in Taipei, China, no such drive was forthcoming in the Philippines, as its trade and exchange rate policies constrained export growth and favored large-scale, urban-based firms producing import substitutes.

In short, these experiences illustrate the necessity of creating dynamic linkages in the rural sector to provide a sustained employment growth. The experience of Taipei, China illustrates the potential of agricultural modernization within an egalitarian society to generate positive and reinforcing feedback effects through local demand, reinvestment, producer services, and improved economic aspirations (Park and Johnston 1995). Meanwhile the case of the Philippines highlights the price of policy failure within an economically and politically polarized society (De Dios and Hutchcroft 2003).

The case of the PRC demonstrates the wider applicability of foregoing lessons. Following the 1978 reforms, agriculture was decollectivized and various types of business and employment restrictions were lifted. The rural nonfarm sector was a priority concern, as the government sought to generate employment in rural areas, so as to keep rural-urban migration at manageable levels. The result was the rapid growth of small-scale, labor-intensive firms called township and village enterprises (TVEs). From 1978 to 1996, TVE share in the rural labor force rose from about 10% to just under 30%; incredibly, TVE share in total industrial output expanded to a remarkable 58% in 1997, up from just 9.1% in 1998 (Lin and Yao 2001).

B. Elements of an Employment Generation Strategy

Based on these and other experiences, as well as the empirical findings in the previous sections, the following broad elements of a long-term employment generation strategy can be stated.

First is the modernization of agriculture, which entails investments in research and extension, as well as in infrastructure. A large part of modernization is the adoption of high-yielding agriculture, anchored on modern varieties, intensive systems, and massive investments in irrigation (Rosegrant and Hazell 2000). Irrigation, aside from having a powerful impact on farm productivity, increases the frequency of cropping and therefore the demand for farm labor. Price policies should also extend an even treatment between agriculture and nonagricultural sectors, implying that the bias toward capital-intensive industries (enforced through protectionist policies and exchange rate controls) should be removed.

Second, in addition to public investments to promote agriculture, rural infrastructure in general needs to be upgraded to increase economic opportunities for both farm and nonfarm activities. Rural road networks cut down on transport cost and widen market access. Electrification is another major factor in the formation of household and cottage industries in rural areas. One should also not underestimate the potential contribution to direct employment from rural works programs, particularly those implemented by increasing the labor content of rural infrastructure, rather than through traditional make-work schemes (Briones 2005).

Geographically, public investments should be focused in areas near cities and rural towns where linkage formation can be maximized. Admittedly such concentration may contribute to geographic inequality between rural areas, however it may mitigate inequality in other ways. For example, by bringing development to the countryside, it can reduce inequality by stemming the time of migrants (whose remittances are a major source of interhousehold inequality); furthermore it mitigates inequality between urban and rural areas.

Third is asset reform, which in rural Asia is often related to reforms on the distribution and allocation of property rights to land. With land reform comes a more even distribution of wealth and purchasing power, creating a network of consumption linkages that lay the basis for growth of rural industries.

Fourth is human capital formation, which requires large outlays for education. By implication, complementary investments in human resources, such as basic sanitation, public health, and nutrition, are also valuable for boosting long term employment prospects in rural areas.

Fifth is the delivery of producer services to promote self-employment. This includes increasing availability of credit, as lack of credit access has been cited as a major constraint in small enterprise formation and growth. Moreover, provision

of producer services covers the provision of technical assistance, training and capacity building, market information, organization of producer associations, and other measures to promote self-employment.

Most of the elements recounted here are noncontroversial. They simply provide an employment slant on the principles of the Washington consensus, combined with the human development platform of the United Nations and development organizations from the 1990s onward. For example, the salutary impact of trade liberalization on growth and poverty for labor-abundant, agriculture-dependent developing economies is now well recognized, save for a few fringe critiques, mostly outside the professional literature. Two areas however remain open to considerable policy debate: first is the importance of asset redistribution, and second is the sectoral focus of public investments.

C. How Important are Asset Reforms?

One fairly obvious way in which asset reforms can improve productivity occurs when property rights are ill-defined or dilute economic incentives. Reform can clarify use and access rights, thus boosting investment and entrepreneurship. In the PRC for example, the introduction of a household responsibility system was a major lift for farm productivity (Lin 1992). Asset reform may also take the form of redistribution, and for rural areas, land reform is the most prominent example.

Reducing income inequality is said to boost local demand and support the formation of dynamic linkages. Evidence for this claim, however, remains largely indirect. There is an emerging literature on cross-country regressions directly linking initial inequality with future growth. Deininger and Squire (1998) find that asset inequality harms future growth though contrary results, for example, a positive effect of income inequality on growth (Forbes 2000) have also been obtained. However the theoretical framework for these empirics assumes the aggregate production function, a world apart from dualism and dynamic externalities encountered in rural development models. Even a recent review of growth theory, which incorporates various market failures (including regulatory distortions, weak property rights regimes, credit constraints, and insurance market failure), omits dualism and multiplier effects (Banerjee and Duflo 2005). Such omissions in the literature are largely due to the weak theoretical connection between the dynamic linkages model (in its current versions) and overall economic growth. Filling up the theoretical gaps will animate much-needed empirical research on the impact of rural linkages on overall economic growth.

Aside from the circumstantial nature of the evidence on the importance of asset reform, there is, moreover, the problem of social cost in imposing a redistributive policy, which may ultimately outweigh the expected benefits. For

example, expropriation of land is never easy to implement, given opportunities to resist or evade expropriation; in the meantime, uncertainty lingers over the fate of the disputed assets, inhibiting further investments in their productivity. In the case of the Philippines, for example, land reform has been long delayed, with significant negative repercussions on agricultural investments (Habito, Briones, and Paterno 2003; Briones 2002a).

D. Priorities for Public Investments

One virtue of multiplier analysis is to point out that simple benefit-cost considerations may skew investments away from impoverished rural areas. Only when long-run growth dynamics are considered—highlighted by the multipliers—can rural investments be justified as efficient. The form of the rural-based investment however remains open. According to the “post-Washington consensus”, public investments should emphasize social safety nets, a prescription questioned by Hayami (2003), who fears that such an emphasis may divert scarce resources away from productivity improvements favoring the rural poor.

Followers of “agriculture on the road to industrialization” go further and pinpoint agriculture in particular as the appropriate focus of public investment. Agricultural orientation is a “first generation” solution, over (though not to the exclusion of) “second generation” solutions such as broadening participation to the poor and to women, maintaining growth beyond the cereal sector, and environmental concerns (Mellor 1997).

However it is not clear whether the agriculture-led industrialization experience (as witnessed in East Asia) can be generalized. Parikh and Thorbecke (1996), in a case study of a village in India, precisely apply a benefit-cost analysis which incorporates the value added multiplier; they show that a subsidy for rural industry is more cost-effective than irrigation investment in developing the local economy. Ravallion and Datt (1996) conduct a state-level study also for India, and find that growth in the secondary sector (inclusive of manufacturing) does not affect poverty; rather, it is the tertiary sector that joins agriculture in poverty reduction. Moreover, agricultural growth does not have an effect on the overall growth of the nonagricultural sector.

Foster and Rosenzweig (2004) note that empirical literature relating agricultural to nonagricultural growth is undecided, primarily due to data limitations. They conduct their own study using survey data on 240 villages in India and find, unambiguously, that rural industries have grown fastest where crop yields had in fact grown *slowest*. This is consistent with the model in which farm and nonfarm activities are predominantly substitute activities for the investor with mobile capital, rather than one in which complementary linkages between the two are prominent. Nonfarm activities are especially pro-poor, as

these would favor low-skilled labor, compared to agricultural activities, whose growth would tend to favor better-off households for which landholding is concentrated.

VI. CONCLUDING REMARKS

Labor surplus is a real and pressing problem in rural Asia, manifesting itself in underemployment among both wage workers and the self-employed. Contrary to earlier belief, the rural economy itself is capable of absorbing much of this surplus labor, through the expansion of the nonfarm sub-sector. Of course, not all of the nonfarm sector is expected to contribute equally to rural transformation. Some peripheral occupations may wane, while others with robust links to local and external demand would flourish. Ensuring that the poor gain access to the latter is the key to a pro-poor employment growth.

Of the various elements of the employment generation strategy for rural Asia, two issues stand out as winning the least consensus among development economists.

The first is in the area of asset reform. Whereas some country experiences as well as cross-country evidence link equitable asset distribution to growth, it is not clear whether rural growth dynamics and local externalities are the main channel of transmission. Given the uncertainty and potentially great costs of a redistributive policy, any proposed asset reform should be pursued expediently.

The second is in the area of public investment. The agriculture-led rural industrialization path characterizes several developing country experiences (particularly in East Asia). Recent empirical work however casts doubt on the conclusiveness of the evidence regarding its basic assumptions. The development paths of different countries may follow their peculiar trajectories. Clearly, priorities and interventions to boost rural productivity and employment should eschew sweeping generalizations in favor of a more flexible approach toward urban and rural, as well as agricultural and nonagricultural development.

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in reviewing submitted manuscripts for 2006

David Dole
Asian Development Bank

Barry Eichengreen
University of California-Berkeley

Akiko Terada-Hagiwara
Bank of Japan

Frank Harrigan
Asian Development Bank

Rana Hasan
Asian Development Bank

Changyong Rhee
Seoul National University

Juzhong Zhuang
Asian Development Bank

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For 2006, the *Update* retains April's projection for growth of 6.6%. Positive factors include the likelihood of a soft landing in the People's Republic of China, the consolidation of gains in South Asia, and an end to some of the temporary factors that restrained growth in Southeast Asia in 2005. Nevertheless, the *Update* cautions that high and still rising oil prices heighten uncertainty about prospects in 2006.

The *Update* features an overview of recent trends within the region and sets them in their global context. It also points to risks in the outlook and suggests appropriate responses. Recent economic trends and the outlook are reappraised and updated for selected countries. A major theme of the *Update* is the challenge presented by high oil prices, the main focus of Part 3. A key message that emerges is that higher oil prices may be here for some time, and that countries across developing Asia need to adjust to this possibility.

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