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## Challenges from Emerging Asian Economies

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By creating vast potential for rich countries to import "skilled" services from poor countries, innovations in telecommunications have triggered a sometimes heated controversy over the effect of service outsourcing for the importing country. Panagariya argues for clear thinking regarding the scope and magnitude of the threat from service outsourcing and the appropriateness of policy responses. He clarifies how terms such as outsourcing and offshoring correspond to the phenomenon of arm's length trade in services made possible by new technologies. The number of such jobs outsourced by the United States to India so far is quite small compared to the total number of U.S. jobs created and destroyed every year. Panagariya considers how outsourcing of service jobs may affect the gains from trade before taking on Blinder's contention that it portends a third Industrial Revolution for the U.S. economy. For good measure, he enumerates the significant limitations on India's potential supply of skilled service jobs.

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Sovereign Wealth Funds (SWFs) gained renewed prominence as emerging economies with large account surpluses or oil revenues began to seek high returns in global capital markets. Some recent investments by SWFs aroused concern in recipient countries, in part because little is known about their governance or objectives. Subacchi combines published data and original analysis to develop a picture of the size, growth prospects, and objectives of SWFs. Focusing on Asian SWFs it assesses their likely investment strategies and identifies the possible targets for acquisitions in Europe. The tentative conclusions are that China Investment Corporation will largely aim for portfolio investments, with directed investments making up a smaller portion of its assets; that acquisition targets in Europe will be companies that offer access to financial expertise or resources; and that the UK's relatively open policy stance makes it the preferred European destination for Asian SWFs.

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Xiao believes that Washington's focus on renminbi revaluation is too narrow an approach to China's external imbalance because China's economy today is far from the neoclassical world of fully employed labor and capital where prices and exchange rates adjust to restore market equilibrium. He discusses structural conditions in China's economy, such as hidden transactions costs, the pool of unskilled rural and migrant workers, the lack of social, infrastructure, that contribute to the imbalance between its imports and its exports. Xiao sees a long run restoration of balance through loose monetary policy to accommodate steady structural inflation accompanied by an orderly currency appreciation. He advocates a Marshall-type Plan by which the United States and the international community help China put in place a modern, robust economic infrastructure. By addressing the fundamental constraints on domestic consumption, this could prove a win-win strategy for both China and its partners.

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# OUTSOURCING

## Is the Third Industrial Revolution Really Around the Corner?

Arvind Panagariya

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### 1. Introduction

Job losses due to a shift of economic activity from home to abroad have been debated almost as long as free trade. The traditional “Employment Argument for Protection” has focused on merchandise imports replacing similar domestically supplied goods and rendering the workers employed in the production of the latter unemployed. Likewise, the literature on factor mobility in general and direct foreign investment (DFI) in particular addresses the issue of job losses associated with home firms moving their manufacturing operations abroad.

Traditionally, imports of services have not been controversial from the jobs perspective presumably because they are seen as either job-creating or neutral. For example, foreign banks and insurance firms selling banking and insurance services to home country must locate on the latter’s soil and add to the availability of jobs there. Service imports such as increased tourism abroad are viewed as having no effect on jobs at home and therefore neutral.<sup>1</sup>

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1. I hasten to add that this perception is not entirely accurate. If increased tourism abroad results from the diversion of tourism from domestic destinations, jobs will be shifted from home to abroad. From jobs perspective, this shift is entirely analogous to increased merchandise imports replacing similar domestic supplied goods. Yet, even protectionists rarely treat the two phenomena symmetrically.

This has changed, however, with the advent of the Internet and other innovations in the telecommunications industry. These innovations have dramatically reduced the cost of buying certain services abroad at arm’s length. Call centers serving customers in the United States can be located in countries such as India and the Philippines where the wages of the employees are a small fraction of the U.S. wages. Likewise, U.S. firms can buy customized software services from vendors in Ireland, India, and China at substantially lower prices than the corresponding U.S. prices.

The vast potential for the purchase of these “skilled” services by rich countries in poorer countries has triggered a major debate among academics as well as policy analysts regarding the effect of this trade on overall welfare, wages, employment, and transitional labor-market adjustments in the importing country. While some analysts have gone so far as to argue that such trade undercuts the case for free trade, others predict massive downward adjustments in wages and transitional costs as workers move from declining to rising sectors.

In an early contribution to this literature, Bhagwati, Panagariya and Srinivasan (2004) dealt with theoretical issues as well as policy concerns arising out of the phenomenon of arm’s length purchases of services abroad. They also pointed to a number of confusions that had arisen in public discussions on it. Since then, the literature has

grown, with notable contributions by Blinder (2006, 2007), Mankiw and Swagel (2006), Bhide (2007), and a number of authors in the volume edited by Collins and Brainard (2005).<sup>2</sup> A report by a panel of the National Academy of Public Administration (NAPA) (2006) has considered in detail the data and definitional issues. Some of these contributions have moved the debate further but some have introduced additional confusions.

In this paper, I revisit the issue of outsourcing in the light of the new writings. Insofar as some of the latest contributors have taken issue with the propositions in Bhagwati, Panagariya and Srinivasan (2004), I offer them my rejoinder. In Section 2, I begin with the confusions that continue to surround the terminology and the identification of the precise new phenomenon on which we must focus. In Section 3, I discuss the available evidence on the number of jobs outsourced by the United States and in-sourced from India to-date. The bottom line here is that no matter how one calculates, the number of jobs outsourced per year is so far tiny in relation to both the number of jobs created and destroyed by the U.S. economy every year and the total number of services jobs in the United States even if we limit ourselves to the sectors susceptible to outsourcing. I then briefly turn to the welfare economics of outsourcing paying special attention to the proposition, widely but incorrectly attributed to Paul Samuelson (2004), that the phenomenon of outsourcing fundamentally undermines the gains from trade theorem. This is done in Section 4.

In several influential papers, Blinder (2006, 2007) has contended that 30 to 40 million services jobs in the United States are under the threat of outsourcing in the long run and that the United States must prepare itself for a painful transition to the third Industrial Revolution. In Section 5, I subject these propositions to a critical examination. Because India is at the center of the outsourcing phenomenon on account of its ability to offer some skilled services at low prices recently, in Section 6, I examine its potential as a source of skilled services jobs for the rich countries, especially the United States. In Section 7, I conclude the paper with possible policy

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2. I will refer to some of the specific contributions in this volume later in the paper.

responses to the phenomenon of outsourcing of skilled services.

## 2. Terminology and Definition: Continuing Muddles

While the origins of the outsourcing debate go farther back, a key event leading to its intensification was the publication of the *Economic Report of the President* on February 9, 2004.<sup>3</sup> The report stated (p. 229),

One facet of increased services trade is the increased use of offshore outsourcing in which a company relocates labor-intensive service industry functions to another country. For example, a U.S. firm might use a call center in India to handle customer service-related questions. The principal novelty of outsourcing services is the means by which foreign purchases are delivered. Whereas imported goods might arrive by ship, outsourced services are often delivered using telephone lines or the Internet. The basic economic forces behind the transactions are the same, however. When a good or service is produced more cheaply abroad, it makes more sense to import it than to make or provide it domestically.

Presenting the report to the press, Gregory Mankiw, Chairman of the President's Council of Economic Advisers, went on to state (Mankiw and Swagel 2006, p. 8):

I think outsourcing is a growing phenomenon, but it's something that we should realize is probably a plus for the economy in the long run. Economists have talked for years about trade, free international trade, being a positive for economies around the world, both at home and abroad. This is something that is universally believed by economists. The President believes this. He talks about opening up markets abroad for American products being one of his most important economic priorities. And we saw discussions this weekend of the Australia agreement. So it's a very important priority.

When we talk about outsourcing, outsourcing is just a new way of doing international trade. We're very used to goods being produced abroad and being shipped here on ships or planes. What we're not used to is services being

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3. Figure 1 in Mankiw and Swagel (2006) shows the number of times the term "outsourcing" appeared in four leading newspapers (USA Today, New York Times, Los Angeles Times and Washington Post) between January 2002 and July 2005. The peak is between February and April 2004 and the total count during 2004 exceeds 1,000.

produced abroad and being sent here over the Internet or telephone wires.

But does it matter from an economic standpoint whether values of items produced abroad come on planes and ships or over fiber optic cables? Well, no, the economics is basically the same. More things are tradable than were tradable in the past, and that's a good thing.

Although the central point in this statement and that in the President's report was that the "gains from trade" applied just as much to trade via outsourcing as to the conventional trade in goods, the press and politicians interpreted them as giving approval to the shipping of U.S. jobs abroad.<sup>4</sup> Indeed, the statement by Mankiw caused such a furor in the press that even President Bush felt compelled to distance himself from it.<sup>5</sup>

One thing that should be very clear from the two statements quoted above is that the phenomenon at the heart of the ongoing debate on trade policy was arm's length trade in services. From a conceptual standpoint, this phenomenon was not new. Even absent the breakthroughs in the telecommunications technology, arm's length purchases of services abroad were feasible. Manuscripts could have been airmailed to another country, edited, and returned for printing. Likewise, blood samples could be flown to another country for analysis and blood reports flown back. What the information technology revolution did, however, was to multiply the scope for the expansion of trade in these services. And in so far as this trade principally applied to skilled services, it raised fears that were qualitatively different: the issue now was that U.S. skilled wages as well as its lead in skilled-labor-intensive services was under threat from the low-skilled-wage countries such as India.

In their contribution, Bhagwati, Panagariya and Srinivasan (2004) had explicitly recognized the definitional muddles that existed in the policy

domain at the time.<sup>6</sup> Therefore, they made a special effort to define outsourcing precisely, using the classification of services according to the modes of delivery identified by trade economists (Bhagwati, 1984 and Sampson and Snape, 1985) and adopted by the World Trade Organization (WTO).<sup>7</sup> This classification relies on the manner in which the seller delivers service to the buyer: with buyer and seller remaining in their respective locations, buyer moving to the location of the seller, and the seller moving to the location of the buyer.

Thus, the WTO Mode 1 services are those traded at arm's length, with the buyer and seller remaining in their respective locations. These are the services that come the closest to what the President's report and Mankiw called "outsourcing" and constitute the new phenomenon of concern. Mode 2 services require the buyer to move to the location of the seller as, for example, in the case of tourism. Mode 3 services require the seller to have "commercial" presence in the buyer country as in the case of banking and insurance. Mode 4 services require the movement of workers to the location of the buyer as is the case with information technology workers entering the United States under H1B visas. Modes 3 and 4 are conceptually similar in that they both require the seller to move to the location of the buyer. The distinction is made largely to facilitate WTO negotiations: countries are less willing to grant entry to individuals looking for jobs (Mode 4) than to firms seeking to establish themselves commercially (Mode 3).

Parenthetically, it may be noted that an important source of the fear in the countries from the import of Mode 1 services is that arm's length delivery opens the door to their import in indefinite volume, subjecting domestic workers to intense competition. This is in contrast to imports via Modes 2, 3, and 4. Mode 2 imports require home

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4. A story with the headline "Bush Supports Shift of Jobs Overseas" in the Los Angeles Times on February 10, 2007 fired the opening shot and was followed by a series of attacks on the President's report and Mankiw by Democrats that journalists extensively covered with their own commentaries. See Mankiw and Swagel (2006) for a blow-by-blow account of the story as it unfolded.

5. For example, see <http://www.cnn.com/2004/US/02/12/bush.outsourcing/>.

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6. For example, Presidential candidate John Kerry had been criticizing all firms, including those engaged in manufacturing, for shifting their operations abroad, calling them "Benedict Arnolds," meaning traitors. In his television program *Lou Dobbs Tonight*, CNN journalist Lou Dobbs had been regularly featuring the segment "Exporting America" in which he reported on corporations that outsourced jobs overseas and included among the latter firms importing their components and services as well as those moving manufacturing operations abroad.

7. Thus, see Bhagwati (1984) and Sampson and Snape (1985).



country buyers to travel abroad for face-to-face contact with the supplier as in the case of tourism. These imports do not pose a direct threat to workers at home. Mode 3 imports, which require commercial presence of the supplier, bring foreign firms to the home country and therefore create, rather than destroy, jobs at home. Mode 4 imports bring foreign workers to domestic soil and do pose a direct threat to home workers but can be controlled through immigration policies.

In using the term “outsourcing” and limiting its scope to Mode 1 services, Bhagwati, Panagariya and Srinivasan (2004) had chosen to stick to the dominant terminology at the time and defined it to refer to the phenomenon whose expansion had been accelerated by the advent of the new technologies.<sup>8</sup> Nevertheless, the confusion over terminology as well as its scope has continued. Thus, arguing that the term “outsourcing” is used to refer to the procurement of a component or service by a firm from an outside source regardless of whether the latter is located at home or abroad, some authors have advocated using the term “offshoring” for the phenomenon at the center of the controversy.<sup>9</sup>

But attempts to shift to the new terminology have themselves added to the confusion. For example, the NAPA panel to which I alluded earlier defines offshoring as “U.S. firms shifting service and manufacturing activities abroad” (NAPA 2006, p. 42). This definition turns out to be far wider than the new phenomenon of arm’s length purchases of services abroad, as the following elaboration of it in NAPA (2006, p. 42) makes clear:

The Panel’s definition clearly states that off-shoring includes U.S. firms shifting service or manufacturing

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8. A measure of the dominance of “outsourcing” over “offshoring” terminology is that in trying to measure the intensity of public debate on the phenomenon, Mankiw and Swagel (2006) chose to look for references to the former in four leading newspapers.

9. Bhagwati, Panagariya and Srinivasan (2004) were, of course, fully aware of the prior use of the term “outsourcing” for the purchases of components by firms from outside suppliers at arm’s length. Thus, the opening paragraph of their paper stated, “In the early 1980s, “outsourcing” typically referred to the situation when firms expanded their purchases of manufactured physical inputs, like car companies that purchased window cranks and seat fabrics from outside the firm rather than making them inside. But in 2004, outsourcing took on a different meaning. It referred now to a specific segment of the growing international trade in services. This segment consists of arm’s-length, or what Bhagwati (1984) called “long-distance,” purchase of services abroad...”

activities to either affiliated or unaffiliated firms located outside the United States in order to provide intermediate or final goods or services imports back to the United States, exports to foreign markets, or to directly supply the market in which the activity is occurring. The definition is not limited by import substitution or relocation conditions, and therefore includes job opportunities lost due to forgone exports and imports from either the expansion of U.S. foreign affiliates or expanded unaffiliated contracts.”

From the viewpoint of outsourcing/offshoring debate, this definition has at least three important limitations:

1. It extends to trade in goods, services and DFI. I have already argued that only Mode 1 trade in services constitutes the new phenomenon of concern. Other forms of trade and DFI have been extensively analyzed in the literature before.
2. Even setting aside the previous point, in many cases, this definition attributes job losses to DFI when no such losses have actually occurred (see below).
3. This definition treats the transactions by firms and consumers asymmetrically even when their implications for job losses may be entirely symmetric (see below). It is simply not clear why we should view job losses directly associated with the actions of the firms less favorably than those directly associated with the actions of the consumers.

As an example of DFI that leads to no job losses but is presumed to be doing so under the NAPA definition, consider the production of automobiles by the Ford Motor Company in India for sales within India. The NAPA definition considers this activity as offshoring on the ground that Ford could have alternatively produced these automobiles in the United States and exported them to India. Therefore, locating production in India leads to job losses for the U.S. workers. But such an interpretation fails to recognize that India imposes a prohibitive tariff on auto imports. Ford simply does not have the option to locate production in the United States and serve the Indian market at arm’s length. This is not an isolated example. When American firms locate abroad to serve the local market, even absent tariffs, it is often the case that they would be rendered uncompetitive if they located at home.

This problem is even more serious when we consider DFI associated with Mode 3 services. Banks and insurance companies can sell these services only if they locate themselves within the physical proximity of the customers. If the U.S. banks and insurance companies serving customers in India were to relocate themselves on U.S. soil, they would simply lose their customers in India. Jobs created by the U.S. banks and insurance companies in India cannot be counted as jobs lost to U.S. workers.

According to the NAPA definition, if consumers rather than firms are directly responsible for the shift in purchases from domestic to foreign sources of supply, such shifts do not qualify as offshoring. For example, if consumers decide to switch to European clothing in preference to domestically produced clothing and start ordering it directly from Europe on the Internet, the switch will not qualify as offshoring even though it causes jobs to shift to Europe. In the same vein, if a decline in the cost of international air travel leads U.S. residents to switch from domestic tourist destinations to foreign ones, the change leads to a shift of U.S. jobs to abroad but it does not count as offshoring.

Thus, substituting the term offshoring for outsourcing is not without hazard. It can simultaneously lead to a switch in the phenomenon we are analyzing.<sup>10</sup> Surprisingly, Blinder (2007), who prefers the term offshoring to outsourcing, approves of the NAPA definition uncritically, stating, "That seems a workable definition to me." Yet, the phenomenon he analyzes throughout his paper corresponds most closely to Mode 1 services just as Bhagwati, Panagariya and Srinivasan (2004) had urged. Blinder implicitly recognizes that manufacturing trade and DFI are old hats and that they call for no new analysis.

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10. I have chosen the NAPA definition only for illustrative purposes. NAPA (2006, pp. 38-47 and Table 3.1) documents a number of such definitions. Others have provided yet different definitions. For example, Markusen (2005) views "offshoring" as trade and factor movements affecting white-collar jobs and wages. In some respects, his definition turns out to be even wider than that considered by NAPA since white-collar jobs may be lost through all forms of trade in goods and services regardless of whether it is conducted by firms or consumers. His definition also extends to direct foreign investment if it has any impact, direct or indirect, on skilled jobs or wages.

This continued confusion demonstrates that substituting "offshoring" for "outsourcing" terminology has not proved as fruitful as its advocates may have desired. To alleviate the problem, in the remainder of this paper, I will use the terms outsourcing and offshoring interchangeably but explicitly distinguish between trade in Mode 1 services and other forms of trade and DFI. As I have already emphasized, it is the former phenomenon that should concern us in the context of the current debate. My main reason for briefly including the latter in this paper is to give some clarity to the literature that has lumped all shifts in jobs from home to abroad under the rubric of outsourcing/offshoring.

I may add one final point of clarification before moving to assessing the evidence on the number of jobs shifted abroad through trade in Mode 1 services and other forms of trade and DFI. Direct foreign investment may sometimes play a facilitating role in the import of Mode 1 services. For instance, General Electric was among the early players to establish an outsourcing center in India. Likewise, the IBM, Hewlett-Packard, and many other U.S. companies have established outsourcing centers in India and other countries. While such DFI is entirely consistent with and relevant to the import of Mode 1 services, a disproportionately large part of the direct foreign investment is associated with either manufacturing or services that lead to no offshoring of jobs (U.S. banks and insurance companies serving customers in India through commercial presence).

### 3. Jobs Outsourced To-date

The available data do not permit the calculation of a definite, single estimate of the number of jobs offshored. What we are able to do, however, is to calculate some rough estimates from in a variety of data sources. Luckily, it turns out that these estimates lead to the same bottom line: so far the number of jobs offshored by different modes of trade and DFI are small in relation to the total number of jobs.

#### Jobs Lost to Mode 1 Services Imports

All evidence points to a small number of Mode 1 services jobs having been offshored to-date.

There are three main sources of direct evidence:

- McCarthy (2002) of Forrester Research, Inc. estimated that 3.3 million U.S. jobs would be offshored by 2015. He based this estimate on changes in employment in nine occupational categories identified as especially vulnerable to offshoring. These categories included, for example, management, architecture and engineering, and computer and mathematical operation. McCarthy (2004) revised this estimate to 3.4 million, placed the number of U.S. jobs offshored at 315,000 in 2003, and predicted their cumulative rise to 588,000 in 2004 and 830,000 in 2005.<sup>11</sup> All of these numbers imply annual job losses to offshoring of approximately 300,000. In comparison, the U.S. economy destroyed 30 million jobs in 2003 and created as many of them.

Alternatively, based on the data compiled by Kirkegaard, this figure was only 0.53 percent of the 56.7 million jobs in 2002 in the nine categories from which it is derived.<sup>12</sup> Kirkegaard (2004) analyzes in detail employment changes in the nine occupational categories chosen by Forrester between 2000 and 2002. In aggregate employment in these categories fell by 1.14 million between 2000 and 2002 or by 1.97 percent of the total employment in the former year. Importantly, this is the fall in employment due to all factors including the business cycle effect. Only a small fraction of these jobs could have been actually offshored. Furthermore, Kirkegaard studies the changes in employment by industry in the nine occupational categories. He finds that although manufacturing accounted for less than 10 percent of employment in the nine job categories, it experienced more job losses than the economy as a whole. Services industries as a whole experienced a net gain in employment in these nine categories. This

11. See Auchard, Eric, "Report finds exports of U.S. jobs to be accelerating," USA Today, May 17, 2004 at [http://www.usatoday.com/tech/techinvestor/2004-05-17-outsourcing-pace\\_x.htm](http://www.usatoday.com/tech/techinvestor/2004-05-17-outsourcing-pace_x.htm).

12. Kirkegaard (2004) analyzes in detail employment changes in the nine occupational categories chosen by Forrester between 2000 and 2002. For each occupational category, he studies the changes in employment by industry. He finds that though manufacturing accounted for less than 10 percent of employment in the nine categories, it accounted for the vast majority of the job losses in them. Services sectors as a whole experienced a net gain in employment in the nine categories. Across occupational categories, management, which is less likely to be outsourced, accounted for 60 percent of the job losses.

observation further suggests that the Forrester figure is probably an overestimate.

- Bhagwati, Panagariya and Srinivasan (2004) estimated the number of offshored jobs by adding up the number of employees in such occupations as software development and call center operations in countries such as India, the Philippines and others serving the overseas markets. Based on data between 2000 and 2004, they concluded that this number could not have been expanding at more than 100,000 workers per year.
- Mankiw and Swagel (2006) try to glean information on offshoring from trade data. They note that in the trade data compiled by the Census Bureau, category Business, Professional, and Technical Services (BPT), which includes trade in computer and information services, management and consulting, services, research and development and testing services, operational leasing, and an "other" entry, is likely to represent services associated with offshoring. BPT is a sub-category of broader category "Other Private Services," which additionally includes education, financial services, insurance, and telecommunications. As Mankiw and Swagel (2006, p. 33) note, these latter sub-categories "would not be expected to fall under the rubric of outsourcing, which more commonly refers to business services such as call centers and professional services such as engineering design or radiological diagnoses (both of which fall under BPT)." In 2004, BPT imports and exports amounted to \$40.7 billion and \$75 billion, respectively. If BPT imports are identified with Mode 1 services imports, as would follow from the statement by Mankiw and Swagel just quoted, these figures show that outsourcing by the United States is more than offset by in-sourcing from it.<sup>13</sup> Mankiw and Swagel note that BPT imports accounted for only 16 percent of total private services imports and 2 percent of total goods and services imports in 2004.

13. It may be noted, however, that there are large discrepancies between imports of services reported by the Bureau of Economic Analysis (BEA) of the United States and exports of services to it reported by partner countries. Kozlow and Borgia (2004) note that services imports from India reported by the BEA accounted for only 17 percent of the services exports to the United States reported by India for the year 2002.

We can bring some further evidence to corroborate the conclusion that the number of Mode 1 services jobs outsourced is likely to be small. This includes:

- The Bureau of Labor Statistics (BLS) uses filings for unemployment insurance to identify firms that had layoffs of more than 50 workers for more than 30 days. It then asks these firms whether the layoff resulted from a move of the work to another location within or outside the company and if yes, the geographical location of the move. According to Mankiw and Swagel (2006), the data for the first six quarters (starting in January 2004) for which data were available to them, only 1.6 percent of the layoffs were associated with out-of-country relocations. Job losses associated with relocations within the United States accounted for 3.3 percent of the job losses. Given that relocations included manufacturing as well as services, offshoring of Mode 1 services could have accounted for only a tiny proportion of 1.6 percent of the total layoffs attributable to relocations overseas.
- Mann (2003) calculates that once we adjust for the business cycle effects and compare the employment in the information technology-related industries between end-1999 and October 2003, employment in various categories associated with Mode 1 services shows steady expansion. Her calculations do not directly measure the extent of outsourcing, but they do suggest at most tiny impact of outsourcing on employment.
- None of the calculations take account of the fact that in many cases imports of Mode 1 services may help preserve or generate jobs at home. Once the option to buy services abroad opens up and some countries begin to take advantage of it, those that choose not to do so will be rendered uncompetitive in the activities intensive in the use of those services. In a similar vein, projects that may not be profitable when all its component activities are performed at home may become profitable upon offshoring of low-end skilled jobs. Drawing on Pearlstein (2004), Bhagwati, Panagariya and Srinivasan (2004) offer a concrete example in support of this point. Several years ago, the Information Management Consultants (IMC) of Reston, Virginia considered undertaking a specialized

software project. It concluded that the project was unviable if undertaken entirely in the United States but viable if its Indian subsidiary did the bulk of the coding work. It took the latter option and was able to employ six engineers in the United States for each engineer in India.

### **Jobs Lost to Offshoring the Production of Goods and Services in General**

The studies discussed so far aim to capture the extent of Mode 1 services offshored by the United States even though they may be successful in doing so only to a limited degree due to data limitations. A somewhat larger body of research studies offshoring of jobs more generally. This research uses one of two sets of data: data from the Bureau of Economic Analysis (BEA) on variables such as employment and wages associated with the activities of U.S. and foreign multinational corporations; and trade data combined with input-output tables. Given the focus of this paper on offshoring of Mode 1 services, I do not cover the studies on offshoring in general in detail. Mankiw and Swagel (2006) provide an excellent summary of them. Drawing on their paper, I selectively describe some of the findings of this literature.

- The BEA data track employment by the U.S. multinationals abroad as well as that by foreign multinationals in the U.S. Therefore, these data allow us to get some idea of both offshoring and “in-sourcing” from the United States. Mankiw and Swagel (2006) plot these data from 1988 to 2003. Both the employment by U.S. corporations abroad and by foreign corporation in the U.S. grew steadily during the 1990s. During the 2000s, the downturn in the U.S. economy was accompanied by a decline in the number of workers employed by foreign corporations in the U.S. Employment by the U.S. corporations abroad continued to grow, though at a slower pace. The total number of employees in foreign affiliates of the U.S. corporations was a little above 8 million in 2003 and in the U.S. affiliates of foreign corporations was a little above 5 million in the same year.
- From the viewpoint of employment in the U.S., the key question is whether the workers in the U.S. affiliates abroad displaced the workers at home or helped preserve their jobs. Economists



indirectly seek an answer to this question by examining whether employment in the parent corporation rises or falls (i.e., whether it exhibits complementarity or substitutability) with employment in the foreign affiliates. Hanson, Mataloni and Slaughter (2003) use firm-level data to estimate labor demand equations for the U.S. multinationals and find that increased overall sales by the foreign affiliate is accompanied by increased employment in the U.S. parent. Job gains are asymmetric across skill levels, however. While the demand for skilled workers increases, that for unskilled workers declines with increasing sales abroad. Evidence on the effect of foreign wages on the parent employment is in dispute: while Hanson et al. (2003) find that lower wages abroad reduce employment by the parent, Brainard and Riker (1997) find they have no effect on the latter.

- Landefeld and Mataloni (2004) show that the 1.6 percent per annum rate of job creation in the U.S. market between 1989 and 1999 at by multinationals expanding overseas was not especially different from the 1.8 percent per annum rate by all U.S. firms during the same years. These authors also find that foreign affiliates of the U.S. firms sold 65 percent of the output in the local market, 24 percent in third-country markets, and 11 percent in the U.S. market. This fact also points to low job displacement at home, unless one believes that the corporations could have produced all output in the United States and remained competitive in various markets.
- Baily and Lawrence (2004) combine trade data with input-output data and calculate jobs losses due to trade. They find that it is weak export performance rather than rapid rise in imports that accounts for the bulk of trade-related job losses after 2002. They point to the lagged impact of a strong dollar in the late 1990s as the key cause of the weak performance of U.S. exports.

#### **4. Samuelson and the Welfare Economics of “Outsourcing”**

An article by Nobel laureate Paul Samuelson (2004) created much stir in the press. Most press accounts reported the article as lending support to

the view that outsourcing undermined the case for free trade. But as I explained in the note “Why the Recent Samuelson Article is not about Offshore Outsourcing,” (Panagariya, 2004) posted on my website, the phenomenon Samuelson analyzed was not offshore outsourcing at all. Instead, he considered the effect of a productivity gain abroad in a product exported by home country. Such a change expands the foreign output of the good and lowers its price in the world market. This decline in price represents a deterioration in the terms of trade of the home country and hence a loss in welfare.

As I explain in my note, deterioration in the terms of trade due to productivity increases abroad has been known to trade economists since at least the 1950s. But even these losses do not undermine the case for free trade. What the terms-of-trade deterioration does is to reduce the home country’s gains from trade. But the gains remain positive so that a move by the home country to autarky will still lower its welfare.

In Bhagwati, Panagariya and Srinivasan (2004), we offer a proper analysis of the welfare effects of opening to the imports (and exports) of Mode 1 services. We demonstrate that the effect of such a change is necessarily positive on the global economy as a whole. It is also positive on a small open economy that takes the terms of trade as given. In a large open economy, the primary effect of opening to the import of Mode 1 services is positive, but it may be accompanied by either an improvement or a deterioration in the terms of trade with respect to the previously traded goods. In the former case, the terms-of-trade improvement produces a secondary gain reinforcing the primary gain. But in the latter case, the deterioration of the terms of trade counteracts the primary beneficial effect and the net welfare effect is ambiguous. It deserves emphasizing, however, that even when the terms of trade deteriorate so much that welfare declines, a withdrawal from trade will make matters worse, not better. Trade yields less gains than prior to the possibility of importing Mode 1 services but those gains are positive.

## 5. Mode 1 Services Imports: The Next Big Thing?

In sharp contrast to public perceptions reflected in numerous press reports and blogs, Economists are in agreement that Mode 1 services imports so far are tiny in relation to the overall market for skilled workers in the United States. While most economists also do not see this phenomenon turning into a tidal wave in the future, one eminent economist, Professor Alan Blinder (2006, 2007) of Princeton University, has forcefully argued the opposite. Blinder has set off alarm bells arguing that services imports promise to bring a third Industrial Revolution in the United States, the first being the displacement of agriculture by industry and the second involving the ascendancy of industry over services.

### Blinder's Alarmist Thesis

To give an idea of what Blinder (2006) has in mind, he begins by reminding that in 1810, 84 percent of the U.S. labor force was in agriculture compared with just 3 percent in manufacturing. By 1960, the first Industrial Revolution had raised the share of manufacturing in labor force to 25 percent and lowered that of agriculture to 8 percent. The second Industrial Revolution followed. By 2004, it had raised the share of services in the labor force to 82 percent and lowered those of industry and agriculture to 16 and 2 percent, respectively.

According to Blinder (2006, 2007), the United States is now in the midst of a third Industrial Revolution. He contends that this time around, the revolutionary change will be massive offshoring of what he calls "impersonal services"—that is, services that can be delivered electronically over long distances with little or no degradation in quality." In turn, this offshoring will be accompanied by a shift of the U.S. workforce into "personal services"—that is, services that cannot be delivered electronically without significant deterioration in quality and that require face-to-face contact.

As an aside, I may note that what Blinder calls "impersonal services" are precisely what Bhagwati, Panagariya and Srinivasan (2004) had identified as the WTO Mode 1 services.<sup>14</sup> By

14. In his formal definition, Blinder limit impersonal services to services that can be delivered electronically. But he clearly

implication, "personal services" in Blinder's nomenclature are identical to WTO Modes 2, 3 and 4 services taken together. Therefore, the assertion by Blinder that all this while, we have lacked a nomenclature that conceptually distinguishes among various services is inaccurate. Numerous conceptual and theoretical analyses of trade in services by trade economists during the last two decades have relied on precisely the kind of distinction he makes. Blinder does introduce a new element by associating some economic properties with one set of services versus the other (e.g., higher productivity growth in impersonal (Mode 1) services than in personal (modes 2 to 4) services); but as I will argue below such association is on rather slippery ground.

Blinder's main argument (Blinder 2007, pp. 14-24) may be summarized as follows.

- Offshoring will continue to expand for several decades to come. There are three factors driving this process. First, advances in information and communications technology (ICT) will continue to turn more and more personal services into impersonal, Mode 1 services. Second, India, China, and other countries will continue to provide large and increasing numbers of skilled workers. Finally, Baumol's (1967) disease will drive demand away from personal to impersonal services. Baumol's disease, as applied by Blinder to services, says that there is little scope for productivity increase in personal services. Therefore, productivity increases in impersonal services, which raise real wages, also raise prices of personal services. Such price increases shift demand away from personal and to impersonal services, contributing to offshoring.
- Eventually, the number of jobs subject to offshoring competition will be huge. Based on the characteristics of jobs of approximately 800 occupations in the Bureau of Labor Statistics (BLS) Standard Occupational Classification (SOC) description, Blinder develops a subjective ranking of most offshorable to least

does not mean to exclude other modes of arm's length delivery as, for example, when blood samples are flown abroad and blood reports airmailed back to the home country. Therefore, there is complete identity between what he calls impersonal services and WTO Mode 1 services.

offshorable jobs. From this ranking, he concludes that as many as 30 to 40 million of the current jobs will eventually become capable of being offshored although this does not mean that this many jobs will be actually offshored. There is no way of knowing the actual number of jobs that will be offshored.

- Offshoring is likely to lead to major adjustment problems in the economy. U.S. workers will face adverse employment as well as wage effects. There are three possible sources of transitional unemployment. First, offshoring will lead to greater increase in the gross job destruction rate than in the job creation rate. This will raise the natural rate of unemployment during the transition. Second, job mismatch will lead to structural unemployment. Many million Americans may be forced out of their impersonal (Mode 1) services employment into something else. Changing occupations will be painful. Finally, imports will rise in relation to exports due to offshoring, leading to deficient aggregate demand and Keynesian unemployment. On the wage front, the availability of low-wage skilled labor from India and China will push skilled wage down in the United States. Even the threat of the availability of this low-cost labor may be sufficient to drive down the wages in the occupations vulnerable to offshoring.

### **A Critique of Blinder's Thesis**

Although this story seems coherent on the surface, a close examination reveals large holes in it. Let me consider some major problems.

#### *Do the Numbers Add up to a Tempest?*

Even if we take the numbers offered by Blinder at face value, they do not add up to a tempest. Begin with the following statement by him (Blinder 2007, p. 19): "I am not—repeat, *not*—claiming that 30–40 million Americans will lose their jobs because of offshoring. Rather, this is my rough estimate of the number of jobs that will face potential foreign competition. Only a fraction of them will actually be moved offshore. In addition, this transition will take some time—perhaps decades" [Emphasis in the original]. Blinder does not state precisely what fraction of the 30 to 40 million jobs he expects to be actually offshored in the final equilibrium. Is it

four fifths? One half? Or could it be just one tenth? Nor does he state precisely how many decades it will take for the adjustment to complete? Is it the 150 years he cited for the first Industrial Revolution (1810 to 1960), 45 years for the second Industrial Revolution (1960 to 2004), or something else?

If we are talking about half of the 30 to 40 million jobs offshored over 60 years, we get approximately 250,000 to 340,000 jobs offshored per year on the average. The larger numbers is awfully close to the annual average implied by the Forrester forecast. Even if we make the extreme assumption that the entire 30 to 40 million jobs counted by Blinder will be offshored and limit the transition time to the 45 years required for the second Industrial Revolution, we are talking about offshoring approximately 670,000 to 890,000 jobs per year. These figures may look impressive in absolute terms but they are still a tiny fraction of the 48 million jobs the U.S. economy currently creates and destroys each year.<sup>15</sup>

These numbers offer a more sober picture than the one Blinder (2007, p. 9) paints when he talks of a long-lasting tempest in the making: "But before we reach the promised land, I suspect that we Americans will experience a nasty transition, lasting for decades, in which not just millions but tens of millions of jobs are lost to offshoring. (That's gross, not net, losses of course.) Which brings to mind the quotation from Keynes at the start of this paper."<sup>16</sup> One will have to be foolish to assert that the adjustments during the first and second Industrial Revolutions did not involve pain and sacrifice or that there were no losers along the way. But the transition was surely not cataclysmic. On the average, the expanding manufacturing sectors during the first Industrial Revolution and services sectors during the second Industrial Revolution did a reasonably efficient job of pulling the workers in the declining sectors into better-paid jobs. Moreover, with the benefit of experience and a wealthier economy, we are

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15. I infer this last figure Blinder (2007, p. 20) who states that the U.S. economy creates and destroys 4 million jobs every month.

16. The quotation from Keynes, appearing at the beginning of Blinder's paper, in turn says, "Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again."

surely more knowledgeable in handling a transition and financially better equipped to ease the pain of adjustment than in the past.

### *Are Large Numbers Likely?*

Going by Blinder's (2007, p. 14) own description, the rate of technological change in information and communications technology has progressed at a "dizzying" pace in recent years. In turn, this has made a large number of personal services into impersonal or Mode 1 services. Yet, the realized level of offshoring of the latter has been relatively small. All well-informed observers including Blinder agree that the gross number of jobs offshored to-date is less than one million. While no one can predict the future accurately except by chance, factors that have inhibited a rapid expansion of offshoring to-date will continue to inhibit it in the future.

Much of the offshoring to India today is in low-end software services. Dossani (2005, Table 6) provides valuable data on India's share of the global software services market by different categories. In application development, which refers to the creation of applications programs, India enjoyed a large share of 16 percent in 2003. But the global market in application development is only 5 percent of the total software services market. Therefore, when the software services market as a whole is considered, India's share adds up to only 0.8 percent. Despite the hype on the abundance of skilled labor at low wages, India's presence in high-end software services is minuscule. Thus, in systems integration categories including hardware and software deployment and support as well as applications, tools, and operating systems, India had a share of less than 1 percent in 2003. In managed services, which refer to managing applications and networks, India's share was 1.6 percent.

Focusing on offshoring to the poor countries, which poses the greatest threat to wages in the rich countries, several factors are likely to inhibit rapid expansion of offshoring in general and offshoring of high-end Mode 1 services in particular. First and foremost, once we get past the low-end Mode 1 services such as application development, data entry, call centers, and back-office operations and consider more sophisticated services such as systems

integration, managed services, R&D, and product development, the buyer-seller contact becomes crucial. Users and consumers of complex new services and goods largely reside in the rich countries. Firms engaged in innovating such products must closely interact with these consumers while introducing and debugging the latter. Additionally, those engaged in the innovation process also require close proximity with one another. Therefore, even when it is technologically feasible to offshore many tasks, the communication problems in the absence of physical proximity make offshoring costly.

This message comes out most forcefully in a recent study by Bhide (2007) who interviewed CEOs of 105 venture-capital backed companies in the United States. CEO after CEO tells Bhide how important keeping the entire team in a single location and near the customers is. To quote one CEO (Bhide 2007, p. 7):

"All of our customers are now based in the US, and it's very important that the people who are developing our software are in regular communication with our customers, and not just by talking with them on the telephone. They need to be visiting the customer's physical locations, see how the software is being used, talk with the end users, take that knowledge back to the company, and use it to design new features and capabilities. I just didn't see how that could be effectively done overseas."

Another CEO emphasizes how the need for placing even engineering staff with sales, marketing, and product managers in a single location close to customers precludes offshoring (Bhide 2007, p. 8):

It's not just the time difference and language barrier of dealing with a country like India. You also struggle with communication in the same country, even in the same location, because engineers speak a different language from salespeople and product-marketing people. Even with everybody being American, if you have a development center somewhere in the middle of the US and the rest of the team is in California, you really run into problems. It's not a question of cost. You want people right next to you, not in India or Alabama. If it's purely repetitive work and there is no need for constant communication and feedback, I'm sure outsourcing could work. But here, we're constantly dealing with customers, who constantly give us changes.

The second reason why indiscriminate spread of offshoring of Mode 1 services is likely to be arrested stems from the regulations aimed at protecting consumers in the buyer country. Satisfying the technical and regulatory standards



when a service is provided from a remote location can be highly costly. The example of outsourcing of X-ray reading best explains this point. A story entitled “Who is reading your X-ray?” in the *New York Times* (November 16, 2003) created a huge stir that even the jobs of radiologists, who typically earn \$300,000 per year, are not safe from outsourcing. Subsequently, a careful investigation by Levy and Goelman (2005) revealed that the phenomenon is confined to so-called nighthawk radiology services sought by hospitals that need a small number of X-rays read during nighttime hours. The small number does not justify employing a radiologist at night. It turns out that all large hospitals providing nighthawk services are located in the United States. All non-hospital firms providing nighthawk services are also headquartered in the United States but have radiologists offshore in Bangalore, Barcelona, Sydney, and Tel Aviv. The first of these firms began operation in 2001. The number of offshore radiologists remains small because they must be board-certified, licensed to practice in the state in which the hospital seeking the service is located, and credentialed in the hospital.

A final factor working against massive spread of outsourcing to poor countries such as India comes from the supply side, in the form of a shortage of skilled workers there. I discuss India’s potential as an offshore source of skilled jobs in greater detail in section 6. But I note here that although India has been able to produce large numbers of skilled personnel that can deliver some low-end services cheaply, scarcity quickly takes over as we move up the skill ladder. In the field of economics, when we look for technically proficient research even on India, we find the bulk of it in the United States. Those of us who have searched for potential collaborators even for good policy research, rather than for more challenging theoretical and econometric research, find ourselves returning to the same small group of researchers. The same phenomenon exists in other areas. Even at the low end, shortages have led to rapid increases in wages—10 to 20 percent per year. Simultaneously, turnover rates have reached unprecedented levels. One may argue that this will change over time as more and more skilled workers come on the market. But considering the woes of the Indian higher education system and

the failure to realize that the entire system is in need of reform offers little reason for optimism (Panagariya, 2007, chapter 20).

#### *What about “Onshoring”?*

Blinder (2006) leaves the reader wondering whether the United States will be left importing everything and exporting nothing. He discusses how more and more services will transform into Mode 1 impersonal services and therefore offshored, with U.S. workers left to perform just personal services. Given that the United States also lacks comparative advantage in manufacturing, this left unanswered the question about what would it be exporting. In his more recent contribution, Blinder (2007, p. 3) is more careful and states at the outset that he is “*not* claiming that the United States is about to lose comparative advantage in everything! [Emphasis in the original]. He also has some passing references to the U.S. “onshoring” certain services. Most importantly, his policy prescription III explicitly deals with what the United States might export as more and more services become subject to offshoring.

But Blinder clearly downplays the role of onshoring. Even when offering policy advice, he favors educating the future generation in the provision of high-end personal services. During the second Industrial Revolution, many argued that with the progressive loss of comparative advantage in manufacturing, the United States would be importing everything. That did not happen; instead, the United States has continued to be highly competitive in high-end manufacturing and has emerged as a large exporter of services, both personal and impersonal. Indeed, since the United States (or any other country) cannot run a current-account deficit beyond a certain limit, most imports must be paid for by exports. Given the United States is likely to remain a substantial net importer of goods, it is also likely to remain substantial net exporter of services. This means that as personal services turn into impersonal services and become subject to trading at arm’s length, a large chunk of the latter will be onshored. In turn, this means that new jobs that pull workers up from declining sectors will arise during the transition. It may be recalled in this context that according to the evidence provided by Mankiw and

Swagel (2006) and reported above, the United States currently runs a large surplus in Business, Professional, and Technical Services, which is the category in trade data coming closest to Mode 1 services.

#### *A Quibble on the Application of Baumol's Disease*

A key step in Blinder's argument—the application of Baumol's disease—suffers from an important conceptual flaw. Baumol's original thesis was stated in terms of two distinct sets of products called manufactures and services. Within this classification, manufactures were hypothesized to have faster productivity growth than services.<sup>17</sup> But Blinder has chosen to apply this hypothesis to personal and impersonal services such that the latter show higher productivity growth than the former. This would be fine in a model with two distinct sets of services. But in the model used by Blinder, personal services are continuously transforming into impersonal services. In such a model, it is not clear how low-productivity-growth personal services that transform into impersonal services acquire the high productivity growth of the latter. For the argument to work, minimally, it must be assumed that on the average impersonal services continue to exhibit higher productivity growth even as they absorb more of what were previously low-productivity-growth personal services. It is not clear if such an assumption will be justified by data.

Indeed, one can even question the empirical validity of the assumption that the current set of impersonal services exhibits higher productivity growth than the current set of personal services. For instance, many R&D activities, medical advances, banking and insurance activities, advanced medical procedures, and high-end software development activities, which remain in the personal services category due to the necessity of buyer-seller contact, may well exhibit higher productivity growth than the low end services currently subject to offshoring. At the least, empirical evidence remains to be provided to substantiate the assumption, made by Blinder, that personal services exhibit lower productivity

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17. Baumol's disease is better known to trade economists as the "Balassa-Samuelson" effect (Balassa 1964 and Samuelson 1964) and goes at least as far back as Harrod (1933).

growth than impersonal services and will continue to do so even as the former transform into the latter.

#### *And as India and China Get Richer...*

One final point, which Blinder overlooks, is that if the transition to the final equilibrium is long—say, fifty years—chances are excellent that India and China themselves will turn into rich countries before we reach the end of his third Industrial Revolution. The obvious implication is that the fear of having to compete against low-skilled-wage workers in these countries is perhaps exaggerated in his analysis. In fifty years, India and China will themselves emerge as net demanders of the Mode 1 services that they currently export. Moreover, skilled wages there will catch up with skilled wages in the rich countries, thus, eliminating the threat of low-wage competition to the latter.

#### **6. India as an Offshore Source of Skilled Services**

I have argued that prospects of India turning into a major source of skilled services, especially at the high end of the ladder, are rather poor. I now elaborate on this theme. I begin by presenting the growth of software exports comprising the outsourcing industry in Table 1. As the table shows, total software exports from India shot up to \$31.3 billion in 2006-07 from less than \$1 billion in 1995-96.<sup>18</sup> The growth rate of total software exports has averaged 31.1 percent between 2001-02 and 2006-07. If we include the earlier years, the growth rate is even higher.

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18 Data on India usually relate to its fiscal year, which begins on 1 April and ends on 31 March. Therefore, a year such as 1995-96 refers to the period beginning 1 April, 1995 and ending on 31 March, 1996.

**Table 1: Software Exports of India (\$ billions)**

	IT Services (1)	ITES-BPO (2)	Total Software (1+2)
1995-96	0.8		0.8
1996-97	1.1		1.1
1997-98	1.8		1.8
1998-99	2.6		2.6
1999-00	3.4	0.6	4.0
2000-01	5.3	0.9	6.2
2001-02	6.2	1.5	7.6
2002-03	7.0	2.5	9.5
2003-04	9.2	3.6	12.8
2004-05	13.1	4.6	17.7
2005-06	17.3	6.3	23.6
2006-07	22.9	8.4	31.3

Source: Reserve Bank of India, *Annual Report*, various issues, and NASSCOM, July 2, 2007 update.

Software services are divided into information technology (IT) and IT-enabled services (ITES). The former refer to the design, development, implementation, support or management of computer-based information systems, particularly software applications, and computer hardware. The ITES, popularly called Business Process Outsourcing (BPO) services in India, refer to specific business tasks including back office tasks (internal business functions) such as billing, payroll and purchasing as well as front office task addressed to customers such as marketing and tech support through call centers. While the BPO exports from India have shown rapid expansion in recent years, IT exports still account for approximately three-fourths of India's total software exports.

While the rapid growth of IT and ITES exports from India is widely acknowledged, it is important to note that their direct contribution even to the Indian economy is still relatively small. In 2005-06, India's GDP at current dollars was \$806 billion. Therefore, even if we count the entire quantity of exports as value added, they represented only 2.9 percent of the GDP that year.<sup>19</sup> Once we take into account domestic and imported inputs embodied in these exports, the contribution of the sector to the GDP is likely to be much smaller.

Table 2 offers some further details relating to the Indian software sector. Approximately one-fifth of the output of the sector serves domestic demand. The National Association of Software and Service

19. I was unable to do this calculation for 2006-07 due to the unavailability of the average exchange rate during 2006-07 for the conversion of the rupee GDP into dollars.

Companies (NASSCOM), which provides these data, also reports that the industry employed approximately 1.6 million individuals in total in 2006-07 of which 1.2 million served the export market. This number places an upper limit on the number of jobs outsourced to India from all countries in the world. The actual number is, of course, likely to be much smaller for at least three reasons. First, many of the call center type of jobs were already lost to machines in the rich countries. For instance, even before call centers began to open in India, many calls in the United States were being handled by automated answering systems. Second, many of the jobs in India actually support additional jobs in the rich countries. They make viable certain business ventures that would not otherwise be viable. Finally, productivity and wage differences suggest that for each worker displaced in the rich countries, more than one worker is employed in India. For example, it is common for the firms in India to employ drivers to take employees around and to have a human being serve coffee and tea, which is not customary in the rich countries.

**Table 2: Software Industry in India: Exports and Domestic Components (\$ billions)**

	2005-06	2006-07	2007-08
IT exports	17.3	22.9	28-29
ITES-BPO exports	6.3	8.4	10.5-11.0
Domestic market	6.7	8.2	~10.0
Total	30.3	39.6	49-50

Note: Data for 2005-06 and 2006-07 are actual and for 2007-08 are projections by NASSCOM.

Source: Reserve Bank of India, *Annual Report*, various issues, and NASSCOM, July 2, 2007 update.

Salary increases in India suggest a very tight market for skilled workers. For the last several years Hewitt's Asia-Pacific Salary Increase Survey has been consistently reporting India as the country with the highest increases in the region, albeit measured in local currencies and in nominal terms. Given India's wide margin over salary increases in other countries, its low inflation, and the relative stability of the rupee against the U.S. dollar—the annual average of the rupee-dollar exchange rate moved from 41.3 rupees per dollar during 1998 to just 44.1 rupees per dollar during 2005—it is safe to assume that the increases have been the highest in the region in real terms as well.

For illustrative purposes, Tables 3 and 4 present recent annual average salary increases in India according to employee group and industry as reported by the Hewitt Salary Increase Survey. The first three categories of workers in Table 3 represent skilled workers. They received the highest salary increases in the region and for all three years shown. According to a report in *Hewitt Quarterly Asia Pacific*, salary increases in India during 1997-2002 were even higher than those reported for 2005.<sup>20</sup> The same publication reports single-digit salary increases in other countries in Asia including China, Hong Kong, Korea, and Singapore. Table 4 shows that across industries, India's salary increases in the IT and ITES sectors are among the highest in the region. Hewitt reports salary increases for 2005 similar to those in table 4: 16.5 percent for IT and 16.1 percent for the ITES sector.

**Table 3: Average Annual Salary Increase by Employee Group in India (percent)**

	2004	2005	2006
Senior/Top management	11.3	13.9	13.9
Middle management	11.9	14.5	15.0
Professional/Supervisor/Technical	12.2	15.4	16.0
Clerical/Support	11.1	13.3	13.5
Manual	9.5	11.4	11.9

Source: Compiled from various news stories. In particular see <http://www.hewittassociates.com/Intl/AP/en-IN/AboutHewitt/Newsroom/PressReleases/2007/march-15-2007.aspx>

**Table 4: Average Annual Salary Increase by Industry in India (percent)**

	2006
Insurance	17.1
Banking and financial services	17.0
IT-enabled services	15.6
Information technology	15.4
Telecommunications	15.1
Healthcare and medical products	12.0
Not-for-profit	11.0

Source: Compiled from various news stories. In particular see <http://www.hewittassociates.com/Intl/AP/en-IN/AboutHewitt/Newsroom/PressReleases/2007/march-15-2007.aspx>

A recent study by consulting firm A.T. Kearney reinforces these trends, reporting that average wages for programmers in India, China, and Eastern Europe rose 20 to 40 percent on average in 2006 compared with 5 to 10 percent in the United States. The study predicts the cost

20. "Hewitt's Asia Pacific Salary Increase Survey 2005-2006," *Hewitt Quarterly Asia Pacific* 4(3): [http://www.hewittassociates.com/Intl/AP/en-AP/KnowledgeCenter/Magazine/HQ\\_15/index.html](http://www.hewittassociates.com/Intl/AP/en-AP/KnowledgeCenter/Magazine/HQ_15/index.html).

advantage enjoyed by India and China will disappear by 2027. If this forecast proves true, Mode 1 services trade between the rich and poor countries may turn into intra-industry-type service trade relatively soon, and the wage pressures implicit in Blinder's analysis may disappear rather quickly.

Reports on employee turnover rates reinforce the picture conveyed by wage movements. In call center-type activities, turnover rates in excess of 50 percent are commonplace. For example, a story in the *Economist* (2004) notes, "Even the best call-center operators in India lose about half their employees each year (but then turnover in British call-centers is about 70%). One Convergys job advertisement in the *Times of India* promises to make prospective call-center employees 'a prime target of all the dons of the industry. You will be hunted down, with almost a king's ransom on your head.'"

Finally, the woes of the higher education system in India also point to continuing shortage of highly skilled workers in the future. India's gross enrolment ratio in higher education, as reported by UNESCO, rose from 10 in 2000 to 12 in 2004.<sup>21</sup> China's ratio rose from 6 percent in 1999 to 13 percent in 2002 and to 19 percent in 2004. Not only is India's enrolment ratio low, but also it is rising at snail's pace. This progress in turn is routed in a higher education system that is crumbling without any effort on the part of the government to reform it.

Once we get past the top educational institutions such as the Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs), the quality of education declines rapidly. Traditionally, India has not permitted private universities and even now, their entry is extremely difficult since it requires legislative action by the central government or a state government. The University Grants Commission (UGC), a central government body, tightly controls the entire higher education system right down to the curricula and degrees offered. At the same time, the government has no resources to invest in higher education. In

21. These figures are taken from the UIS (UNESCO Institute of Statistics) database. Generically, gross enrolment ratio is defined as the ratio of the pupils enrolled in a given level of education (regardless of age) to the theoretical age group for the same level of education.



2003-04, India spent 0.6 percent of the GDP on higher education. In absolute terms, this was approximately \$3.7 billion at the average exchange rate of 45.95 rupees per dollar that year. In comparison, Indian students are estimated to spend anywhere between \$2 billion and \$4 billion on higher education abroad, principally in the United States.

On the quality front, two factors have helped in delivering a small number of well-qualified graduates. First, the school system continues to function reasonably efficiently and gives good education. This brings some excellent students to colleges in most universities. In turn, the universities have a UGC-determined curriculum and they do a satisfactory job of quality control through a university-wide examination system. Students know that if they distinguish themselves among the top 3 to 5 percent of students in these examinations, the market will recognize their talent. Therefore, they work hard and master the curriculum despite absenteeism of professors or poor instruction in the classroom.

A second factor leading to the delivery of a tiny number of extremely talented students is the presence of a handful of institutions of excellence such as the IITs, IIMs, and the Delhi School of Economics. These institutions select the top secondary school students from the entire country and offer them a world-class education. The number of students coming out of these institutions is truly small, however. For example, the total number of students graduating from the IITs in 2002-03 was only 2,274.<sup>22</sup> The poor quality of education offered by other than these few select institutions is the reason why as many as 150,000 Indian students currently study in the United States, Canada, U.K., and Australia.

On the quantity front, much of the expansion of post-secondary education has taken place in the private sector. Though the entry of private universities is extremely difficult, India has long permitted private colleges and diploma-granting institutions. The former provision has specifically helped expand engineering education and the latter management education. Private colleges awarding degrees must still affiliate themselves to

some public university, however. Institutions awarding only diplomas can do so on their own. These provisions, accompanied by the state's tight budgets, have resulted in the share of private colleges in student population rising from 26 percent in 2000-01 to 43.4 percent in 2005-06. The shift is far more dramatic among engineering colleges. The share of private engineering colleges rose from just 15 percent in 1960 to 86.4 percent in 2003.<sup>23</sup>

While the number of engineering graduates in India (and China) has expanded rapidly in recent years, the press and public policy debates have greatly overstated their numbers. Simultaneously, the number of engineering graduates in the United States has come to be understated. For instance, Iype (2006) notes that according to All India Council for Technical Education, India produced 401,791 engineers in 2003-04. In 2004-05, the number of engineering graduates rose to 464,743, with 31 percent being computer engineers. Iype also cites 600,000 engineers graduating from China every year, compared to the relatively low figure of 70,000 engineers annually produced by the United States.

In the United States, those fearing potential competition from India and China accept these figures uncritically. Wadhwa, Gereffi, Rissing and Ong (2007) point out that even the National Academies and the U.S. Department of Education have cited these numbers. These figures also have salience in India since many wishfully think that India is about to become the provider of all cutting-edge research and skilled services to the rest of the world. But closer and more careful examination brings these numbers into serious doubt.

Wadhwa et al. carefully research the subject and find that the numbers are vastly overstated for China and India and understated for the United States. In the case of China, the authors note,

In China, the word "engineer" does not translate well into different dialects and has no standard definition. We were told that reports sent to the MoE [Ministry of Education] from Chinese provinces did not count degrees in a consistent way. A motor mechanic or a technician could be considered an engineer, for example. Also, the numbers included all degrees

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22. See Wadhwa, Gereffi, Rissing and Ong (2007).

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23. See Panagariya (2007, chapter 20) for more details and the sources of the data reported here.

related to information technology and to specialized fields such as shipbuilding. It seems that any bachelor's degree with "engineering" in its title was included in the ministry's statistics, regardless of the degree's field or associated academic rigor. Ministry reports also included 'short-cycle' degrees typically completed in two or three years, making them equivalent to associate degrees in the United States. Nearly half of China's reported degrees fell into this category.

A similar problem also exists in India where all kinds of degrees qualify as "engineering" degrees. Iype (2006) quotes C R Muthukrishnan of the Department of Computer Science and Engineering at IIT-Madras as stating,

We have degrees like a Bachelor of Computer Applications (BCA), Master of Computer Applications (MCA), Bachelor of Engineering or Technology (BE/B.Tech) in computer science, BE/B.Tech. in information technology, Bachelor of Science in computer science, Master of Science in computer science and an integrated M.Sc. in computer science /software engineering.

Numbers such as those reported by Iype (2006) perhaps also include diplomas awarded by polytechnic institutes after short courses in various engineering branches.

More careful research by Wadhwa et al. leads them to place the number of engineering graduates at 170,000 in India and 133,854 in the United States in the academic year 2004-05. In case of China, they cite two figures: 361,270 according to China Education and Research Network and 442,463 according to the Ministry of Education Yearbook in 2003-04. The authors regard the latter figure as a substantial overestimate. Wadhwa et al. also interview multinational and local technology companies in China and India regarding the quality of graduates. In China, they find that the companies feel 'comfortable hiring graduates from only 10 to 15 universities.' The list of universities varies from company to company but there was agreement that quality of graduates dropped dramatically beyond the list in each case. In India, both local companies and multinationals feel 'comfortable hiring the *top graduates* from most universities in India' [Emphasis added]. This finding is consistent with the point I made earlier that most universities in India receive some excellent students at the top who continue to acquire knowledge, even if they do not receive it in the classroom, so that they may do well at the university examinations.

As I discuss in Panagariya (2007, chapter 20), the higher education system in India faces serious challenges. Being highly centralized and interventionist even when it comes to private colleges, it leaves limited room for innovation at the local levels. Moreover, Indian universities produce hardly any world-class research. With the economy now growing at 8 to 9 percent per year, bright graduates are increasingly being absorbed by industry so that a serious shortage of teachers is beginning to emerge at all levels. The upshot is that the prospects for India being able to supply skilled workers in unlimited volumes at a relatively low wage are not good during the next couple of decades.

## 7. Concluding Remarks: The Future Policy Course

There is consensus among well-informed analysts that the number of Mode 1 services jobs outsourced/offshored by the United States to-date is so far less than a million. Most academic authors who have addressed the issue, with the very important exception of Professor Alan Blinder of Princeton University, do not predict explicitly that it is likely to turn into a gigantic phenomenon. My own interpretation of the scenario envisaged by Blinder, discussed in this paper, is that even it does not foretell the coming of a tempest, but this is definitely not his view. He does view the current volume of outsourcing/offshoring as the tip of a huge iceberg. He expects it to turn into a "big deal."

It is important to recognize that just because Professor Blinder's is the minority view does not make it less likely to be right. Therefore, the real crux of the matter is how the two sides differ in their policy advice. Luckily, here the differences are turn out to be remarkably minor. Both sides agree that protection is not the answer and that the thrust of policy should be to minimize the pain of adjustment and to prepare the labor force for tomorrow's technologies and products.

On adjustment assistance, I have no disagreements with Blinder. Trade adjustment assistance must be made more effective and generous and extended to services. But more importantly, social safety nets must be improved and extended to all displaced workers. The wage

loss insurance program advocated by Brainard, Litan and Warrant (2005) must also be introduced. This program will insure against earnings losses for permanently displaced workers who secure reemployment.

There is only one of Blinder's policy recommendations with which I will disagree. Based on his prediction that American workers increasingly will be pushed into employment in personal services, he advocates re-orienting education towards high-end personal service occupations. I will instead target all high-end occupations, since I do not expect the United States to be displaced from them just because they turn into Mode 1 services. I expect the U.S. will keep its lead in high-end services in general and will be a net seller rather than buyer in the category of Mode 1 services. On balance, other countries will in-source high-end Mode 1 services from the United States. In terms of re-orienting the education system, what is required is to offer flexible skills that can be readily adapted for employment in a variety of occupations. Unlike in the past, few workers will have the luxury of being employed in a single profession for their entire lives (except perhaps professors!).

## References

Baily, Martin N., and Robert Z. Lawrence, 2004. "What Happened to the Great U.S. Job Machine? The Role of Trade and Electronic Offshoring." *Brookings Papers on Economic Activity*, September.

Balassa, B. 1964. "The Purchasing Power Parity Doctrine: A Reappraisal." *Journal of Political Economy*, vol. 72, December, pp. 584-596

Baumol, William J. 1967. "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis." *American Economic Review* 57 (3, June), pp. 415-426.

Bhagwati, Jagdish. 1984. "Splintering and Disembodiment of Services and Developing Nations." *World Economy*, 7(2), pp. 133-44.

Bhagwati, Jagdish. Arvind Panagariya, and T.N. Srinivasan. 2004. "The Muddles over Outsourcing." *Journal of Economic Perspectives* 18 (4, Fall), pp. 93-114.

Bhide, Amar. 2007. "Offshoring: Why Venture Capital-Backed Businesses Stay at Home." Paper presented at the Kauffman Planck Summit on Entrepreneurship Research and Policy, July 19-21, 2007 held at the Ritz Carlton Laguna Niguel in Dana Point, California.

Blinder, Alan S. 2006. "Offshoring: The Next Industrial Revolution?" *Foreign Affairs* 85 (2, March-April), pp. 113-28.

Blinder, Alan S. 2007. "Big Deal, or Business as Usual?" CEPS Working Paper No. 149. Princeton University.

Brainard, S. Lael, and David Riker, 1997. "Are U.S. Multinationals Exporting U.S. Jobs?" NBER Working Paper 5958, March.

Brainard, Lael, Robert E. Litan, and Nicholas Warren, . 2005. "A Fairer Deal for America's Workers in a New Era of Offshoring." In Susan Collins and Lael Brainard, eds., *Brookings Trade Forum 2005: Offshoring White Collar Work*, pp. 427-447.

Collins, Susan and Lael Brainard, eds., *Brookings Trade Forum 2005: Offshoring White Collar Work*. Brookings Institution.

Dossani, Rafiq. 2005. "Globalization and the Offshoring of Services: The Case of India." In Susan Collins and Lael Brainard, eds., *Brookings Trade Forum 2005: Offshoring White Collar Work*, pp. 241-267.

*Economist*. 2004. "The Place to be." November 11.

Hanson, Gordon H., Raymond J. Mataloni, Jr., and Matthew J. Slaughter, 2003. "Expansion Abroad and the Domestic Operations of U.S. Multinational Firms," mimeo.

Harrod, R. F. 1933. *International Economics*. Cambridge University Press (Reset edition published by Pitman).

Iype, George. 2006. "Engineering Education: Can India Overtake China?" June 9. Posted at <http://inhome.rediff.com/money/2006/jun/09bspec.htm>.

Kirkegaard, Jacob F. 2004. "Outsourcing—Stains on the White Collar?" At <http://www.iie.com/publications/papers/kirkegaard0204.pdf>

Landefeld, J. Steven, and Raymond Mataloni, 2004. "Offshore Outsourcing and Multinational Companies," BEA Working Paper WP2004-06, July 16.

Levy, Frank and Ari Goelman. 2005. "Offshoring and Radiology." In Susan Collins and Lael Brainard, eds., *Brookings Trade Forum 2005: Offshoring White Collar Work*, pp. 411-423.

Mankiw, N. Gregory and Phillip Swagel. July 2006. "The Politics and Economics of Offshore Outsourcing." National Bureau of Economic Research, Working Paper no. 12398.

Mann, Catherine. 2003. "Globalization of IT Services: and White Collar Jobs." Policy Brief PBO 3-11, Washington, D.C., Institute for International Economics.

Markusen, James. 2005. "Modeling the Offshoring of White-Collar Services: From Comparative Advantage to the New Theories of Trade and Foreign Direct Investment." In Susan Collins and Lael Brainard, eds., *Brookings Trade Forum 2005: Offshoring White Collar Work*, pp.1-23.

McCarthy, John. 2002. "3.3 Million US Jobs to Go Offshore." Cambridge, Mass., Forrester Research, Inc., November 11.

McCarthy, John. 2004. "Near-Term Growth of Offshoring Accelerating: Resizing US Services Jobs Going Offshore." Cambridge, Mass., Forrester Research, Inc., May 14.

National Academy of Public Administration (NAPA). 2006. *Off-Shoring: An Elusive Phenomenon*. Washington, D.C.: Academy Project no. 2051-000.

Panagariya, Arvind. 2004. "Why the Recent Samuelson Article is NOT about Offshore Outsourcing." At <http://www.columbia.edu/~ap2231/>.

Panagariya, Arvind. 2007. *India: The Emerging Giant*, New York: Oxford University Press.

Pearlstein, Steven. 2004. "Still Short of the Offshoring Ideal." *Washington Post*. March 12, p. E1.

Sampson, Gary P. and Richard H. Snape. 1985. "Identifying the Issues in Trade in Services." *World Economy*. June, 8, pp. 171-81.

Paul Samuelson. 1964. "Theoretical Notes on Trade Problems." *Review of Economics and Statistics* 23, 1-60.

Samuelson, Paul A. 2004. "Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization." *Journal of Economic Perspectives* 18 (Summer), pp. 135-146.

Wadhwa, Vivek, Gary Gereffi, Ben Rissing and Ryan Ong. 2007. "Where the Engineers Are." *Issues in Science and Technology*, Spring. Accessed on September 14 at <http://www.issues.org/23.3/wadhwa.html>.



# ASIAN SWFS IN EUROPE: Much Ado About Nothing?

Paola Subacchi

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## Introduction<sup>1</sup>

Increased integration among the world's main regions – Europe, Asia and the United States – the expansion of global markets, and the coming to the fore of large economies have contributed significantly to global growth in the last decade. As a result, the world economy is in its strongest state in thirty years.

The supply of cheap money, which is a source and a product of the current prosperity, brings to the global financial scene emerging-market countries with large surpluses. Global capital markets are expanding, while countries with large current account surpluses, such as China and oil exporters, have been building up considerable holdings of official reserves.

The size of these holdings has now surpassed precautionary motivations and liquidity objectives, moving the focus off currency stabilization and onto development strategies. It then makes sense for countries in this position to divert some of their capital inflows to state-owned investment funds, so-called Sovereign Wealth Funds, or SWFs, and switch to more 'aggressive' investment strategies.

These funds, which so far have been a vehicle for the accumulation of low-risk and low-return securities, are likely to grow and become more like private mutual funds or even hedge funds.

SWFs are not new, especially in countries rich in natural resources, but they have recently gained prominence in several emerging market countries, reflecting those countries' large balance of payments surpluses. SWFs already manage assets in excess of US\$2 trillion and their assets are projected to grow to over US\$5 trillion by 2015. Although the total size of SWF funds is still a fraction of the funds in other investment categories, the dynamics of their growth and cross-border nature of their asset-holdings raise several operational, institutional and policy issues.

There are growing concerns that the limited publicly available information on most SWFs, the multiplicity of their objectives, and the lack of clarity regarding their institutional structures and investment management as well as the lack of specific regulations in home countries make it difficult to assess their asset management activities and their impact on capital markets and the wider global economy. Without more public accountability, these funds could alter their governance structures, which, in turn, could lead to sharp changes in their investment policies. The public ownership of SWFs also raises the possibility of recipient countries placing restrictions on their capital accounts to avoid certain types of foreign direct investment. Prior to the emergence of SWFs and other unregulated investment vehicles, international capital was simply

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presumed to be controlled by private investors who made the right decisions. The emergence of SWFs discredited this presumption and raised awareness that how and where global capital is directed may require more regulatory attention than in the past.

The aim of this paper is to look at the investments of Asian SWFs in Europe, assess their strategies, and discuss the possible targets for acquisitions and strategic investments. Being among the biggest funds, with assets in excess of US\$600 billion, Asian funds are set to become increasingly important players in Europe. Using published as well as original figures and information, the paper will identify the SWFs operating in Europe and look at their main objectives – for example, pursuing investment policies with higher returns or sharing wealth across generations.

The paper is organised as follows. Part 1 sets the scene and discusses the recent surge in capital flows and the coming to the fore of emerging-markets countries with large current account surpluses. Part 2 looks at Asia’s SWFs, assessing their size, growth prospects, and strategies. Part 3 discusses possible targets in Europe. Part 4 concludes.

## Part 1. Setting the Scene

### 1.1. Surging Capital Flows

In the last three decades, total global capital flows have been rising faster than trade flows, initially benefiting from bilateral flows within the OECD (table 1). They rose from US\$ 500 billion a year in 1990 to over US\$4 trillion by 2000. Inflows to developing countries also rose, from under US\$25 billion a year in the late 1980s to US\$150-250 billion in 2000. This is a major change compared to just twenty years ago, when the current phase of globalisation and fast financial integration started. As a result, total market activity is much larger.

**Table 1: Global Flows of Trade and Capital (US\$ trillions)**

	1970	1980	1990	2000	2010e
Goods trade (exports)	0.4	1.9	3.4	6.3	16.5
Total capital inflows	almost zero	0.1	0.5	4.0	10+

Sources: IMF, UNCTAD, Oxford Economics

Capital flows can be classified into three main types: foreign direct investment (FDI), portfolio investment and banking operations, and foreign exchange (FX) management. They reflect the complexity of the world economy as well as the international nature of big business and are driven by increased economic integration. For instance, the surge in FDI is driven by cross-border activity to match ‘assets and liabilities’ or ‘cost base-to-sales’ and by market consolidation through mergers and acquisitions (M&A). The need to access new markets often fuels so-called brownfield or portfolio investment, and the expansion in world trade mainly drives banking operations and trade finance. Foreign exchange reserves management, meanwhile, is a necessary tool for emerging market economies to maintain currency stability in the face of widening trade surpluses and capital inflows.

The emerging economies of Asia together with oil exporters – Russia and OPEC – are some of the main players in the world economy and on global markets, because of the size and dynamics of their capital flows. Combined net capital outflows from Asia, Russia, and OPEC now amount to about US\$1 trillion a year, reflecting the size of their aggregated current account surpluses. Most of these capital flows have been directed towards the U.S. market.

In 2006, the United States paid about US\$604 billion on foreign-owned assets within its borders, although the income receipts on U.S.-owned assets abroad were higher, at US\$647 billion (U.S. Bureau of Economic Analysis). This means that despite its large current account deficit, the United States still earns more from investments abroad than what it has to pay to foreign investors for holding assets in the United States. This is mainly because foreign investors tend to invest in low-risk debt securities whereas U.S. investments abroad are mainly FDI and portfolio investments in equities. IMF figures on the breakdown of capital account by type of transaction show that of the stock of U.S. assets abroad, about 22 percent is direct investment, 20 percent is portfolio investment, and the rest is mostly banking operations and FX management. Of the stock of foreign assets in the United States, almost 60 percent is portfolio investment compared with 10 percent in direct investments. Direct investments

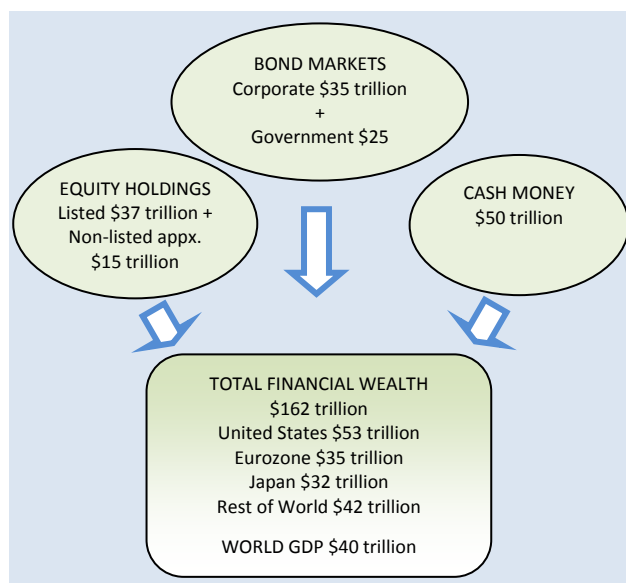
and portfolio investments in the equity market tend to have higher returns than debt securities.

The consequences of these surging capital flows are twofold. First, the United States enjoys a surplus in its investment income account, and this somehow defuses concerns over its large current account deficit. Such a position is sustainable only as long as foreign investors keep investing in low-return debt securities and do not switch their portfolio allocation to equities, or increase FDI flows in the United States. Second, such large, and increasingly larger, capital flows require markets that are able to process large volumes and international transactions.

## 1.2 Expanding Global Wealth

The background to the surge of global capital flows is the rise in global wealth, which, in turn, is a consequence of almost uninterrupted expansion of the world economy. This has resulted in an increase in the proportion of this wealth that each country invests abroad. By cross-checking figures provided by Oxford Economics (Rossi, 2007) with 'quotes' from the IMF and Bank for International Settlements datasets – with the proviso that available information on this kind of data is poor and only refers to financial activities – we have estimated that world total financial wealth for 2005 stands at US\$162 trillion (figure 1).

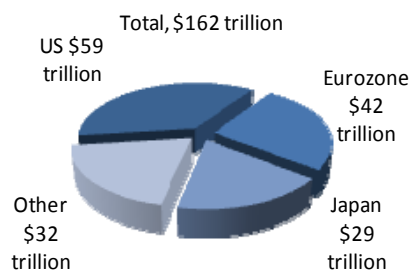
**Figure 1: World Financial Wealth Estimates, 2005**



The distribution by activity is fairly balanced, with one-third in equity holdings, slightly more than one-third in the bond market (37 percent) and slightly less in cash (31 percent). Geographically one-third of the global wealth is in the hands of U.S. companies and individuals; the Eurozone and Japan own about 22 and 20 percent respectively, and the rest of the world has 26 percent.

How is this global financial wealth allocated? Most of it goes to the U.S. market, followed by the Eurozone (figure 2). These two markets are larger than the total amount of wealth owned by Americans and Europeans, which could suggest that they absorb some of the global wealth that cannot be allocated in other markets.

**Figure 2: World Wealth Market Size, End-2005**



Without attempting to draw firm conclusions from patchy evidence, it is nevertheless worth stressing here the interplay of two distinct trends in the demand for investment instruments and the supply of such instruments. The former is driven by the existence of large pools of savings in some countries; the latter is constrained by underdeveloped and shallow financial markets in the same countries. As a result, capital tends to flow where investment opportunities are available, i.e., to the United States and, to a lesser extent, to Europe.

## 1.3 Reserve Holdings and Sovereign Investment Funds

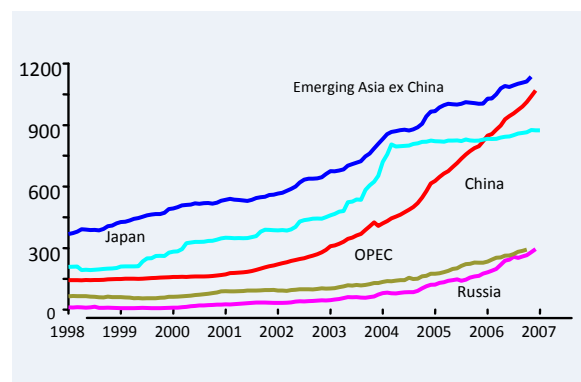
The obvious implications of this excess of savings in some parts of the world are low long-term interest rates – a “conundrum” for a country, like the United States, with a large current account deficit – and abundant liquidity. Less obvious are the structural changes that may be looming. Besides the fact that the world’s biggest economy

– and the only superpower – borrows from emerging economies to support household consumption and public spending, what are the implications of developing countries, especially China, controlling large chunks of global liquidity? With US\$20-30 billion per month in trade surplus and FDI inflows, what kind of financial ‘power’ does this country – as well as others with substantial surpluses – wield, especially given the very low savings rate in some developed economies, notably the United States?

FX reserves holdings and government investment funds are the main vehicles through which Asian economies and oil-exporting countries channel their external surpluses, with the result that these surpluses have been invested largely through the official rather than the private sector. Reserve accumulation, in particular, has been the main feature of the Asian economies since the financial crisis of 1997, providing a means to stabilise the exchange rate, to keep it at a level consistent with export growth, and to provide enough liquidity in case of a balance-of-payments crisis. As all these countries are softly pegged to the dollar they are therefore potentially prey to speculative attacks.

Reserve accumulation has been growing at a fast pace in the last few years (figure 3). Compared with the US\$4.6 trillion total official reserves recorded for the end of 2005, the world’s official reserves have risen by over US\$1 trillion in a little more than a year and were about US\$5.7 trillion by the end of May 2007 (IMF figures). They have been growing at roughly US\$60-65 billion per month, with China accounting for about 30 percent of the increase. China’s foreign reserves – mostly in U.S. dollars – now exceed US\$1 trillion, bringing the total reserve holdings of emerging Asia to well over US\$2 trillion. The central bank of Russia has had to buy up more than US\$100 billion in foreign reserves so far this year on the back of that country’s large trade surplus and capital inflows. Russia’s official reserves are now a little more than US\$400 billion – the third largest holdings in the world.

**Figure 3: Official Reserves Holdings, US\$ billions**



Source: IMF

The seeming contradiction between large external surpluses and the needs of domestic development highlights the problems inherent in a strategy of asset accumulation rather than investment, and, in the case of China, of ‘mopping up’ excess liquidity through sterilization – i.e., the central bank withdraws the excess liquidity generated by capital inflows by issuing notes and bonds. Not only is there an opportunity cost attached to reserves accumulation, but also there is a currency risk, which becomes more relevant as the accumulation progresses. Given the size of their external surpluses, how plausible is it for China and other surplus countries to keep accumulating dollar reserves and low-return dollar-denominated assets? Moreover, with reserves now exceeding the level necessary to provide a safety net in case of a balance of payments crisis, how long can these countries afford the costs and risks of such an exchange rate strategy? And what would be the implications of a portfolio diversification that reduces exchange risk exposure and better reflects country weighting?

There are already clear signs of swapping one form of stabiliser for the balance of payments – reserves management – for another – capital outflows. Indications of such a shift can be seen in the recent trend of FDI flows. While FDI inflows continue to outsize FDI outflows the latter has shown stronger growth: inflows grew from about US\$163 billion in 2002 to US\$334 billion in 2005 while outflows surged from about US\$50 billion in 2002 to US\$117 billion in 2005.

This trend is even more evident for China where FDI outflows more than quintupled from US\$2



billion in 2002 to US\$11 billion in 2005 while FDI inflows merely rose from US\$52 billion to US\$72 billion over the same period. FDI outflows will almost certainly rise markedly over the next couple of years. With deposits of some US\$4 trillion – almost double China’s GDP – bottled up in domestic banks and monthly surpluses of US\$20-30 billion, assuming current export growth rates and FDI inflows, China surely has the capacity to generate serious capital outflows. Indeed, assuming that half of the monthly surplus will continue to be channeled into FX reserves, the rest can be used for direct investment or portfolio investments abroad. With US\$10-15 billion per month, China could buy several large American or European companies as well as fund various aid and other projects in Africa.

Similarly, oil funds, which are currently around US\$845 billion, could easily grow by US\$200-300 billion a year over the medium term (Jen, 2007a).

#### 1.4 Switching Portfolio Composition and Investment Strategies

Anecdotal evidence and recent trends in capital flows leave little doubt about the intention of countries with large external surpluses to switch to more ‘aggressive’ investment strategies, in other words, to invest based on returns, rather than purely on liquidity considerations. As we discussed in the previous sections, the size of reserves holdings has now surpassed precautionary motivations and liquidity objectives, and is well above the level necessary to provide a safety net in the event of financial turbulence. Thus, the focus has moved away from currency stabilization and onto development strategies. As managing reserves seems increasingly less appropriate to stabilize the balance of payments and to reduce domestic liquidity, diverting some of the new inflows of FX reserves to funds devised for long-term investment is becoming a plausible option for surplus countries.

SWFs epitomize the key changes underlying current trends in global capital flows. Their already considerable size (table 2) is likely to grow in the years ahead. Drawing from Asia’s large surpluses means that going forward, the portion of government funds derived from proceeds on oil and gas exports, which currently account for about

two-thirds of the total, will drop to about 50 percent by 2015, with the other half derived from the proceeds from Asian manufacturing exports (Jen, 2007a). Stephen Jen estimates that diverting reserves into government funds would increase these funds by about US\$500 billion a year from the current estimated total of over US\$2 trillion, and that in about five years their combined total would be as equal to total official reserves for the world as a whole. As China is expected to play a key role in this process, the Chinese government investment fund is likely to become the second biggest fund in the world, surpassing Norway’s GPF, Singapore’s GIC, and Kuwait’s KIA.

**Table 2: Largest Sovereign Wealth Funds**

Country	Fund Name	Size (US\$ mil.)
UAE	Abu Dhabi Investment Authority (ADIA)	625,000
Norway	Government Pension Fund (GPF) - Global	322,000
Singapore	Government Investment Corporation (GIC)	215,000
Kuwait	Kuwait Investment Authority (KIA)	213,000
China	China Investment Corporation (CIC)	200,000
Russia	Oil Stabilization Fund	127,500
Singapore	Temasek Holdings	108,000
Qatar	Qatar Investment Authority	60,000
United States (Alaska)	Permanent Reserve Fund	40,200
Brunei	Brunei Investment Authority	30,000
<b>Total</b>		<b>2,279,866</b>

Source: Jen, 2007b, Lyons, 2007

## Part 2. SWFs: Definition and Size

### 2.1 A Tentative Definition

Asia’s SWFs are a relatively new story. Of the twenty largest SWFs, seven were in existence before 1990, six started in the 1990s, and seven since 2000. A number of smaller funds have started in recent years; their success may encourage other countries to establish their own funds. Unlike commodity exporting countries that have been allocating their assets to SWFs for several decades – the first one, albeit not sovereign, was established by in Kuwait in 1953 – Asian countries have traditionally preferred to accumulate their surpluses in foreign exchange reserves. Only in relatively recent years have they been establishing non-commodity SWFs.

Despite SWFs’ having existed for a while, there is little anecdotal evidence and almost no statistical information about them. SWFs even lack a

universally accepted definition, with the result that these funds are often confused with Sovereign Pension Funds and with official FX reserves. The Acting Under Secretary for International Affairs in the U.S. Treasury, Clay Lowery, recently defined a SWF as: “A government investment vehicle which is funded by foreign exchange assets, and which manages these assets separately from official reserves” (U.S. Treasury, 2007). Although similar in origin and composition to reserves holdings, SWFs are not driven so much by concerns over the stabilisation of the exchange rate and the prevention of financial crises. Rather, they respond to the needs of long-term development of countries that depend on natural resources, in particular oil, as their main source of revenue, or the need to preserve and enhance the international purchasing power of their reserves.

Oil-dependent economies need to smooth their revenues over a long period and to use such revenues to diversify their economies. Therefore, they channel external surpluses, into the government investment funds and usually hold them in the form of stocks, bonds, or property. Non-commodity funds such as Asia’s SWFs, on the other hand, have the purpose of diversifying FX assets and they earn a higher return by investing in a broad range of asset classes, including longer term government bonds, corporate bonds, equities, commodities, real estate, derivatives, alternative investments, and FDI. This means that the extent of their asset accumulation depends heavily on how successful these countries are in shifting to increased exchange rate flexibility.

Throughout the paper, I look at SWFs in terms of their goals, investment horizon, and risk tolerance and refer to them as having the following characteristics (Jen, 2007d):

- Being owned by a national sovereign state – as opposed to a central bank or monetary authority that in some countries performs roles typical of a central bank;
- Being investment funds rather than producers of goods or services, although they may invest in productive companies;
- Having high foreign exchange assets exposure –either from commodity exports (‘commodity funds’) or through transfers of assets from official foreign exchange reserves (non-commodity funds);

- Having no explicit liabilities – unlike sovereign pension funds;
- Having high risk tolerance;
- Having a long investment horizon and low leverage.

## 2.2 Growing Assets

As SWFs are often blended with a large amount of private capital, it is extremely difficult to monitor their currency and asset composition, let alone their size. ‘Guestimates,’ however, indicate that just over US\$2 trillion may be held in these funds at present (Jen, 2007a, Lyons, 2007). The top ten funds (table 2) include SWFs that have been around for some decades, such as UAE’s Abu Dhabi Investment Authority (ADIA, 1976) and Singapore’s Government Investment Corporation (GIC, 1981), as well as very recent funds, such as China Investment Corporation (CIC, 2007) and Russia’s Oil Stabilization Fund (2004).

So far, government wealth funds have been a vehicle for the accumulation of low-risk and low-return securities, mirroring, to some extent, the official reserves. As they grow larger, these funds will become more like private mutual funds or even hedge funds. For example, from February 2008, both Russia’s Reserve Fund and its Future Generation Fund (FGF) will be invested in a wider array of assets, including equities, oil options, and other assets, rather than almost exclusively in foreign currencies and sovereign bonds. In turn, China announced in March 2007 establishment of a state investment corporation to manage its FX reserves with the aim of generating the largest returns possible.

Increasingly, investment strategies and attitude toward risk will become more relevant to these sovereign funds, as will asset and currency diversification. Intuitively, it seems clear that such a shift bodes major changes for both economic and market dynamics and international and domestic politics, even if it is difficult at present to explicitly track and analyze all of the changes.

Because little is known about the investment policies of SWFs it is difficult to formulate a detailed analysis of the likely implications. In the absence of such analysis, the sheer size of such funds and their prospective growth rates, their increasingly strategic nature, and their lack of

transparency and poor governance have recently generated concerns that they could become a source of financial as well as geo-political instability. This is why SWFs have become a big issue, particularly in policy circles.

### 2.3 Asia's SWFs: Size, Strategies and Transparency

The Asia region is home to seven SWFs. Only Singapore's two funds (GIC and Temasek) and China's CIC have assets in excess of US\$100 billion (table 3). Brunei's fund is the largest relative to GDP (310 percent), while the assets of Singapore's two SWFs together are more than two and a half times its GDP. On the other hand, CIC's US\$200 billion in assets represent only about 8 percent of China's GDP.

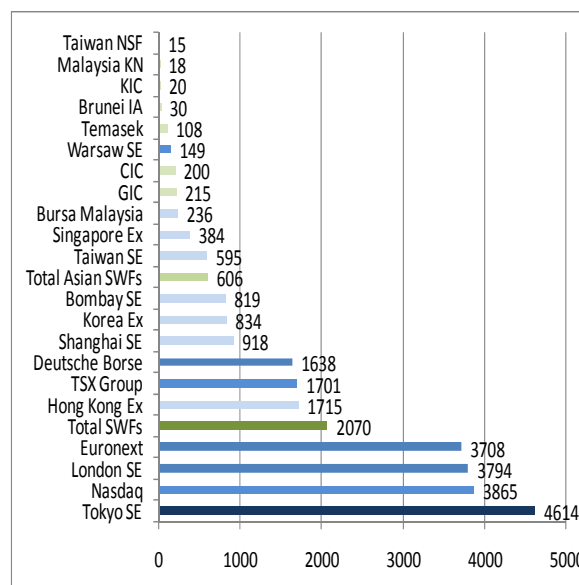
**Table 3: Estimated Size of Asia's SWFs**

Country	Fund Name	Launch year	Size (US\$ bn)	% of 2006 GDP
Singapore	GIC	1981	215.0	169.0
China	China Investment Corporation (CIC)	2007	200.0	8.0
Singapore	Temasek	1974	108.0	84.9
Brunei	Brunei Investment Authority	1983	30.0	309.4
South Korea	Korea Investment Corporation (KIC)	2005	20.0	2.2
Malaysia	Khazanah Nasional BHD	1993	17.9	12.3
Taiwan	National Stabilization Fund	2001	15.2	4.0
<b>Total</b>			<b>606.1</b>	

Source: Lyons, 2007

The combined assets of all SWFs exceed the market capitalization of all Asian stock exchanges, with the exception of the Tokyo Stock Exchange (figure 4), while the combined assets of the Asian SWFs are on a par with the capitalization of Taiwan's exchange. The assets of Singapore's two funds almost equal the market capitalization of its domestic stock exchange, but the assets of CIC are only 23 percent of the market capitalization of the Shanghai Stock Exchange.

**Figure 4: Assets of SWFs and Market Capitalisation of Selected Stock Exchanges (US\$ billions)**



Source: Lyons, 2007

What can we say about the strategies of the SWFs from Asian countries? Singapore's GIC and Temasek have been in existence for a long time and are moderately (GIC) to highly (Temasek) transparent. Their investment policies and asset allocation are broadly known. GIC, for instance, invests in forty markets, with a long-term focus through systematic diversification across equities, fixed income, foreign exchange, commodities, money markets, alternative investments, real estate, and private equity. Temasek operates under commercial principles to maximise long-term returns. Its geographical asset mix is broadly as follows: 38 percent domestic, 40 percent rest of Asia, 40 percent OECD countries (except South Korea), and 2 percent rest of the world.

The four smaller Asian SWFs, those that have less than US\$100 billion assets, either have also been around for a long time (Brunei and Malaysia) or belong to governments that are strongly in the U.S. sphere of influence and are unlikely to trigger geo-political instability (South Korea and Taiwan). In any case, the relatively small size of these four funds limits their investment ambitions.

## 2.4 Is China the Problem? The Economics of CIC

This leaves China's CIC, which is the 'new kid on the block'. CIC came into prominence in June 2007, before it was in operation, with the US\$3 billion acquisition of almost 10 percent of the initial public stock offering of Blackstone Group, one of the largest U.S. private equity firms. The CIC was officially launched in September 2007 with US\$200 billion drawn from official FX reserves. It has the potential for rapid growth not only thanks to the Chinese economy's rate of expansion, but also because of its consolidation with other investment bodies. Indeed, the merging of Central Huijin Investment Company into CIC is expected to add US\$200 billion to CIC's capital. CIC will plough tens of billions of dollars into other government financial institutions. Moreover, it is expected to buy out the investments held by the People's Bank of China, the central bank, which has holdings in most state-run banks. On the whole, CIC will use most of the additional US\$200 billion capital to acquire the government's stakes in Chinese banks. As a result, CIC's start-up funds are largely committed, although there is scope for it to draw from China's FX reserves if necessary.

The decision to separate the new fund from the People's Bank of China bears important implications not only in terms of governance – removing the potential conflict of interest between low-risk reserves and the higher-risk management fund – but also in terms of the balance sheet. In accounting terms, it is like the new fund is borrowing from the central bank's assets, issuing short-term yuan-denominated bonds. This has two important consequences. First, the CIC is debt-based. Second, there is a currency mismatch between its U.S. dollar-denominated assets and Chinese yuan-denominated liabilities.

These two factors combined have important implications for the economics of CIC and its investment strategies. The dollar-denominated assets are a depreciating stock because of the strength of the exchange rate vis-à-vis the dollar, reflecting, in its turn, the strength of the Chinese economy. In the last three years, the yuan has appreciated in broad real terms by an annual average rate of 5 percent, meaning that CIC must earn this kind of return in order simply to retain the

value of its assets. To this return we need to add another 3-5 percent, which is the money-market rate and the yield on the short-term papers. Overall, then, the fund needs to generate an 8-10 percent return just to break even. What does this mean for its investment strategies?

CIC does not disclose its investment policy and asset allocation, but its mandate appears to be broader than that of its subsidiary Central Huijin Investment Company, including an array of assets and not merely shares from a few major financial institutions. China's leadership has debated the right strategy for the government investment fund. Vice Premier Zeng Peiyan has suggested that China should invest in natural resources to increase its strategic reserves. Other high-ranking party officials would rather see the country acquire shares in high-tech companies to help China more rapidly close the gap with leading industrialized nations. Moreover, Lou Jiwei, a former vice minister of finance and now the company's chairman, said CIC will follow the principle of "commercial operation", and will abide by local laws of countries where it invests.

Given the lack of public information about CIC, we can draw some insights into its strategy by comparing its economics to that of other SWFs, in particular to Norway's Government Pension Fund (GPF), which is the most transparent of all. GPF's objective is to gain 'high return subject to moderate risk'. In practice this means that since 1997, GPF's inflation-adjusted return has been 4.67 percent and its net real annual return – i.e., excluding management costs – has been 4.58 percent. Clearly, with CIC's 'hurdle' rate of 8-10 percent, the Chinese fund must pursue higher returns than GPF.

Since 1998, GPF diversified its portfolio of only government securities by mainly investing in fixed income securities (50-70 percent of the overall portfolio) and 30-50 percent in equities. It invests 40-60 percent of the equity portfolio in currencies and markets in Europe, 25-45 percent in the Americas and Africa and 5-25 percent in Asia and Oceania. Of the fixed income securities, 50-70 percent has been invested in currencies and markets in Europe, 25-45 percent in the Americas and Africa and 0-15 percent in Asia and Oceania. The portfolio's country distribution within each



region is based on market size in the individual countries. GPF tends to hold less than a 1 percent stake in individual companies.

To gain higher returns CIC cannot structure its portfolio like GPF's; it must embrace a more 'aggressive' style than Norway's conservative and risk-averse approach. This means a fully diversified portfolio that includes higher risk-higher return assets – along with more liquid, less volatile, and lower return assets. CIC, therefore, is likely to include a relatively larger proportion of emerging markets equities, private equity funds, hedge funds, infrastructure funds, and the like. Indeed, following its acquisition of a stake in Blackstone, the US private equity fund, CIC disclosed that it would continue to invest in private equity funds and hedge funds and to provide financial support to state-owned enterprises in overseas investment and financing. It is also likely that CIC will make some strategic investments – i.e., a 5-10 percent stake in a company – or try to achieve corporate control.

CIC's investment strategy is the thorniest issue arising from the establishment of China's SWF. Looking at the economics of CIC it would make sense for the Fund to follow the same value-creation model as private equity funds. This means turning around and creating value in under-performing companies. Would this strategy work for CIC? Perhaps it would work within the Asia region, but it seems less viable and efficient to apply this model to investments in more remote countries. Moreover, CIC would have to rely on foreign professionals with the relevant skills, as Chinese institutions tend to lack global experience, both in investing overseas and in running enterprises in foreign countries. Finally, and more importantly, would this strategy be consistent with China's overall development targets?

Since China needs energy, commodities, and knowledge, it would make sense for CIC's investment strategy to target investments that offer technology transfer, skill acquisition, and access to commodities rather than for it to follow the 'classic' private equity model of value-creation. This does not mean that the majority of its assets will be absorbed by strategic acquisitions. CIC's strategy is likely to be structured for optimum portfolio diversification with a bias toward high return

assets – i.e., toward emerging markets and alternative asset classes. However, like all sovereign funds, CIC will have to gain and retain political support. Reporting to the State Council and ultimately to Premier Wen Jia Bao, CIC would have to conform with China's long-term economic policy goals, with the likely result that a small portion of its assets would be held in strategic investments. Such strategic investing would also be a rationale for the fund's existence, which is not entirely justified in purely economic terms.

What little is known about the governance of CIC seems to support the notion that the fund has both financial and non-financial objectives. For instance, CIC is likely to 'subcontract' a large portion of its assets to external, professional managers; this portion of the fund will probably be managed according to portfolio allocation theory and expected to deliver a return consistent with the 'hurdle' rate.

CIC's eleven-member board consists of representatives from half a dozen agencies, including the finance ministry, the central bank, the commerce ministry, and the National Development and Reform Commission, China's powerful economic-planning agency. Considering their diverse backgrounds, disagreements among board members could significantly affect decision-making. In particular, economically efficient choices could lose out in politically driven decisions. Such decisions comprise the share of the portfolio invested in strategic stakes.

### **Part 3. Asia's SWFs in Europe**

#### **3.1 Is Everything 'Up for Grabs'?**

In summer 2007 China Development Bank (CDB) and Singapore's Temasek acquired 3.1 and 2.1 percent stakes respectively in Barclays, one of the biggest banks in Europe by market capitalisation and ranking 27 by market value in the FT Europe 500 (market value end of March 2007). Investing US\$3 billion and US\$2 billion respectively, CDB and Temasek also acquired a seat on Barclays' board. The investment was to provide Barclays with extra cash to buy ABN Amro, the Dutch financial institution that was the target of a bidding war between Barclays and a consortium led by the Royal Bank of Scotland. The two Asian funds also

made a conditional offer to increase their investment to a combined total of US\$19 billion in case the planned merger with ABN Amro succeeded.

This deal sparked an intense debate and generated concern that an open economy such as the UK – and, more broadly, Europe – could become prey to the financial ambitions of companies and investment funds controlled by foreign governments. For example, Britain's *The Observer* wrote on 29 July 2007, quoting Gerard Lyons, chief economist at Standard Chartered Bank: "... everything is up for grabs in Britain. It's open season for those who want a chunk of UK plc." Is this a correct assessment of the situation? Which are the possible targets of Asia's SWFs in Europe?

Figures seem to confirm the impression of a threat from Asian funds. In recent years, low long-term interest rates have boosted global asset prices, leading to resurgent financial markets and fuelling a new surge in M&A activity. This has been supporting global FDI since 2004. The increase in FDI inflows in 2006 was especially strong in developed economies – more than 50 percent. Growth in FDI flows to emerging markets was more modest – 20 percent in 2006, similar to the growth rate in 2005. The share of emerging markets in global FDI inflows declined to 38 percent in 2006 from a peak of 48 percent in 2005. In terms of FDI outflows, developed countries remain by far the main players. However, outflows from Asia are the fastest growing, especially in the last decade (Table 4).

**Table 4: Outflows of FDI by Region, as Percent of Total Global Flows**

	1978-1980	1988-1990	1998-2000	2003-2005
Developed economies	97.0	93.0	90.0	85.0
Africa	1.0	0.4	0.2	0.2
Latin America and Caribbean	1.1	1.0	4.1	3.5
Asia and Oceania	0.9	5.6	5.1	8.6
South East Europe and CIS	0.01	0.2	1.8	NA

Source: UNCTAD

Europe features prominently as a recipient of capital flows, ahead of the United States and Asia (table 5). Among European countries, the UK is at the top of the list, followed by France and Belgium.

On the global scale and at the country level the UK is behind only the United States and ahead of China.

**Table 5: FDI Inflows, 2007-11 Average**

	Amount (US\$ bn)	Rank	Share of World Total (%)
EU27	570.1	1	38.06
United States	250.9	2	16.75
Asia	244.3	3	16.31
UK	112.9	4	7.54
China	86.8	5	5.79
France	78.2	6	5.22
Belgium	71.6	7	4.78
Germany	66.0	8	4.41

Sources: EIU, author's calculations

The list of leading destination countries for FDI projects in 2006 differs somewhat from the list of leading recipients by FDI values because FDI values are heavily influenced by cross-border M&A, rather than greenfield investments. However, here too the EU27 is ahead of Asia, with 3,848 projects in 2006 – an increment of 19 percent from the previous year. In terms of individual countries, China ranked first in the number of new FDI projects in 2006, with 1,378, while it ranked fourth by FDI inflows. The UK and France are some of the main recipients after China, India, and the United States (table 6).

**Table 6: New FDI Projects, Top Recipient Countries**

	2005		2006		
	No. Projects	% World Total	No. Projects	% World Total	% change yoy
EU27	3,237	30.98	3,848	32.56	18.9
Asia	2,611	24.99	3,272	27.68	25.3
China	1,237	11.84	1,378	11.66	11.4
India	590	5.65	979	8.29	65.9
United States	563	5.39	725	6.14	28.8
UK	633	6.06	668	5.65	5.5
France	489	4.68	582	4.93	19.0

Sources: EIU, 2007, author's calculations

The UK, France, and Germany are the top destinations in the EU for FDI projects (table 7). Investment in other countries fell behind these market leaders. The decline of the relative position of Central and Eastern Europe is notable and is a result of (1) the shift in importance between manufacturing and service sector investment; and (2) the limited appeal of these regions for service sector investment to date. Western Europe, on the

other hand, features a large number of less labour-intensive projects.

**Table 7: Top FDI Destinations in Europe**

Destination	2006		No. FDI, 2005	% change, 2005-06
	No. FDI, 2006	Market share, %		
1 UK	686	19.4	559	+22.7
2 France	565	16.0	538	+5.0
3 Germany	286	8.1	182	+57.1
4 Spain	212	6.0	147	+44.2
5 Belgium	185	5.2	179	+3.4
6 Poland	152	4.3	180	-15.6
7 Romania	140	4.0	86	+62.8
8 Switzerland	136	3.9	93	+46.2
9 Czech Republic	113	3.2	116	-2.6
9 Sweden	113	3.2	95	+18.9

Source: Ernst & Young, 2007

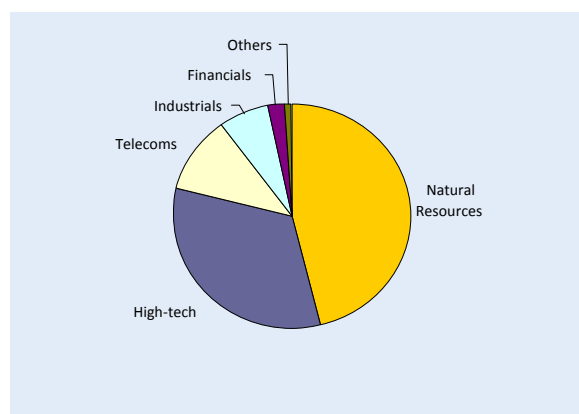
### 3.2 Who Invests in Europe?

Recent figures published by Ernst and Young show that non-EU investments in Europe are mainly from the United States and Japan. In the last couple of years there has been a significant increase in investment originating from the BRICs – from 102 projects in 2005 to 153 in 2006, a 50 percent increase (Ernst and Young, 2007: 4). These are mainly investments from Indian investors (78 projects, most in the UK). For the first time, in 2006 India was among the top ten investors into Europe. China, on the other hand, is more a beneficiary of EU FDI than an investor in Europe, while the role played by Brazil and Russia is so small as to be irrelevant (Ernst and Young, 2007: 4)

However, a survey published by Intralink, a data provider, last September, based on responses from 200 dealmakers across the Asia Pacific region, shows that Chinese companies are set to be Asia's most acquisitive in Europe and the United States in 2008. Fifty-nine percent of respondents see Chinese companies as the most acquisitive, followed by Indian corporates (27 percent). As the pace of M&A activity seen in 2005-2007 – and in the first half of 2007 – is expected to slow down through the end of the current year and into 2008 (EIU, 2007), strategic investors with healthy balance sheets and strong cash flows will continue to undertake deals. Asian companies and funds are good candidates for this kind of activity.

Outbound acquisitions by Chinese companies have in recent years focused on investment in the resources sector in Africa and Latin America, while leading Chinese financial services companies have stepped up overseas activity in recent months. In 2005, 46 percent of M&A deals were investments in natural resources and 33 percent were in high-tech sectors, while merely 1 percent of deals were in the financial sector (figure 5). This is part of China's strategy of developing 'global champions' and therefore expanding the global reach of its biggest banks.

**Figure 5: China Outbound M&A by Sector, 2005**



Most Chinese FDI is commodity-driven and goes to Latin America, Australia, the Middle East, and Africa. However, IntraLink's findings suggest Chinese companies from a broad range of sectors are actively considering M&A activity in the United States and Europe, even if, according to some respondents, outbound deal flows might be tempered by the inability of some Chinese companies either to identify M&A targets or to manage acquisitions. These investments are market-based, with ownership advantages bringing capital, technology, information, organisational and administrative skills, R&D, scale economies, trademarks, and goodwill (Goldstein, 2007:80). In the banking and finance sector in particular, acquisitions are driven by the need to gain access to new products and a wide range of skills.

### 3.3 Possible Targets in Europe: Countries and Sectors

Past investments by Asian SWFs and companies – in particular Chinese – indicate a preference for

investing in institutions with exposure to emerging markets, the securities business, and the private equity and hedge fund industries. SWFs have invested an estimated US\$35 billion in shares of banks, securities houses, and asset management companies since the beginning of 2006 (Jen, 2006). Of that figure, about US\$26 billion has been invested in the past six months alone by SWFs such as Singapore's Temasek, in particular, in financial-sector companies including Barclays, Blackstone, Carlyle, Deutsche Bank, London Stock Exchange, NASDAQ, and HSBC. Temasek has 38 percent of its portfolio in financial stocks in the belief that the growth of these companies will be linked to the emerging middle class in Asia.

Chinese banks are likely to expand internationally in response to existing corporate customers' own moves (table 8). Chinese resources companies, such as CNOOC, Sinopec, and Petrochina, have already expanded aggressively overseas, often through M&As, as have China's global technology companies, such as Lenovo, TCL, and Huawei. These businesses have increasingly sophisticated international banking requirements, which have forced China's banks to upgrade their overseas services. This mostly entails opening overseas branches, but Chinese banks can be expected to consider strategic acquisitions to accelerate the development of branch networks abroad, especially in Latin America, the Middle East, and Africa. Acquiring an existing network in these jurisdictions is quicker and more effective than trying to build one from scratch, which would take years.

**Table 8: Chinese Banks Targeting Foreign Banks**

Date	Target	Acquirer	Deal value (US\$ bn)
23 July 2007	Barclays (2.64%, UK)	China Development Bank (CDB)	3.0
24 Aug. 2007	Bank of America (Asian business Hong Kong)	China Construction Bank (CCB)	1.2
29 Aug. 2007	Seng Heng Bank (79.93%, Macau)*	ICBC	0.6
8 Oct. 2007	UCBH (9.9%, US)*	China Minsheng Banking (CMB)	0.3
19 April 2000	Union Bank of Hong Kong	ICBC	0.3

Note: \* pending  
Source: Dealogic

A sensible acquisition strategy in Europe would entail deals targeting institutions that offer a widespread branch network through Africa, the

Middle East, and Latin America and also technology, new products, expertise in areas such as project finance, and even management skills. Which of Europe's twenty biggest banks by market value (table 9) are possible targets under such a strategy?

**Table 9: Major European Banks**

Bank	Country	Market value (US\$ bn)
HSBC	UK	202.0
UBS	Switzerland	124.4
Royal Bank of Scotland	UK	122.5
Santander Central		
Hispano	Spain	111.2
Unicredit	Italy	99.0
BNP Paribas	France	97.0
Intesa SanPaolo	Italy	96.6
BBVA	Spain	86.9
Credit Suisse	Switzerland	86.7
ABN Amro	Netherlands	83.0
Societe Generale	France	79.4
HBOS	UK	77.1
Deutsche Bank	Germany	72.8
Credit Agricole	France	63.9
Lloyds TSB	UK	61.9
	Belgium/Netherland	
Fortis	s	59.3
KBC Group	Belgium	45.0
Nordea Bank	Sweden	41.2
Standard Chartered	UK	39.7
Dexia	Belgium	34.5

Note: \* Market value at 30 March 2007  
Source: Author's calculation based on FT Europe 500 2007

HSBC, Santander Central Hispano, BBVA, BNP Paribas, and Standard Chartered are the European banks with extensive networks in Latin America, Asia, and the Middle East. Some have already established links with counterparts in Asia. For instance, at the beginning of 2007 Spain's BBVA acquired a 5 percent stake in China CITIC Bank (CNCB) and a 15 percent stake in CITIC International Financial Holdings (CIFH), the CITIC Group's Hong Kong-based financial flagship. BBVA's combined interest across the two Chinese banks stands at €1 billion, and it is likely to double as chairman Francisco González recently announced. BBVA and CNCB's partnership extends to retail banking, wholesale banking, global markets, treasury, risk management, and human resources. The strategic alliance with CIFH also covers asset management, global markets, treasury, and corporate banking.

Of course, national governments' attitudes towards acquisitions by SWFs – or by state-owned companies – need to be taken into account in the



investment strategy. Given the rather hard stance expressed by some European governments and the 'open market' stance shown by Britain on the other hand, it is likely that most acquisitions would converge on the UK market.

The next possible Chinese acquisition in the banking sector is rumoured to be Standard Chartered Bank. This acquisition would offer a Chinese bank not only a network to enable it to follow its clients into the Middle East and Africa, but also a coveted presence in Asia, including Hong Kong and Singapore as well as Indonesia, Malaysia, and Thailand, all countries with a significant Chinese diaspora.

Are there lessons and strategies from other sectors? Recent Chinese investment in Europe has been concentrated on infrastructure and mining (table 10). Most companies with strategic investment from China are based in the UK.

**Table 10: Chinese Investment in Europe**

Date	Target	Acquirer	Value US\$ mil	Sector
July 2007	Barclays (2.64%, UK)	China Development Bank (CDB)	3,000	Banking & finance
July 2007	British Gas (0.46%, UK)	CIC-PBOC		Energy
July 2007	Schwerin-Parchim Airport (100%, Germany)	Link Global Logistics	130	Infra-structure
March 2007	Monterrico Metals (89.9%, UK)	Zijin Mining Group Co	94.6	Minerals
2007	Ridge Mining (29.9%, UK)	Zijin Mining Group Co	15.93	Minerals
July 2005	MG Rover (100%, UK)	Nanjing Automobile group	93	Automotives
2005	Thomson SA (J-V, France)	TCL Corporation		Consumer electronics

The UK is likely to remain the preferred destination of Chinese investment in Europe. Acquisitions in other European countries may be more difficult given their governments' less open policy stance (table 11).

**Table 11: Key Locations in Europe**

Country	Advantages	Disadvantages
Germany	<ul style="list-style-type: none"> <li>Manufacturing, infrastructure and logistics</li> <li>SMEs</li> </ul>	<ul style="list-style-type: none"> <li>SMEs</li> </ul>
France	<ul style="list-style-type: none"> <li>Banking and energy</li> <li>Good sized companies</li> </ul>	<ul style="list-style-type: none"> <li>Politics</li> <li>Obsession with 'national champions'</li> </ul>
Italy	<ul style="list-style-type: none"> <li>Manufacturing and defense (Finmeccanica)</li> </ul>	<ul style="list-style-type: none"> <li>Politics</li> <li>'Golden share' in key companies</li> <li>Too many SMEs</li> </ul>
Netherlands	<ul style="list-style-type: none"> <li>Critical mass of firms in a number of sectors (telecoms, media, IT)</li> <li>"Positive externalities"</li> </ul>	
Sweden	<ul style="list-style-type: none"> <li>High concentration of MNCs</li> <li>Key companies in key sectors</li> <li>Strong potential including competitive corporation tax</li> </ul>	
UK	<ul style="list-style-type: none"> <li>Open economy</li> <li>Large companies in key sectors</li> <li>One of the world's most attractive locations</li> </ul>	<ul style="list-style-type: none"> <li>'Tabloid' pressure</li> </ul>
CEE	<ul style="list-style-type: none"> <li>A few opportunities for market penetration</li> </ul>	<ul style="list-style-type: none"> <li>Too small markets</li> <li>Not much technology transfer</li> <li>Brain drain in some countries</li> </ul>

## Part 4. Provisional Conclusion

SWFs are not homogenous; they can be segmented by countries, long-term goals, strategies, liabilities, and other characteristics. Bundling them all together does not foster a deep understanding of their strategies and objectives nor does it favour a balanced debate.

Among Asia's SWFs, the creation of CIC first raised concerns in the United States and Europe. Singapore's SWFs have been around for decades without generating headlines outside the specialist press.

There is a clear case for expecting CIC to pursue a rather 'aggressive' investment strategy given its 'hurdle' rate. However, available evidence suggests that it will allocate most assets according to standard portfolio diversification theory, with a smaller portion (10-15 percent) invested in 'strategic stakes'.

The possible targets for strategic investment in Europe are rather limited. The banking sector, companies with interests in resource-rich developing countries, and the mining and energy

sector are the obvious targets. Given the current political climate, it is not clear how many of these targets are a concrete possibility. The UK is likely to remain the preferred destination, at least as long as the government remains committed to its open-market policy.

## References

- Ernst and Young (2007), *European Investment Monitor 2007*, London, [www.eyem.com](http://www.eyem.com).
- Goldstein, Andrea (2007), *Multinational Companies from Emerging Economies*, Palgrave MacMillan, Basingstoke-New York.
- Gräf, Bernhard (2007), *US current account deficit: no reason to panic!* Report, Deutsche Bank Research, Frankfurt am Main, 27 July.
- International Monetary Fund (1993), *Balance of Payments Manual*, Fifth Edition, Washington DC.
- International Monetary Fund, *IMF Statistics*, <http://www.imfstatistics.org>.
- Jen, Stephen (2006), *Sovereign Wealth Funds and Official FX Reserves*, Briefing Note, Morgan Stanley Global Research, London, 14 September.
- Jen, Stephen (2007a), *How Big Could Sovereign Wealth Funds Be by 2015?* Briefing Note, Morgan Stanley Global Research, London, 3 March.
- Jen, Stephen (2007b), *Tracking the Tectonic Shift in Foreign Reserves and SWFs*, Briefing Note, Morgan Stanley Global Research, London, 15 March.
- Jen, Stephen (2007c), *Russia: the Newest Member of the 'SWF Club'*, Briefing Note, Morgan Stanley Global Research, London, 26 April.
- Jen, Stephen (2007d), *The definition of a Sovereign Wealth Fund*, Briefing Note, Morgan Stanley Global Research, London, 25 October.
- Lyons, Gerard (2007), *State Capitalism: The rise of sovereign wealth funds*, Standard Chartered Global Research, London, 15 October.
- Mann, C.L. (2003), 'How Long the Strong Dollar?' In Bergsten, C.F. and J. Williamson, J. (eds), *Dollar Overvaluation and the World Economy, Special Report 16*, Peter G. Peterson Institute for International Economics, Washington DC, February.
- Rossi, Vanessa (2007), 'The Year of the "Piggy" Bank', *The China Business Review* (May-June), US-China Business Council, Washington DC.
- Subacchi, Paola (2007), 'Capital flows and emerging market economics: a larger playing field?' International Economics Programme Briefing Paper 07/03, Chatham House, London, September.
- The Observer* (2007), 'China takes great leap forward into Western markets', 29 July.
- U.S. Bureau of Economic Analysis (2005), figures on US financial accounts, <http://www.bea.gov/>.
- U.S. Treasury (2007), 'Remarks by Acting Under Secretary for International Affairs Clay Lowery on Sovereign Wealth Funds and the International Financial System', Press Release, 21 June 2007, San Francisco, <http://www.treas.gov/press/releases/hp471.htm>.
- Truman, Edwin M (2007), 'Sovereign Wealth Funds: The Need for Greater Transparency and Accountability', Peter G. Peterson Institute for International Economics Policy Brief, PB07-6, August.
- Wooldridge, Philip D. (2006), 'The changing composition of official reserves', *BIS Quarterly Review*, September, 25-38.1.1. Surging capital flows.

# INFLATION, APPRECIATION, OR REFORM?

## A Structural and Institutional Perspective on the Renminbi and China's External Imbalance

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### 1. What are the hidden causes of China's current account imbalance?

The stylized facts about China and its global imbalances in trade and capital flows are well known now: The United States has run global current account deficits in most of the last 25 years and in 2006, its current account deficit reached US\$857 billion or 6.5 percent of GDP. The huge U.S. deficits have been financed mainly by current account surpluses from Japan, China, and oil-exporting countries.

In particular, in 2006 China's global current account surplus jumped to a record high of US\$184 billion or about 9 percent of GDP. As a result, China's foreign exchange reserves have reached US\$1.07 trillion, the largest in the world. China also became the second-largest holder of U.S. Treasury securities, holding as much as US\$353.6 billion, trailing only Japan, which holds US\$648.8 billion.

On the other hand, the Chinese currency was basically pegged to the U.S. dollar from 1994 to 2005. Starting in July 2005, the renminbi was de-linked from the dollar and has since been under a managed float with reference to a basket of currencies. However, from July 2005 to March 2007, the renminbi appreciated only about 7 percent.

The rapid rise in China's global current account surplus and the slow appreciation of the renminbi have led to a strong Washington consensus:

China should be pressed hard to raise the value of its currency so as to reduce its global current account surplus as well as its current account surplus with the United States. In Congressional hearings on 28 March 2007, Peterson Institute for International Economics scholar Morris Goldstein pointed out that China's currency is now under-valued on the order of 40 percent against the dollar. He suggested, "China should deliver right away a meaningful 'down payment' of a 10-15 percent appreciation of the renminbi from its current level."

In my view, the current single-minded focus on the renminbi exchange rate by Washington elites is unlikely to be helpful in addressing the imbalances in China's trading patterns. If the suggested change is so good for China, why has China not already adopted the approach Washington elites are advising? What has stopped Chinese policymakers doing something that is supposedly both good and important for China, the United States, and the world? Have Washington elites really considered carefully the constraints faced by Chinese policymakers? Moreover, as rightly pointed out by Stephen S. Roach of Morgan Stanley in his congressional testimony on 28 March 2007:

You in the Congress need to ask yourselves an important hypothetical question: How would you feel if you got your way on the Chinese currency adjustment but found that after three or four years the pressures bearing down on American workers had only intensified?

The objective of this paper is to clarify some of the confusion related to the debate on China's exchange rate policy and to identify the real barriers to greater flexibility in China's exchange rate. To my mind, there is no doubt that on the issues of its exchange rate and global imbalance, China, the United States, and the world can have a win-win solution. But this can only come from better mutual understanding of the real constraints facing each side and also from each side helping the other.

In some ways, the current situation in U.S.-Chinese economic relations can be compared to that of U.S.-European economic relations in the immediate post-war period when the Marshall Plan was designed to restore the European economy in order to benefit both Europeans and Americans. In this context, the recent speech by U.S. Treasury Secretary Henry Paulson in Shanghai on "The Growth and Future of China's Financial Markets" is comparable to a preliminary draft of a Marshall Plan (or more accurately a "Paulson Plan") for China. I certainly believe the spirit of the Marshall Plan, if applied to China, would be much more productive than the spirit of the current Washington consensus pressing China on its exchange rate and trade issues. The fact is, as I will explain in detail, China currently faces unprecedented challenges and opportunities not dissimilar to those of post-war reconstruction in Europe. Without the help and cooperation of the United States and other developed nations, China is unlikely to be able to handle this crucial step in its economic, social, and political modernization.

China's main challenge today is to develop smoothly functioning financial, planning, and regulatory systems that can employ the remaining rural surplus labor and surplus capital--which now show up as a sustained current account surplus and rising foreign exchange reserves--in an efficient, harmonious, and environmentally friendly way. What is special for China and perhaps a few other Asian economies is the co-existence of both surplus or under-employed labor and surplus capital. Despite its extremely low capital stock per person, China actually maintains surplus capital, which it is exporting to capital-rich countries, such as the United States, to finance their excess consumption. If anything, this is the problem we

should focus on, not the renminbi exchange rate, which is a distraction from the root problems.

Why does the surplus capital in China not lead to the hiring of more surplus labor, and thereby to increased wages, income, and consumption among Chinese workers? If that were to happen rapidly, it would naturally lead to the reduction of China's global current account surplus and to the appreciation of China's real or nominal exchange rate. It is a pity that economists in the developed countries tend to ignore this more basic question since it does not exist in their world of general equilibrium with full employment of labor and capital. The question is assumed away in the neoclassical production function framework where there are no transaction costs of getting capital and labor to work together. Too much attention has been put on the role of prices, interest rates, and exchange rates in correcting market disequilibrium. In China, both before and since the advent of market-oriented reforms, hidden transaction costs have been the single most important barrier to growth, development, and prosperity.

## **2. What is the hidden source of China's export competitiveness?**

Since the concept of transaction costs is crucial in explaining many myths in the debate about China's currency, it is useful to elaborate on it here. Unlike the costs of inputs, which are determined by supply and demand in a market, transaction costs are man-made and determined by how well a society's political, social, and economic institutions function. For example, before China's reforms began in 1979, when foreign trade and investment by private individuals and firms were prohibited, transaction costs of foreign trade and investment in China were artificially set at a prohibitively high level.

Even though transaction costs are sometimes hidden, they are part of the real cost of doing business and when they are high, they increase the overall cost of doing business and reduce the competitiveness of the economy. No country in the world worried about China's export competitiveness before 1979 even though the average wage for factory workers was only 24 dollars a month (under the official exchange rate of



1.5 yuan per dollar), compared with the current monthly wage for migrant workers of about US\$120 (under the 2006 exchange rate of 8 yuan per dollar).

Clearly, low wages are not the only, nor even the most important, factor in explaining China's recent increase in export competitiveness. Wages in India, Indonesia, and many parts of Africa are probably much lower than in China today and China's wages are increasing steadily, especially for skilled labor. Why then do foreign investors still prefer to invest in China? Why do China's exports continue to expand as the wages of its workers increase? It is not only due to low labor costs; declining transaction costs and expanding markets in China play a role too.

Unfortunately, few experts testifying before the U.S. Senate Finance Committee on 28 March 2007 touched upon declining transaction costs in their analyses of China's export competitiveness. Stephen Roach wisely pointed out, "China competes not just on the basis of its currency but also from the standpoint of cheap labor costs, modern infrastructure, access to state-of-the-art technology, and increasing investment in human capital and basic research." He was right in highlighting many factors affecting China's export competitiveness other than currency, but even Roach missed the important factor of declining transaction costs in China's export and foreign-invested sectors.

Declining transaction costs are particularly significant for China's export and foreign-invested sectors due to the globalization of the production process, characterized by supply chain management technology and institutions of multinational corporations.

Thanks to the IT revolution, the supply chain management technology championed by Hong Kong trading companies is now able to rapidly identify consumer preferences for a great variety of goods across vast geographical areas. Modern logistics infrastructure in China and the developed economies enables these companies to locate quickly around the world, including in China, low-cost producers for each part of the supply chain, make reliable contracts with them, and deliver their products in a timely manner to consumers overseas, including in the United

States. In effect, international supply chain technology has reduced the transaction costs of exporting from China.

Unfortunately, the international supply chain system does not yet work as smoothly for imports to China as for exports from China. Exports from China involve only a small part of the international supply chain, usually the labor-intensive processing or manufacturing part. As a result of China's open-door policy and the efforts of multinational corporations there, exporters can now handle this part of the production process very efficiently, using China for its reliable supply of low-cost labor and production facilities. In particular, such exporters do not need to worry about consumer financing or financing supply-chain operations for the exported product, as these concerns are all handled outside of China through international financial markets in New York, London, or Hong Kong.

In contrast, transaction costs of importing to China are very high. The supply chain has to start by ascertaining consumer demand and then find the lowest cost producer. Consumer demand in China, however, is affected by many factors outside the control of the international supply chain, including lack of efficient consumer financing, the absence of a functioning social safety net, a shortage of medical insurance, the weaknesses of the pension system, an absence of basic urban and rural infrastructure for individual consumption, lack of basic regulations and enforcement of environmental protection, shortfalls in the effective regulation of product quality, and weak protection of intellectual property rights. Hence, the international supply chain faces tremendous obstacles when it comes to importing goods into China. Clearly many of China's domestic economic challenges have also hindered the growth of imports and are at the root of China's sustained global current account surplus.

Chinese leaders have recognized these problems and are trying to change China's growth model from export-led to consumption-led development, but they need help from the international community. I will discuss this point at greater length, but I want to highlight again that changes in the exchange rate alone clearly would not be able to address these problems, which contribute

greatly to the imbalance in China's trading patterns, particularly when we take into account the asymmetry of transaction costs for exports and imports.

While a change in the exchange rate can directly affect the relative cost of labor, it cannot affect transaction costs very much. In my view, thanks to China's continued reform and opening, including its accession to the World Trade Organization, transaction costs in China's export sector will continue to fall for the near future; this will further enhance the competitiveness of China's export sector even as labor costs in China are rising steadily due to expected currency appreciation, inflation, and other causes. In other words, if we take into account the rapidly declining transaction costs for exports in China, the hypothetical question raised by Stephen Roach that I quoted in the first section could become a real risk. Let me repeat that quote here:

"You in the Congress need to ask yourselves an important hypothetical question: How would you feel if you got your way on the Chinese currency adjustment but found that after three or four years the pressures bearing down on American workers had only intensified?"

Given the fact that labor costs in China are still much lower than in the United States and adding the declining transaction costs for exports in China, how can the United States compete with China in the future if competitiveness is determined by the total costs, which include both factor and transaction costs? This is the challenge to all developed economies including the United States, Europe, Japan, Korea, Hong Kong, and Taiwan. The key for the developed economies lies in reducing transaction costs for their exports and raising productivity through outsourcing to low-cost regions such as China. Hong Kong- and U.S.-based multinational corporations have been successful in dealing with this challenge through integration with low-cost economies, and rarely complain about China's exchange rate. Instead, they focus more on the hidden costs of doing business in China and in their own countries, choosing to highlight issues such as market opening, transparency of regulations, and intellectual property rights protection.

In summary, China is likely to become even more export competitive in the future due to the

declining transaction costs of exporting. In order for China to balance its trade, it has to work hard on reducing the transaction costs for imports. Since importing into China is hampered primarily by hidden transactions costs and not by prices, exchange rate adjustment would not be as effective in addressing the import imbalance as would reducing the hidden barriers and constraints on imports.

### **3. Is there a "right" level for China's nominal exchange rate?**

In the last section, I emphasized the importance of transaction costs to a country's competitiveness and downplayed the role of exchange rates, particularly the nominal exchange rate, in influencing competitiveness. Unfortunately in public policy debates, exchange rates, and particularly the nominal exchange rate, tend to be regarded as the single most important variable that could affect competitiveness and trade imbalances. This is misleading in theory as well as in practice, as the following analysis will demonstrate.

We need to ask the basic question: what is the "right" or "correct" level of China's nominal exchange rate? Most economists would regard the purchasing power parity (PPP) exchange rate, which is a hypothetical benchmark exchange rate derived from the law of one price for the same bundle of goods, as the best theoretical definition of the "right" level for the nominal exchange rate.

Suppose we buy the same bundle of goods in China using renminbi and in the United States using dollars. The PPP exchange rate is the amount of renminbi divided by the amount of dollars spent on the sample bundle of goods in the two locations.

The usefulness of this benchmark PPP exchange rate is obvious, but the problem is how to select the same bundle of representative goods in both countries. For tradable goods such as computers and cameras it is easy to find the same bundle and, surprisingly, the PPP exchange rate calculated using only tradable goods is likely to be equal to the prevailing nominal exchange rate. For example, if you were to buy a Dell notebook computer in both Shanghai and New York today, the amount of renminbi spent in Shanghai divided

by the amount of dollars spent in New York is likely to be close to 8 yuan per dollar. Any discrepancy from this ratio should be less than the cost of ordering and shipping the notebook computer between the two locales. If it were not, somebody would be able to make a fortune by buying computers in one place and selling them in the other.

The implication is that as long as China maintains free trade, its nominal exchange rate will always be consistent with the PPP exchange rate based on tradable goods because of the possibility of market arbitrage. In other words, claims that China's nominal exchange rate is undervalued are nonsensical unless they are based on a PPP exchange rate derived from buying a bundle of goods that also includes non-tradable goods.

The *Economist* magazine calculates a PPP exchange rate based on the Big Mac, which is a non-tradable good since it must be consumed where it is purchased. According to the *Economist*, in 2006, a Big Mac cost 10.4 yuan in China and \$3.15 in the States, implying a PPP exchange rate of about 3.3 yuan to the dollar (10.4 yuan divided by 3.15 dollars). Benchmarking China's nominal exchange rate of 8 yuan per dollar against this Big Mac/PPP exchange rate suggests the renminbi was under-valued by almost 60 percent.

So why does a Big Mac in China cost 60 percent less than in the United States? The answer is simple: the costs of non-tradable goods such as labor and rent used in producing a Big Mac are much lower in China than in the U.S. Hence, given the different stages of economic development prevailing in China and the United States, it should be expected that the nominal exchange rate of the renminbi would be undervalued compared to the Big Mac/PPP exchange rate. In fact, using the Big Mac/PPP exchange rate as a benchmark, the nominal exchange rates of most Asian economies are similarly under-valued.

This exercise shows that it is exceptionally difficult to claim convincingly that a country's nominal exchange rate is under- or over-valued. The intellectual basis for such a claim is questionable at best because of the theoretical difficulties in defining the 'right' or 'correct' nominal exchange rate.

The more useful questions are why wages and rents in China are so low compared with those in the United States and why they do not catch up as quickly as we might wish. To answer these questions, we have to look at the structural constraints in the Chinese economy, in particular at the abundance of surplus or under-employed rural and migrant labor. I discuss these issues later in this paper.

#### **4. What are the transitory and lasting effects of changes in the nominal exchange rate?**

Although it is difficult to define the "right" level for China's nominal exchange rate, it is still possible and important to analyze the effects of changes in the nominal exchange rate on the economy.

In the short-run, changes in the nominal exchange rate will immediately redistribute wealth between exporters and importers and thereby temporarily affect their competitiveness. To get the votes of the winners in this redistribution is why politicians driven by interest groups in the United States like to play the "renminbi exchange rate card." As market-determined wages and prices in the affected economies adjust, individuals' and firms' temporary gains or losses in competitiveness disappear!

To illustrate how this economic logic functions suppose China were to revalue its currency by 15 percent tomorrow. This would immediately redistribute a large sum of wealth from exporters to importers and, in the short-run, artificially reduce the competitiveness of China's exporters by 15 percent and increase the competitiveness of importers to China by 15 percent.

The effects on the Chinese economy will not stop after this 15 percent revaluation, however. Many exporting firms will have to close down, which may lead to deflation in China. For simplicity, assume there would be a 15 percent deflation exactly matching the revaluation. After the deflation, wages and other costs will be 15 percent lower and exporting firms will regain the competitiveness they lost temporarily due to the shock of revaluation. Importers to China would find their customers' income had dropped by 15 percent, offsetting their 15 percent gain in purchasing power from the revaluation. In theory, then, the nominal revaluation will have temporary effects on

the competitiveness of importers and exporters through a redistribution of income but will have no lasting effects on competitiveness after the economy adjusts to the shock.

In reality, things are much more complicated. Fortunately, we can consult the experiences of Japan, which allowed its currency to appreciate steadily and significantly for many years during the 1990s, with little effect on reducing or eliminating its current account surplus. What Japan got from the appreciation of the yen was little more than a decade of deflation!

If Japan had held its nominal exchange rate constant throughout 1990s, it would likely have faced inflation, but excessive appreciation of the yen eliminated the necessity for inflation and even required some deflation to compensate.

Based on his in-depth study of Japan's exchange rate policy and deflation in the 1990s, Professor Ronald McKinnon recommended that China should maintain its current peg to dollar. Nobel Prize winner economist Robert Mundell has expressed views similar to those of Professor McKinnon.

Clearly, the argument that changes in the nominal exchange rate would have a lasting effect on current account balances is misleading. If a country could gain real competitiveness through nominal devaluation of its currency, economic growth and development would be easy and should have been accomplished a long time ago by many developing countries.

What we know from basic economic principles and real world experiences is that the nominal exchange rate is only a benchmark for domestic price levels. Changes in the nominal exchange rate will have lasting effects only on the domestic price level, not on competitiveness. Lasting improvements in competitiveness are determined by factor costs, transaction costs, technological progress, infrastructure, human capital, and other real variables, but not by the nominal exchange rate.

Moreover, we should realize that sustained current account imbalances have very little to do with the level of the nominal exchange rate. Current account imbalances are fundamentally about surpluses or deficits of capital, about savings and

investment gaps, and about consumption and saving behavior.

### **5. Why should China adopt an inflation-first and appreciation-second strategy?**

Let us summarize the conclusions from the last section before we draw some implications. First, in a market economy where prices are flexible, the effects of a change in the nominal exchange rate should be offset by corresponding price adjustments on the part of firms and individuals, without creating any lasting effects on the real competitiveness of economic actors. In the longer term, or in equilibrium, changes in the nominal exchange rate will primarily affect inflation and the price level.

This implies that inflation and currency appreciation are substitutes and that they are equivalent in terms of facilitating a rise in a country's domestic price level. More specifically, appreciation of the renminbi and inflation in China are equivalent in their effect: an upward adjustment in China's domestic price level.

Let us look at this from the perspective of a U.S. consumer. If China's currency appreciates 15 percent, the cost of goods made in China is likely to increase by 15 percent. Now, instead of a hike in the exchange rate, imagine China witnessed a 15 percent inflation. For our hypothetical American consumer, the effect of inflation in China would be to raise the cost of goods made in China by 15 percent. Thus, whether China suffers 15 percent inflation or appreciates the renminbi-dollar exchange rate by 15 percent, the effects are the same to an American consumer. The U.S. consumer would not really care whether the increase in the cost of goods from China came from inflation in China or an appreciation of the renminbi.

From the above analysis, we can see that those who are pushing China to revalue the renminbi by 15 or 40 percent are really asking China to adjust its domestic price level upward by 15 or 40 percent. Why not just recommend to Chinese policymakers a 15 or 40 percent inflation? We can see immediately the difficulties in engineering inflation as high as 15 to 40 percent in China.



Although inflation and currency appreciation play the same function in raising the domestic price level, they work through different economic mechanisms. Inflation is a result. Although it can be engineered by the central bank, this not only takes time but also requires the cooperation of each individual and company in the economy. The experience of Japan during its deflationary decade in the 1990s show this clearly. Inflation is an aggregation of price adjustments in each sector and market where rational individuals and companies make decisions about how to respond to changes in wages and prices.

In contrast, large currency appreciation or revaluation, as many in Washington are recommending to China, has to be initiated from the top by aggressive government intervention. Exchange rate changes affect all members of society immediately through a forced redistribution of wealth, followed by forced wage and price adjustments. Structural inflation, which accommodates domestic price level changes, on the other hand, works through individual markets with much less shock to the society.

To speed up the increase in its domestic price level, China can, of course, use either inflation or currency appreciation, or even both at the same time. In my view, China should be encouraged to run a stable but low rate of inflation first, say about 5 percent a year, to facilitate the steady approach of its domestic price level to the level in more developed economies. When structural inflation, which is different from pure monetary inflation, is expected to surpass 5 percent, China should also add currency appreciation as an additional instrument to absorb pressure for increases in domestic prices. The extent of currency appreciation should be determined by the market, in the sense that appreciation should not be so extensive as to push inflation below 3 percent.

This inflation- first and appreciation-second strategy would avoid the risks of both deflation and excessive inflation. It would also deter currency speculation, as speculators would need to worry about inflation in China whenever they bet on appreciation of the renminbi. Speculators and investors can still bet on real estate, which will rise in value with both inflation and appreciation. But the catch-up in property prices should be viewed

as a leading indicator for the catch-up in the overall price level and should not concern the Chinese authorities too much as long as property investors are required to make sizable down payments.

## **6. What are the underlying drivers of structural inflation and currency appreciation in China?**

In general, price levels in China are much lower than those in the United States, although there are exceptions. For example, some luxury consumer products and services command higher prices in China than in the United States and many tradable goods such as international brand computers and cameras have similar prices in the two countries. The gap in price levels between China and the United States can be measured by the difference between China's nominal exchange rate and the PPP exchange rate for GDP. In 2006, the gap was 67.5 percent based on China's nominal exchange rate of 8 yuan per dollar and the 2.6 yuan per dollar PPP exchange rate for GDP as calculated by the World Bank.

Such a gap can be closed in either of two ways or a combination of both: 1) inflation in China that is above the rate of inflation in the United States, or 2) appreciation of the renminbi relative to the dollar. The larger the gap in price levels, the greater the potential pressure for inflation and currency appreciation in China.

As discussed earlier in the Big Mac example, the gap in price levels is due to differences in the prices of non-tradable goods in the two countries since the prices of tradable goods will converge quickly due to the possibility of arbitrage. Why do the prices of non-tradable goods in China increase? This is the crucial question for understanding structurally induced inflation and currency appreciation, and it was addressed by the economists Bela Balassa and Paul Samuelson.

According to the Balassa-Samuelson theory, rising productivity in China's tradable sector (manufacturing) should raise the wages of engineers. This development should entice workers from the non-tradable sector, such as hair stylists or barbers, to shift to the manufacturing sector. As a result, if there is no surplus labor in

the economy, wages for hair stylists will also rise even though there has been no productivity gain in haircutting. Increases in wages for all sectors will either lead to inflation or require appreciation of the currency to accommodate the increase in the level of prices stemming from the rising productivity in the manufacturing sector. According to this theory, productivity growth in the tradable goods sector is the driver of structural inflation and currency appreciation. However, before inflation and currency appreciation can take off significantly, the economy first needs to reach a state of full employment. This process worked smoothly in economies like Japan, Korea, and Hong Kong, which achieved full employment after industrialization started. This process will take much longer for China, however.

Indeed, consistent with the Balassa-Samuelson theory, in Japan productivity growth in the exporting industry led to a rapid rise in domestic price levels from the 1950s to the 1990s, facilitated by inflation from the 1950s to the 1970s and then by yen appreciation during the 1980s and 1990s.

From 1950 to 1960, Japan's average inflation rate was 5.3 percent, exceeding of the 2.6 percent average for the United States by 2.7 percentage points. From 1960 to 1971, Japan's average inflation rate was about 5.5 percent, exceeding the 3.4 percent average US inflation by 2.1 percentage points. Following the high inflation during the first oil crisis in the early 1970s, however, Japan's central bank started to clamp down very hard on inflation. As a result, from 1979 to 1993, Japan's inflation rate averaged about 2.3 percent, 2.4 percentage points below the average U.S. rate of 4.7 percent. With inflation under control, the only alternative way to accommodate the continued growth in domestic price levels was through yen appreciation. The yen, previously pegged to the dollar at 360 yen per dollar started to appreciate in 1971 and then after the 1984 Plaza Accord went all the way to about 100-120 yen per dollar in the 1990s. The Plaza Accord, in which a U.S.-led coalition forced Japan to appreciate its currency, would not have been necessary if Japan had allowed its domestic inflation to exceed the rate in the United States during the 1970s and 1980s. The appreciation of the yen in the 1990s was so excessive that it led to a decade of deflation in Japan.

The story in Hong Kong is much simpler but is also consistent with the Balassa-Samuelson theory. With the Hong Kong dollar linked to the U.S. dollar, from 1980 to 2000 Hong Kong's inflation rate, brought about by strong productivity growth, averaged about 3 percentage points above the average U.S. inflation rate. Annual inflation in Hong Kong was around 10 percent for a number of years in the 1990s. The productivity gains brought about by developments in supply chain management technology in the international trade sector and by the rapid development of the Hong Kong financial sector pushed up prices in all sectors since labor, land, and capital were all at full employment. The unemployment rate in Hong Kong at the peak of the 1990s business cycle was as low as 2 percent.

The story for China is a bit complicated, but still appears to be consistent with the Balassa-Samuelson theory. A number of studies have shown that rapid labor productivity growth in China's industrial sector has occurred and is continuing. This productivity growth has led to a steady increase in the wages of urban workers. High and rising urban wages attracted as many as 119 million workers from China's rural areas to its coastal cities in recent years. But due to the large pools of rural and migrant labor, which may amount to as many as 481 million people, the wages of rural and migrant workers have risen very slowly until recently. As a result, inflation has been low and currency appreciation very slow during the last decade despite China's tremendous growth rates.

In the next decade or two, however, as China's baby boom generation starts aging and the economy continues to grow rapidly, China is likely to get closer and closer to full employment. When this happens, China is likely to experience rapid structural inflation and/or currency appreciation similar to that experienced by Japan and Hong Kong. The key underlying assumption of this model, of course, is continued productivity growth in the manufacturing sector.

### **7. So how fast should the Renminbi appreciate?**

The most useful way to consider the question of how fast the renminbi should appreciate is not to

look at what American or Chinese politicians want. As pointed out before, the nominal exchange rate is just one of two variables that figures in the determination of domestic price levels; the other variable is the inflation rate. If its currency appreciates too fast, China will get deflation; if it appreciates too slowly, China will get inflation. The combination of inflation and renminbi appreciation will then determine China's domestic price level relative to that of the United States.

To restate this result, China's domestic price level, which determines the costs of goods made in China to American consumers, is determined by the underlying growth of productivity in China, not by China's premier, not by the governor of China's central bank, and not by Congressmen in Washington. This point cannot be over-emphasized if we want to discuss China's currency policy scientifically and objectively.

We approach an understanding of the best pace for renminbi appreciation in the coming years by also considering a realistic pace for convergence between price levels in China and other countries. As discussed above, in 2006 China's domestic price level was 32.5 percent that of the United States.

For the sake of simplicity, let us assume that China will maintain an inflation rate exactly the same as the U.S. rate. Using this assumption, we can then calculate the number of years needed for the price level in China to catch up to the level in the United States, assuming also a constant annual rate of renminbi appreciation. The result from this simple arithmetic shows that it will take 57 years if the currency appreciates at 2 percent a year, 38 years with appreciation at 3 percent a year, 23 years at 5 percent, 15 years at 8 percent, and 8 years if the currency appreciates at a rate of 15 percent a year.

Now let's ask: how long would it take for China's domestic price level to reach the U.S. price level based on past experiences in price level convergence among developed and developing countries? The answer could very well range from 15 to 38 years. This timeframe for convergence, in turn, would imply annual renminbi appreciation ranging from 3 to 8 percent, assuming inflation in China is no higher than inflation in the United States.

In my view, it is not possible for China's domestic price level to reach that in the United States within 15 years. For this common sense judgment to make any sense, China's average annual currency appreciation plus its extra inflation could not exceed 8 percent. Hence, 4 percent per year extra inflation and 4 percent per year currency appreciation would probably be the best we could expect for China.

The actual pace of inflation and appreciation in China at the present is far below this "limit." In 2006, China's inflation rate was only 1.5 percent, much lower than the 2.5 percent inflation rate in the United States. In fact, relative to the States, China had deflation in 2006! At the same time, the average rate of currency appreciation was around 3 percent. So in 2006 relative to the United States, China's domestic price level increased only about 2 percent ( $1.5 - 2.5 + 3 = 2$ ). At this pace, it will take 57 years for the price level in China to catch up to the U.S. level. No wonder so many in Washington are getting impatient about China's currency policy! However, while it is easy to complain about China's slow adjustment, it is difficult to find a solution to speed up the convergence of China's price level.

## **8. Why is China's inflation rate so low and at the same time its appreciation rate is so slow?**

According to a survey by the Ministry of Agriculture, total employment in China was 764 million in 2006. Of this total, only 283 million jobs belong to the urban sector. The number of migrant workers reached 119 million in 2006, an increase of 7 million over the previous year, and their average monthly wage was about 958 yuan, or \$120. Subtracting the 283 million urban jobs and 119 migrant workers from total employment of 764 million, suggests China still has 362 million rural workers. Combining the number of rural workers with the 119 million migrant workers yields 481 million unskilled workers who currently earn an average of \$120 a month or less. Many of these workers are likely under-employed and would be eager to shift to a job that paid a higher wage.

These 481 million unskilled workers face two choices: stay in the villages or migrate to urban regions to find a job in the industrial or service

sector. If they stay in the villages, they can maintain a standard of living more or less the same as that of an average Chinese peasant, which is barely above subsistence. If they seek migrate to the cities, they have to compete with other migrants for the limited number of urban jobs. Fierce competition in the unskilled labor markets, which are linked nation-wide through the newly completed inter-province highway system, mobile phones, bus and rail routes, as well as informal township associations, has driven wages for unskilled labor down to a level close to the subsistence income of the average peasant. None would envy the position of rural or migrant Chinese workers. They are competing in a labor market that American workers and urban Chinese residents would not willingly enter. Nonetheless, despite their low incomes, they deploy their purchasing power for things like mobile phone and public transport services, which are essential for their work and for their frequent searches for better jobs.

In recent years, the Chinese government has tried hard to increase wages for migrant workers as well as incomes of peasants. Wages for migrant workers increased as much as 12 percent in 2006 after the government's effort to raise the minimum wage. Shenzhen, the special economic zone next to Hong Kong, increased its minimum wage by 17 percent last year. Nevertheless, the income of rural residents in China increased only 1.2 percent in 2006. As explained above, the incomes of migrant workers and rural residents are closely linked due to their freedom to move between urban and rural jobs. In order to raise the income of one group, it is necessary to raise the income of both.

This huge pool of unskilled workers is what is slowing the growth of wages in China, and this pool of underutilized labor is what ultimately dampens inflationary pressures in China. If the Chinese economy were to slow down, for example as a result of a 15 percent revaluation of the renminbi, China could easily see deflation and massive unemployment due to the competition of 481 million unskilled workers who are surviving barely above subsistence.

The low wages of unskilled workers also adversely affect the environment and public health; unskilled

workers may encourage low-cost production that generates huge environmental and public health damage when the government and industries with low profit-margins do not have enough resources and incentives to take necessary precautions and preventive measures. Although it is difficult to get reliable data, from my own experience in visiting many rural enterprises I conclude that for many of these enterprises the costs of pollution and energy-inefficient technology could be much greater than the thin profits and low wages they generate. Unfortunately, the central government has not yet found an effective way to limit the low-efficiency activities that provide socially costly employment for the pool of unskilled labor. China needs help from the international community to identify and stop these value-subtracting industries quickly before they permanently damage the environment and the people.

## **9. Should China adopt a tighter or looser monetary policy?**

The structural constraints associated with China's surplus labor pool are the main causes for the slow catch-up in China's price level, although difficulties in macroeconomic policies also play an important role. As pointed out earlier, benchmarked to the U.S. inflation rate, China effectively witnessed deflation in 2006. In that year, when inflation in China was only 1.5 percent, according to the Asian Development Bank (ADB) it reached 2.2 percent in Korea, 5.5 percent in India, 7.9 percent in Pakistan, 13.1 percent in Indonesia, 7.5 percent in Vietnam, and 6.2 percent in the Philippines. It seems fair to say that in the global context, China experienced deflationary pressure in 2006 even though its economy grew 10.7 percent.

Surprisingly, although China recorded one of the lowest inflation rates in the world in 2006, both the Chinese government and international organizations like the ADB, World Bank, and International Monetary Fund have urged China to tighten monetary policy to restrain investment. In contrast, the ADB, among other organizations, recommended that other Asian economies with much higher inflation rates, raise investment, especially in infrastructure, exactly the policy China followed in the past.



Why recommend that one economy, such as India, increase investment when inflation is high, while recommending that another economy, such as China, reduce investment when inflation is low? The typical answer is that “China is special,” that it has over-capacity, and that therefore it should reduce investment and increase consumption.

The advice to increase consumption cannot be wrong. However, consumption in China today is largely under the control of individuals and firms. They have probably already tried to optimize their consumption given all the constraints they face, and are unlikely to welcome the government telling them how to spend their money.

Since the health insurance and social security networks in China are in their infancy, many Chinese people choose to save a great deal as a hedge against uncontrollable expenses. In the absence of student-loan programs, families also choose to save a great deal for their children’s education. Betting on capital gains many middle class Chinese families decide to buy property in new residential communities, but refrain from moving until roads, subway networks, schools, and other infrastructure are completed. These are best choices given the structural and economic constraints of Chinese society. As a result of the individual best choices available to Chinese households, consumption remains low and savings rates remain high. All of this begs the question, how can China best increase domestic consumption?

In the context of the above examples, the answers are quite straightforward: build an integrated health insurance system; create student loan or scholarship programs; and build more roads, subways, and schools. All these solutions, not surprisingly, require investment. These are productive investments, and productive public investments are fundamentally different from investment that generates unproductive over-capacity. These productive investments will free up the consumption power of Chinese households, which is currently held back to hedge against potential negative future eventualities.

Unfortunately, China’s National Bureau of Statistics cannot distinguish productive from unproductive investment. When reported statistics suggested the overall investment rate was too

high, the Chinese government put a brake on investment, depressing both productive and unproductive investment. When investment, especially productive investment, is constrained, imports do not grow fast enough to keep up with exports. As discussed in the previous section, investment in the supply chain system that supports China’s exports has been carried out largely by foreign-invested companies and is not affected by the Chinese government’s macro-economic control policies. On the other hand, imports depend heavily on domestic consumption and investment. Hence, China developed a large current account surplus because the government failed to allow enough productive investment.

What China needs, then, is a set of macro-economic policies that increases productive investment and consumption while reducing unproductive investments. This is almost impossible, since the macro-economic instruments available to the government, such as control over the money supply, the exchange rate, interest rates, and bank reserve ratios, do not distinguish productive from non-productive investment. Without much choice, the Chinese government was forced to go back to its old tools: administrative controls, industrial policy, and political discipline including an anti-corruption campaign.

In summary, because of the difficulties in distinguishing productive investment from unproductive investment, the central bank of China faces a dilemma. If it adopts a loose monetary policy, it will have to deal with over-capacity when unproductive investment expands out of control. If it adopts a tighter monetary policy, it will have to deal with a current account surplus when imports and productive investment cannot grow fast enough to keep up with the expansion of exports.

To accelerate the catch-up in China’s domestic price level, the international community should encourage China to adopt a loose monetary policy, which means less sterilization of its rising foreign exchange reserves. A loose monetary policy is necessary to accommodate steady structural inflation, and a low and stable inflation rate is a necessary condition for facilitating an

orderly renminbi appreciation that would not risk deflation. But, in order to convince China to adopt a loose monetary policy, it is necessary to help China to develop a robust financial, planning and regulatory system that can distinguish productive from unproductive investments.

### **10. How to distinguish productive from unproductive investment?**

This is a question no individual can answer. The entire financial, planning, and regulatory system in the modern economy is designed to answer this question, to screen out good projects and finance them at low costs while rejecting poorly designed projects. These services are desperately needed in China. They are what make London, Hong Kong and New York global financial and business capitals.

The essential function of a good modern financial, planning, and regulatory system is to reduce the transaction costs between capital and labor so that they can work productively together. Without this system, China will not be able to employ productively and fully its 481 million rural and migrant workers. Instead, China may have to create hundreds of socially costly rural enterprises, which generate more pollution and social instability than they generate in profits and wages. China's imports will not be able to balance off its exports, which will continue costing the United States and other nations jobs while encouraging protectionism. China's potential purchasing power will be locked up in its foreign exchange reserves instead of becoming productive investment and consumption that would bring contracts for goods and services produced by American workers. This is why I regard Treasury Secretary Paulson's Shanghai speech on China's financial sector reform as a draft of a "Marshall Plan" that could bring a win-win result for China and the United States in the 21st century.

The strength of the financial sector in the United States contrasts sharply with its weakness in China. With a strong financial sector, average Americans can afford to maintain a low savings rate since they can secure capital gains on their investments in property and capital markets. With a weak financial sector, Chinese consumers have

to maintain a high saving rate and lower consumption (and lower standard of living). China's surplus capital cannot be used to hire productively all its own people. Americans today worry about the competition from China just as Hong Kong people did a decade ago. People in Hong Kong today, however, realize that when China is growing productively, there will be more work than all of Hong Kong's labor pool can handle. I have no doubt that if America can help China fix its financial sector, China will create enormous demand for American goods and services, with consequent benefits and employment opportunities for the American people. Supply creates demand if only we have an efficient financial sector and if the transaction costs are decreasing towards zero.

How to build a robust financial, planning, and regulatory system in China with help from the international community is a topic beyond the scope of this paper. But efforts by the United States and the international community to increase consumption in China should focus on this broad fundamental issue, not simply on renminbi exchange rate revaluation.

### **References**

- Anderson, Jonathan. 2005. The Complete RMB Handbook (Third Edition). Asian Economic Perspectives, 25 July 2005, UBS Investment Research.
- Bhagwati, Jagdish. 2007. US Trade Policy: The China Question. Testimony before U.S. Senate Finance Committee in Congressional Hearing regarding Opportunities and Challenges in the U.S.-China Economic Relationship, 27 March 2007, Washington, DC.
- Cheong, Y.R. and Geng Xiao. 2003. Global Capital Flows and the Position of China. In China's Role in Asia and the World Economy: Fostering Stability and Growth, pp.113-175, edited by Jan Joost Teunissen, The Hague: FONDAD.
- Cline, William R. 2005. The Case for a New Plaza Agreement. Policy Briefs in International

- Economics, Number PB05-4, Institute for International Economics.
- Dooley, Michael, David Folkerts-Landau, and Peter Garber. 2005. *International Financial Stability: Asia, Interest Rates, and the Dollar*. Global Markets Research, 27 October 2005, Deutsche Bank.
- Garcia-Herrero, Alicia and Tuuli Koivu. 2007. *Can the Chinese Trade Surplus Be Reduced with Exchange Rate Policy?* Paper presented at Western Economic Association International conference, 10-12 January 2007, Beijing.
- Goldstein, Morris and Nicholas R. Lardy. 2005. *China's Role in the Revived Bretton Woods System: A Case of Mistaken Identity*. Working Paper Series, Number WP05-2, Institution for International Economics.
- Goldstein, Morris. 2007. *Assessing Progress on China's Exchange Rate Policies*, Testimony before the U.S. Senate Finance Committee in Congressional Hearing regarding Risks and Reforms: The Role of Currency in the U.S.-China Relationship, 28 March 2007, Washington, DC.
- Ho, Corrinne and Robert N McCauley. 2007. *Resisting Appreciation and Accumulating Reserves in Asia: Examining the Domestic Financial Consequences*. Paper presented at Western Economic Association International conference, 10-12 January 2007, Beijing.
- Liu, Liang-Yun and Wing Thye Woo. 1994. *Saving Behavior under Imperfect Financial Markets and the Current Account Consequences*. *Economic Journal*, 104(424):512-527.
- Lu, Feng. 2007. *The Return on Capital in China: Evidences, Causes, and Policy Implications*. Presented at CECER China Economic Monitor workshop, 11 January 2007, Beijing.
- Makin, John H. 2007. *China's Risky Currency Policy*. Testimony before the U.S. Senate Finance Committee in Congressional Hearing regarding Risks and Reforms: The Role of Currency in the U.S.-China Relationship, 28 March 2007, Washington, DC.
- McKinnon, Ronald. 2005. *China's New Exchange Rate Policy: Will China Follow Japan into a Liquidity Trap?* Working Paper, Stanford University.
- McKinnon, Ronald. 2005. *Exchange Rate or Wage Changes in International Adjustment? Japan and China versus the United States*. Working Paper, Stanford University.
- Paulson, Henry. 2007. *On the Growth and Future of China's Financial Markets*. Prepared Remarks by U.S. Treasury Secretary, 7 March 2007, Shanghai.
- Prasad, Eswar S. 2007. *Exchange Rate Flexibility in China: Why It Really Matters and How to Make Progress*. Testimony before the U.S. Senate Finance Committee in Congressional Hearing regarding Risks and Reforms: The Role of Currency in the U.S.-China Relationship, 28 March 2007, Washington, DC.
- Roach, Stephen S. 2007. *The China Fix*. Testimony before the U.S. Senate Finance Committee in Congressional Hearing regarding Risks and Reforms: The Role of Currency in the U.S.-China Relationship, 28 March 2007, Washington, DC.
- Sheng, Andrew and Allen Ng. 2007. *The External Wealth of China: An Investigation from International Balance Sheet Perspective*. Unpublished Manuscript.
- Truman, Edwin M. 2007. *A Revived Bretton Woods System? Implications for Europe and the United States*. Speech at the conference *Revived Bretton Woods System: A New Paradigm for Asian Development?* 4 February 2005, Federal Reserve Bank of San Francisco.
- USTR. 2007. *National Trade Estimate Report on Foreign Trade Barriers: China*.
- Williamson, John. 2003. *The Reminbi Exchange Rate and the Global Monetary System*. Lecture delivered at the Central University of Finance and Economics, 29 October 2003, Beijing.
- Woo, Wing Thye. 2006. *The Structural Nature of Internal and External Imbalances in China*. *Journal of Chinese Economic and Business Studies*, 4(1):1-20.
- Xiao, Geng and Zhengge Tu. 2005. *Productivity Growth in China's Large and Medium-Sized Industrial Firms: Patterns, Causes, and Implications*. Presented at International Workshop on Competition, Innovation and Productivity:

Empirical Evidence from Firm Level Data, 19-20  
December 2005, Nice, Sophia-Antipolis, France.

Xiao, Geng. 2006. Non-Performing Debts in  
Chinese Enterprises: Patterns, Causes, and  
Implications for Banking Reform. *Asian Economic  
Papers*, 4(3): 61-113.

Yi, Gang. 2007. China's Macro-economy and  
Monetary Policy under Globalization. 2007. Paper  
presented at Western Economic Association  
International conference, 10-12 January 2007,  
Beijing.

Yu, Yongding. 2007. Global Imbalances: China's  
Perspective. Paper presented at IIE conference on  
Global Imbalances, 8 February 2007, Washington,  
DC.



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