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The Economy-wide Impact of Financial Liberalization in China and India: A Computable General Equilibrium Simulation

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Executive Summary

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I.   Introduction

The world economy is undergoing a period of extraordinary trade, productive and financial integration within the context of rapid policy reform and liberalization, both within countries as well as within global and regional associations. Within this rapidly changing environment, how a country manages the timing and scope of domestic policy reforms and international negotiations will have profound implications for its position in the emerging new world economic order. Yet in many cases, sector specific reforms or multilateral negotiations are evaluated from the perspective of the political economy of that specific sector, instead of the national economy-wide and long-term global competitive implications that this sector specific agenda many have.

This paper examines the case of two of the most important emerging countries in the world economy and the choices they will face in the context of post-GATT policy reforms and negotiations. The potential impacts of financial sector liberalization for these countries is of particular interest since reform of this sector is emerging as one of the most important issues for negotiations within the new World Trade Organization (WTO) framework. It is also a case where the political economy of specific concerns within national financial sectors may be at odds with the broader economy wide implications and opportunities of financial sector reforms. In other words, reform measures targeting financial sectors are likely to decrease the profitability of local financial firms, at least in the short run, while reducing costs and improving efficiency in the other productive and service sectors. This paper seeks to make available more comprehensive methodologies for evaluating the economy-wide impacts of specific financial sectors liberalizations which might be able to better inform the choices available to policy makers and other economic actors.

Financial liberalization, as part of a broader program of economic reforms, may contribute to economic growth in three key ways. First, interest rate decontrol will lead to higher real returns for savers and, in most cases, an increase in resources in the financial system which can be loaned for investment projects. To the extent that pre-

liberalization savings rates were voluntary, we would expect national rates of savings and investment to rise, boosting economic growth in the medium to long term. We posit that, in the context of relative macroeconomic stability, increased competition among banks, non-bank financial institutions, and foreign financial institutions will prevent a sharp rise in the lending rate that might otherwise reduce investment levels.

Secondly financial liberalization will mean an end to the practice of allocating cheap credit to preferred sectors. This will improve the allocation of resources in the economy, as capital is allocated to sectors in which it is most profitable. Over a transition period of 5 to 10 years, depending on the extent of the pre-liberalization distortions, economic growth will be higher.

Finally, our definition of financial liberalization implies greater access to international capital, facilitated in part through an expanded role for foreign banks and non-bank financial institutions, could be a third benefit of financial liberalization. This definition of financial liberalization goes beyond mere domestic financial reform. This access to international markets carries risks and responsibilities as well, since macroeconomic mismanagement may now lead to capital outflows in search of "safe haven" investments. But as long as inflation is low and predictable, openness to participation by foreign banks, direct and portfolio investment, and foreign currency loans to national corporations should increase the supply of foreign savings and thus the level of investment and growth rate of real output. These three impacts will be the key elements of our empirical estimates presented in this paper.

The remainder of the paper is organized as follows. Section II will review the theoretical considerations on the impact of financial liberalization in developing countries, including the problems of "Financial Repression" and potential benefits and pitfalls of financial liberalization. Section III will review the cases of China and India, including the most obvious parallels between the two countries with respect to size and relative poverty, but also the fact that, in contrast to the vast majority of low income developing countries, their domestic savings rates are relatively high. Past liberalization episodes and current liberalization efforts are discussed, and some of the remaining financial sector distortions are surveyed.

In Section IV, a computable general equilibrium (CGE) model designed for China and India is introduced and the results of various scenarios and sensitivity analyses are discussed. The model focuses on the real side impacts of financial liberalization. Within the broad CGE context, in which all changes have impacts that spread throughout the economy, three primary avenues of effect from financial liberalization to savings, investment and production decisions are introduced. Section V presents our conclusions and some policy recommendations. A brief description of the workings of the base model is given in Appendix 1.

II.   Theoretical Considerations on the Impact of Financial Liberalization in Developing Countries

<u>Problems of "Financial Repression" and Potential Benefits of Financial Liberalization</u>

The theory on how best to manage financial markets in order to generate real economic growth was pioneered by McKinnon (1973) and Shaw (1973). Prior to their work, the consensus in capital-poor developing countries was to encourage investment by providing capital at low rates of interest. Particularly in centrally planned economies like China and India, the income distribution implications of such a plan could be ignored, since the investments were being made by state owned or controlled enterprises, presumably for the benefit of all. However, such policies clearly imposed costs, in terms of slower economic growth, on many developing countries

McKinnon and Shaw made three major contributions to the debate. They noted that low interest rates encouraged investment, but not savings, creating a gap between desired investment and domestic savings available to finance investment. This gap forced a rationing of loans, reliance on foreign borrowing, or both. Secondly, they noted that cheap capital encouraged capital-intensive methods of production even in labor-surplus economies. Cheap credit rationed to certain sectors of the economy led to an inefficient allocation of credit, rather than a market allocation of credit to highest return investments. Thus these countries suffered both slow economic growth and low employment multipliers for their growth rates. The third contribution was to note that this situation in developing countries, termed financial repression, led to stunted financial markets. Low measures of M2/GDP indicated slow growth or stagnation in bank credit for consumers and the development of equity markets and credit instruments applicable to local needs. In very poor economies, inefficient barter transactions were not quickly replaced by monetary transactions due to this financial repression. India and China both exhibited many of the symptoms of financial repression noted by McKinnon and Shaw.

The influence of McKinnon and Shaw's work was enhanced by their timing. Low, fixed rates of interest on loans in developing countries turned strongly negative with the inflation of the mid-1970s, creating problems one didn't have to be a Ph.D. economist to appreciate.[1] Interest rate decontrol became a standard part of the policy advice package for developing countries almost immediately after their works were published.

<u>Potential Pitfalls to Financial Liberalization: Towards a More Comprehensive Theory</u>

However, some challenges to this doctrine of freeing interest rates on deposits and loans to "market rates" have appeared. The first relates to special problems that may arise from freeing interest rates before macroeconomic stability is ensured. With high and

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[1] The role of the negative real interest rates of the 1970s (and their abrupt end in the Regan/Volker recession of the early 1980s) is a well-known cause of the debt crisis. See Lessard 1985, among many others.

variable rates of inflation, even high return projects would not be undertaken due to the interest rate risk. In the 1980s, it was noticed that countries that tried to liberalize interest rates and stabilize from high inflation rates suffered from a lack of investment and slower economic growth, at least during a transition period.[2]

Secondly, "market rates" for deposits and loans are only economically efficient if those markets are competitive. Without competitive pressures, the spread between deposit and loan rates may be huge, reflecting profits and costs of financial intermediation, thus limiting the potential gains from interest rate liberalization. This is a crucial part of the argument for opening financial sectors to competition from efficient, foreign financial service providers and from non-bank financial service providers, both domestic and foreign Third, informational asymmetries and moral hazard problems may prevent an efficient allocation of resources even by a competitive banking system. Stiglitz and Weiss note that credit rationing is a possibility even in a competitive system.[3]

Thus the conventional wisdom of the 1990s advocates liberalization of the entire financial system.[4] The World Bank stresses competition in financial services (1989, p. 41), but strengthening equity markets (Stiglitz 1991), the provision of more and varied financial instruments, and improving access to bank and non-bank financial services may be just as important in increasing savings rates and improving the allocation of capital.[5]

Two additional challenges relate specifically to centrally planned economies like China and India as they attempt to move toward the market. The first is breaking the link to state-owned enterprises (SOE) and dealing with the "overhang" of bad debt accumulated in the past. Developing the needed institutions and human capital for dealing with the supervision and regulation functions of banks over loan recipients and the government over the banking system is crucial, but may take time. These issues raise the possibility that financial liberalization may result in transitional problems on the way toward efficiency gains in the future, unless the weaknesses of the old system are recognized and appropriate adjustments made.

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[2] Consider an investor contemplating taking out a loan at a 50 percent nominal interest rate for a project with a projected 10 percent real return. Last period's inflation rate was 50 percent, but the government has announced a stabilization program that will reduce next year's inflation to 30 percent. If the government's program is successful, not only will the project yield less than the real interest rate on the loan, but the high real interest rate will reduce aggregate demand, perhaps lowering the real return on the project as well if it involves production for the local market. Thus the firm will only take the loan and undertake the project if it feels that government's commitment to stabilization is weak. Yet the continuation of high inflation creates its own problems for business, and lack of domestic investment during the stabilization program will slow output and employment growth and may thus endanger the stabilization program!

[3] Stiglitz and Weiss 1991.

[4] See World Bank 1989.

[5] For instance, the rapid increase in the savings rate of South Korea, from less than 10 percent of GDP in the early 1960s to more than 30 percent by the mid-1980s, and the similar increase in Japan are traced in part to postal savings systems, informal credit markets, and other measures to make financial savings convenient and attractive to small depositors.

Another challenge to the proponents of financial liberalization is founded on the experience of some of the East Asian countries. Clearly the rapid economic growth of Japan in the 1960s and 70s and Korea and Taiwan in the 70s and 80s came despite strong government controls in capital markets.[6] But the stagnation of Japan, turmoil in Korea, and collapse of the Thai baht show that financial liberalization may have benefits even for these economies. For instance, liberalization also forges the linkages to international financial markets necessary to avoid speculative bubbles, such as those in Japanese and Thai real estate.[7] Developing equity and other markets serve as additional conduits through which foreign savings can be attracted to increase domestic investment.[8]

Two final caveats to the theoretical optimality of liberalized financial markets must also be mentioned. The first caveat relates to the empirical estimation of the interest elasticity of savings. Estimates of this parameter, clearly a key element of the case for financial liberalization, range from modest (Fry 1988) to insignificant (Dornbush and Reynoso 1989). Particularly for countries like China and others in Asia who forced savings through central provident funds or other mechanisms, there may not be an immediate pay-off in higher savings even after complete financial liberalization. But current perceptions are that "...most of it [China's high savings rate] is accounted for by the voluntary holdings of households."[9]

As a second caveat, we must note the importance of coordinating economic reforms. Liberalizing just the financial sector may not enhance growth at all. For instance, cutting subsidies to intermediate goods and capital goods producers by making them pay market rates of interest on loans, if not accompanied by trade liberalization, could merely raise prices throughout the economy as price hikes by upstream industries are passed on downstream. Efficient bicycle and garment makers, for instance, cannot compete effectively in world markets if the price (or quality) of key inputs like steel, textiles, and machine tools are not near world levels. Fortunately, both India and China are undertaking widespread reforms, including liberalizing international trade, domestic distribution systems, etc.

Theoretical Conclusions

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[6] Korea's vaunted " financial liberalization" in the mid-to late-60s is widely regarded now as having been temporary and shallow. See Woo 1991, Amsden 1989, and Cho 1989, among many others. Japan is still gradually implementing financial market reforms, after more than 30 years of "reform."

[7] Where financial markets are dominated by a few domestic firms, there is a tendency for all to rush into high return, high risk speculative loans once such a boom starts, since any firm that stays out of such a boom will be at a comparative disadvantage. Thus insulated financial markets like those in Japan, Korea, and Thailand are capable of digging a much deeper hole of bad debt than, for instance, U.S. banks lending to Latin America or even savings and loans lending for the purchase of Texas real estate.

[8] Such conduits may, of course, generate flows in the opposite direction if macroeconomic instability results in capital flight, as has happened on several occasions in Latin American countries.

[9] Bordes 1993, p. 22.

Financial liberalization, as part of a broader program of economic reforms, may contribute to economic growth in three key ways. First, interest rate decontrol will lead to higher real returns for savers and, in most cases, an increase in resources in the financial system which can be loaned for investment projects. To the extent that pre-liberalization savings rates were voluntary, we would expect national rates of savings and investment to rise, boosting economic growth in the medium to long term.

Secondly financial liberalization will mean an end to the practice of allocating cheap credit to preferred sectors. This will improve the allocation of resources in the economy, as capital is allocated to sectors in which it is most profitable. Over a transition period of 5 to 10 years, depending on the extent of the pre-liberalization distortions, economic growth will be higher.

Greater access to international capital will be the third benefit of financial liberalization. This access to international markets can be a double edged sword, since macroeconomic mismanagement may now lead to capital outflows in search of less risky investments. But as long as inflation is low and predictable, openness to participation by foreign banks, direct and portfolio investment, and foreign currency loans to national corporations should increase the supply of foreign savings and thus the level of investment and growth rate of real output. These three impacts will be the key elements of our empirical estimates presented in section IV.

III.   Background of Financial Sectors and Proposed Liberalizations in China and India

<u>Introduction to India and China</u>

The most obvious parallels between the two countries are their size and relative poverty. Their size makes them important players in world politics and security issues, and limits the potential impact of external aid, capital flows, and even trade on development. Another common factor is that, in contrast to the vast majority of low income developing countries, their domestic savings rates are relatively high. But, "In both India and China, although growth rates have been relatively high, the very high savings rates actually have led to lower growth than would have been predicted, because the productivity of the capital being accumulated by these savings has declined to relatively low levels."[10] Another parallel is in the package of reforms being implemented in both countries, not the least of which are sweeping reforms of their respective financial sectors.

A number of differences between the two economies and reform efforts must be noted. Dernberger and Eckhaus stress the greater experience India has had with the mixed economy, including the size of the financial sector and individual

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[10] Dernberger and Eckaus 1988, p. 3.

entrepreneurship, and the different training of the bureaucracy. The point most relevant to this study the greater familiarity Indian officials have with indirect control of their economy, through monetary and fiscal policies, as opposed to the direct control of output, investment, and prices that characterized the Chinese system before their reforms. "…the new leadership's loss of control over the balance of trade, level of investment, money supply, etc. at various times in the past few years clearly reveals its inexperience in the area of macroeconomic instruments for regulating the economy, an inexperience not quickly remedied."[11] Bordes (1993) emphasizes the "stop-and-go" nature of economic growth in China, with successive rounds of "overheating phases since the beginning of the eighties: the first in 1980 (when average inflation was 6%), the second in 1985 (8.8%), the third in 1988 (18.5%), and the fourth since 1992."[12] A major part of these inflationary episodes can be attributed to the liberalization and decontrol of prices and interest rates, production, and investment decisions without the necessary institutions and expertise to establish and maintain indirect control.

China Background

Pre-reform period (before 1978)

The People's Bank of China (PBC) was the sole bank operating in China. It performed the roles of central bank, commercial bank, and development bank. Non-bank financial institutions were limited to the single state insurance company, and there were no functioning equity markets. The PBC functioned primarily as an accounting office, channeling funds in accordance with the central plan. Thus many elements which are taken for granted in a decentralized system, such as fractional reserve banking, foreign exchange markets, and competition for funds did not exist in China.

Private savings by households (just 6 percent of GDP and mostly involuntary), retained earnings of enterprises, and government revenues were the sources of funds in the banking system (Bordes 1993). The PBC, in addition to funding the capital requirements of government and state-owned enterprises (SOE) interest free, made working capital loans for which payment with interest was required. Cash circulated primarily to households as wages and to firms as payments for final goods. All intermediate transactions involved shifting balances between accounts at the PBC.

Thus the ideas of profit maximization, competition for loanable funds, supervision of lending portfolios, and indirect control of monetary aggregates were all completely foreign to Chinese bankers. Financial flows were merely a facilitation devise to achieve the real targets of the plan (Bordes 1993).

Two Reform Periods--1978-84 and 84-87

Just as the real targets for production and investment drove the financial system in

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[11] Op. Cit., p. 7.
[12] Bordes 1993, p. 17.

the pre-reform period, reform of the production side of the economy was the first reform goal. Initial reforms were concentrated in the agricultural sector, which still employed over two-thirds of the labor force. The commune system was overturned in favor of the "production responsibility system," in which production was contracted at the household level, government guarantee prices were raised, and surpluses could be sold at international market prices (Naya and McCleery 1993).

At the same time, China experimented with an open-door policy, designating special economic zones in the coastal Southeast where international trade was exempt from the wide range of state taxes and controls. The arrival of foreign firms raised questions about property rights, currency convertibility, and access to international capital markets that were initially ignored by China's leaders.

These reforms touched off a surge in agricultural output and productivity. Agricultural output grew by more than 7 percent per annum from 1978 to 1984, more than twice the rate of the preceding two decades. Farm incomes in 1983 were 2.3 time their 1979 level, exhibiting faster growth than urban wages, although a two to one rural-urban wage gap still existed in 1983 (World Bank 1985).

The second wave of reforms in 1984 and 1987 were concentrated on industry. Local units were given increasing amounts of autonomy over time, and gradually moved into sectors of production directly in competition with the large SOE. In part, this increased autonomy was aimed at correcting a clear imbalance in the allocation of investment. For instance, in the late 1970s agriculture received only about 10 percent of all new investment, despite employing nearly three-quarters of all workers. Similarly, light industry, China's emerging comparative advantage in world markets, received an even smaller share of investment. New investment was channeled into heavy industry in particular, and favored goods production over "social overhead capital," such as utilities, transportation and communication, and housing.[13]

Yet two trends continued throughout both periods. Investment was nearly as concentrated in heavy industry at the end of the second reform period, and the share of total investment in both agriculture and light industry had declined.[14] Clearly growth was still constrained by the allocation of capital across sector, which was governed as much or more by political, regional, and ideological factors as by economic considerations. Decentralization was partial and subject to pressures or reversals. Local units were urged, though differential interest rates and terms, "to take advantage of these new opportunities to engage in investment activities on their own by investing in projects that reflect

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[13] Dernberger 1988.

[14] As noted in Dernberger 1988, official statistics may not capture all new investments by the newly liberalized local units, or the money that was beginning to flow into the country from overseas Chinese, and thus may understate investment in light industry. Investment as a share of national income was declining, although rapid GDP growth meant that investment levels were stable or rising in all sectors.

national interests as against purely *local* interests."[15]

Foreign capital inflows of all types were increasing during this period, but still played a minuscule role in overall savings and investment, particularly in banking and finance. The situation for foreign investors was summed up by Dernberger as follows. "Many complaints have been voiced by foreign investors about the difficulties of doing business in China: excessive regulations and bureaucratic controls, problems in recruiting labor and enforcing labor discipline, inadequate infrastructure and undependable sources of supply, problems in gaining access to the domestic market and repatriating profits when access is possible, and more. The Chinese have repeatedly indicated their desire to eliminate these problems, but recent regulations and statements make it clear that they intend to retain control over and strictly regulate direct foreign investment in China."

The early reform periods were characterized by gradual and partial liberalization. Neither the partial relaxation of investment restrictions nor the modest increase in access to foreign capital markets altered the fundamental biases in Chinese growth. "(1) an excessive accumulation of national income at the expense of consumption; (2) an excessive emphasis on industry at the expense of agriculture; (3) an excessive emphasis on heavy industry and the neglect of light industry; (4) an overemphasis on secondary sector investment at the expense of tertiary sector investment; and finally (5) within the category of secondary sector investment, a lack of investment in energy and infrastructure….Furthermore, the average return to investment has always been lower in industry than in agriculture. Excessive inventory investment and the misallocation of fixed investment within broad sectors are the causes of low efficiency in investment in China"[16]

Recent and Ongoing Reforms and Liberalization

Reform efforts in China, both directly in the financial sector and supporting reforms in other sectors, are continuing. Rapid economic growth and large capital inflows are also continuing. Yet financial markets, along with other key sectors of the economy, can hardly be called competitive, although there is a gradual trend towards increased competition. For instance, the Bank of Communications, the first publicly held bank since 1949, issued its own shares and generated price and non-price competition for deposits, to the extent possible within the context of the tightly regulated banking system.

Two scales can be imagined: efficiency and regulatory. China's financial system appears to be efficient, but that efficiency is illusory. The low spreads between deposit and lending rates actually reflects the high degree of regulation. For instance, from 1991 through 1992, deposit rates were fixed at 7.56 percent and loan rates fixed at 8.64 percent, a spread of just over one percent.[17] Does this reflect a highly efficient, modern financial sector? Hardly.

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[15] Dernberger 1988 p. 33, emphasis added.
[16] Li 1994 p. 23-24.
[17] IMF July 1997.

What is actually happening is that the banking sector operations are being both directed and subsidized by the central government. When banks are told who to lend to, the costs of credit checks, loan supervision, etc. are saved. With no competition, no resources are spent on advertising to attract customers. With no shareholders, a publicly owned banks need not show any return on equity, as opposed to the normal return of 4 to 6 percent economists call a normal profit.[18]..Thus the spread between deposit and lending rates has a different interpretation. Further evidence of this proposition is provided by the data on spreads for 1993 and 1994. In those years, both the deposit and lending rates were fixed at 10.98 percent, as inflation rose from under 10 to over 25 percent.[19] Certainly a spread of zero did not cover the costs of the banking system! Thus the rise in the spread to 2.5 percent in 1996 can be viewed as a positive step towards a more competitive banking system.[20]

Foreign bank participation is still limited to the major cities, and branching is also restricted. Foreign banks must still largely operate in foreign currency, and thus are severely limited in their ability to take deposits and make loans due to the limited convertibility of the renminbi. Prohibitions on direct issuance of credit cards and other financial services limit competition (and the profits of foreign banks), as does the requirement that 30 percent of operating capital be deposited in the PBC. Regulations abound, both on the banks (licensing and reserve requirements are often enforced at the branch level) and on individuals and businesses dealing with the foreign banks.

In addition to the problems facing foreign banks in their traditional lines of business, other financial service markets, such as insurance, real estate, and securities, are just as restricted or more so. Numerous restrictions limit or exclude participation in various insurance and equity markets, prevent certain types of investments, and restrict the services that can be provided. The need for case-by-case approval by multiply levels of government also raises the costs and uncertainty of engaging in financial service or other joint venture business in China.

The good news is that many of these restrictions violate the agreements on trade-related investment measures and other terms and conditions of the Uruguay round agreement on tariff and trade, now under the auspices of the World Trade Organization (WTO). While China is not yet a member, it is clearly seeking membership. The major sticking point seems to be the terms under which China becomes a member; specifically, how long an adjustment period will China will to fully comply with all WTO conventions.

As China takes the steps necessary to become a full WTO member, whether over the next five, ten, or even fifteen years, many of the numerous barriers and restrictions

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[18] The compensation for risk and the opportunity cost of investing that equity capital in a banking business as opposed to the next best alternative use of the funds.

[19] IMF July 1997.

[20] Ibid.

preventing financial market competition in general and foreign competition in particular will be phased out and eliminated.

<u>Financial Markets and Liberalization Efforts in India</u>

The role of the financial sector was set by Nehru at independence. As with all state-owned or controlled enterprises, multiple goals had to be pursued: mobilize savings, channel savings to priority sectors in the government's development plans, such as agriculture, small businesses, and state-owned enterprises on the "commanding heights" of the economy (heavy industry), and deal with world. The banking system was expected to support the conflicting economic policy goals of increasing economic efficiency, improving income distribution, reducing regional disparities, promoting industrialization of a type that stressed forward and backward linkages, and raising money in world markets. As opposed to China, where bank managers were instructed precisely how to allocate funds, Indian banks were free to maximize profits, subject to target amounts of lending to the priority sectors listed above, government reserve requirements, and other restrictions. (Check initial measures of financial repression, such as real deposit rates, M2/GDP ratios, interest rate spreads, etc.)

Competition was seen as a wasteful practice to be avoided. As opposed to China, which at least got the economies of scale of a large bank, India had what was in some ways the worse of both worlds: many small banks each with a prescribed niche. The financial system moved further away from the principles of competition and profit maximization when the banks were nationalized in 1969. "Particularly after their nationalisation in 1969, banks were given an exclusive area to operate. Both the RBI (Reserve Bank of India) and the government framed rules which favoured banks in the mobilisation of deposits....In short, the overall regulatory framework governing the financial system remained unhelpful for the emergence and growth of major players other than banks while at the same time the pattern of banks' resource deployment was primarily outside the control of banks."[21]

Domestic financial reform was initiated in 1984, with the amendment of the Banking Regulation Act of 1949 (Bhagavat 1993). As a result, banks are gradually branching out into other financial service areas, creating new financial instruments appropriate to the changing economy, etc. Financial sector liberalization coincides with the liberalization of industrial licensing, foreign trade policies, and an increase in economic growth rates. Reserve requirements now (Kabra 1995, p.128) stand at 14%, with the cash reserve ratio at 31.5%.

Much more liberalization remains to be done, however. Some interest rates remain regulated (Kabra 1995, p.128). The bank rate remained at 12 percent from fiscal 91/92 through the end of 95/96, while the decontrolled money-market rate fluctuated between 7 and 29 percent.[22] Despite recommendations of the Narasinham committee on

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[21] Patil 1996.
[22] EIU 1996.

financial sector reform and the urgings of the Breton Woods institutions, the practice of mandating loans to "priority sectors" continues. These restrictions have become less onerous over time, though. The share of lending to priority sectors declined from 41% in 1991 to 36% in 1994 (Kabra 1995, p.123), with most of the drop coming in agriculture and small enterprises. The large gainers are large private corporations and consumer lending, the latter coinciding with a boom in durable goods demand.

Non-bank financial companies (NBFC) have grown rapidly in number and size in the 1990s, and both mutual funds and direct borrowing of corporations from the public through bond issue and issuance of deposits like banks are growing. Kabra argues that there is evidence of *disintermediation* as financial sector reforms progress, as the middle class invest directly in stocks and corporate bonds, but the macroeconomic statistics do not support this view. The ratio of M3 (a broad definition of money including time deposits at commercial banks) to GDP, a commonly used measure of financial intermediation, increased from 57 percent in 1991/92 to 62 percent in 94/95.

Regulatory measures have recently been strengthened, in the wake of some financial sector scandals. Interest rates on the loans made by India's 6 development banks, three specialized financial institutions, 18 state financial corporations, and 28 state industrial development corporations are below market.

India has been increasingly active in foreign capital markets, in part because of financial liberalization and in part because of heightened interest by foreign investors as a result of broader deregulation, economic reforms, and improved economic growth rates. Sources of the recent foreign capital inflows include foreign institutional investors (portfolio investment), non-resident Indians (NRI, engaging in both portfolio and direct investment), foreign banks, and Global Deposit Receipts (Indian companies raising money abroad). Foreign capital inflows reached a record $5 bill in 1994-95, although their magnitude is much lower than in China which exceeded $45 bill (Kabra 1995, p.122).

During the reform period, the rate of real economic growth has increased from the "Hindu rate of growth" of about 3 percent to over 5 percent. Sustaining a growth rate of over 5 percent, combined with the earlier modest reduction in population growth from 3 to 2.5 percent, means that India is experiencing a significant rise in per capita real income for the first time since independence.

Current Reforms and Problems

"It would not be an overstatement to say that both banks and financial institutions do not have much grounding for operating in competitive financial markets. The same may be said to some extent about policy makers."[23] This maturing and growing process must continue, but Indian financial institution managers and government regulators had

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[23] Patil 1996.

better learn quickly. There is a clear trend toward continuing and building on the recent reforms, which simultaneously pressure banks and other financial institutions to be more competitive and reduce the social responsibilities and government funding requirements that would prevent their effective competition. Banks must keep pace to avoid being left behind by the rapid growth of alternative debt and equity markets, as well as the expansion in size and scope of non-bank financial institutions. Corporations themselves have developed a lively and growing "intercorporate deposit market." Continued coexistence of free and highly regulated markets will clearly lead to problems in the future.

Since 1992-93, the Indian financial system has been coping with both liberalization and the adoption of international accounting practices. The pace of change will have to increase, particularly in terms of interest rate decontrol, if the banking system in particular and the financial sector in general is to support the new, higher level of economic growth.

The spread between the controlled deposit rate and controlled lending rate is gradually being reduced. From 7 percent in 1991, the spread is down to about 4.5 percent in 1996. The fixed deposit rate of 12 percent provides a modest positive real return to savers, given the recent inflation of about 10 percent per year.[24]

Many barriers remain to competition, particularly from foreign firms. A highly complex and non-transparent system for approving new branches of foreign banks remains in place, and foreign bankers feel that approvals lag behind the demand. Foreign banks pay a higher tax rate (48 percent) than do domestic banks (35 percent). Tax treatment in terms of deductions is also often discriminatory, either explicitly or in terms of a differential effect. Of course, foreign banks are subject to the same interest rate regulations, borrowing and lending constraints, and capital adequacy ratios as domestic banks.

As we have seen above, banks in India traditionally have been expected to assist the government in achieving certain social goals. Foreign banks, since they cannot be coerced into accepting these social responsibilities, are subject to differential taxation, in part to level the playing field with domestic banks and in part to indirectly finance the government's social goals. Thus, as domestic banks are gradually freed from these obligations, the rational for differential treatment of foreign banks will diminish or disappear. The recent announcement of the government's intent to move to full capital account convertibility will aid foreign banks, and the new credit policy announced April 15, 1997 should improve the competitiveness of the banking system in general.

Differential treatment is also found in the more competitive non-bank financial sectors, however. The insurance market is closed, with the exception of the recently decree opening the health insurance sector and the trade-related areas of aviation and maritime insurance. Entry by non-bank financial institutions, like securities firms, asset

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[24] IMF July 1997.

managers, and mutual funds, is limited in principle to either 51 percent or 49 percent holdings in joint ventures, although the government has authorized larger ownership shares in some cases. Foreign non-bank financial institutions also face the same restrictions as domestic firms on participation in areas reserved for banks, such as money markets and debt securities. These latter barriers can be expected to be eased in conjunction with banking deregulation. Others, including the state monopoly in most areas of domestic insurance, will probably not change in the near future. [25]

III. Model and Modeling Results of Financial Liberalization in China and India

A computable general equilibrium (CGE) model which focuses on the real side impacts of financial liberalization was designed for China and India. Within the broad CGE context, in which all changes have impacts that spread throughout the economy, three primary avenues of effect from financial liberalization to savings, investment and production decisions were introduced. A brief description of the workings of the base model is given in Appendix 1.

The first effect runs from the real return received by savers to the domestic savings rate and domestic investment, which is set equal to the sum of domestic and foreign savings. Following the logic of the literature on financial liberalization, relaxation of interest rate controls allows the deposit rate of interest to rise. The higher rate of interest raises the real return to savings, thus encouraging savings and increasing financial intermediation in the economy. If the financial liberalization also makes financial institutions more competitive, as has occurred elsewhere, the spread between the loan rate and deposit rate of interest is reduced. [26]

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[25] Both the problems of Indian banking and some potential solutions have been recognized by outside experts for some time.

"The lack of private banking and other financial institutions in South Asia has lead to complacent, noncompetitive financial systems. With monopoly government banks come high operating costs, large margins between saving and borrowing rates, and costly bureaucratic procedures. Complacency means that technological advances in financial services are not adopted, and deposit mobilization is given low priority. Licenses for private financial firms, and invitations to foreign banks to establish branches and provide technical assistance, would improve the situation. Increased competition can produce long-term efficiency gains, encourage cost-effective operations, and stimulate efforts to attract deposits." James, W., S. Naya and G. Meier, Asian Development, 1987, Madison: University of Wisconsin Press, p. 97.

"Several studies have documented the positive association between real interest rates and the growth rate of savings deposits and broad money aggregates (Fry 1988; Lanyi and Saracoglu 1983; Gelb 1989). This is especially evident for change from highly negative to positive real rates of interest. For example, when Taiwan, China, raised real interest rates on bank deposits from a negative 300 percent in 1949 to about 8.5 percent in 1953, the ration of time and savings deposits to money stock rose from 2 to 34 percent in three years (Chiu 1992). Indonesia and Korea achieved similarly dramatic increases in financial savings after stabilizing inflation and shifting from negative to positive real interest rates. More recently, Argentina, Chile, Mexico, and Pakistan have done the same." World Bank, The East Asian Miracle, 1993, Oxford: Oxford University Press.

[26] In theory, the loan rate may rise as well, lowering the demand for loans and thus the level of investment. For simplicity, we assume a fixed lending rate and a reduction in the spread due to greater domestic and foreign competition after liberalization.

While the direction of the effect is clear, there is considerable uncertainty, even in developing countries for which detailed and reliable historical data is available, about the magnitude of the interest elasticity of savings. We have assumed the following functional form:

$$S = s * Y_d + S_0 * (r_b / r_{b0})^e$$

where S is the total value of savings, s is the marginal propensity to save out of disposable income, Y_d is disposable income, S_0 is the initial level of savings, r_b is the current borrowing rate of interest, r_{b0} the initial borrowing rate, and e works roughly like an elasticity.

In the base simulation, we use an elasticity of 0.2. This estimate represents the mid-point of the empirical literature, which presents estimate ranging all the way from 0 to 0.4. Note that for small changes in the borrowing rate, a one percent increase in the interest rate would generate about a 0.2 percent increase in savings, but for larger changes in the interest rate, the impact diminishes.[27] Another reason for assuming a substantial interest elasticity of savings is because it serves as a proxy for increases in savings stemming from growth in the number of financial institutions, markets, and instruments that accompany financial liberalization, and growth in the supply of investable funds to the private sector from a given amount of savings as reserve requirements and other forms of forced lending to the government are eased. The correct way to interpret this parameter is as a measure of the combined impact on savings and investment of both interest rate decontrol and all other aspects of financial liberalization. As such, the estimate is likely to be rather conservative, judging from other financial liberalization experiences.[28]

Scenario 1 for China simulates a reduction in the spread such that the deposit rate of interest rises by 25 percent, from a real return of 6 percent to 7.5 percent. As we have discussed, real deposit rates are actually about 1 percent in real terms. The spread between borrowing and lending rates is thus reduced by 1.5 percentage points. Again, this change is a conservative estimate in light of the experience with financial liberalization in Korea, and elsewhere. A similar scenario for India simulated a rise in the deposit rate of interest from 8 to 10 percent, also a 25 percent increase.

The second channel modeled is the impact of financial liberalization on the allocation of investment across sectors of the economy. As we have seen, an important

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[27] A doubling of the interest rate would yield an increase in the level of savings of about 11 percent, rather than 20 percent.

[28] An important caveat must be introduced here. Several authors (Bordes 1993 and Dernberger and Eckhuas 1998, for instance) call much of China's high rates of pre-reform savings "forced savings." If correct, one would expect an offsetting effect working to reduce savings as liberalization eliminates the elements of forced savings, as trade liberalization expands consumer choices, and as financial intermediation is extended to consumer lending. Thus we present level and growth estimates with and without the positive savings effect due to financial liberalization.

part of central planning in both China and India was to channel credit to specific industries, and deny access to the formal credit market to other sectors. In the absence of reliable data on rates of return to capital by sector, we were forced to derive our own estimates as follows. We first categorized the 10 sectors in the model by the extent of there access to subsidized domestic credit and access to foreign credit markets. We then simulated how such credit flows would distort the rates of return to capital across sectors. For instance, if unlimited credit were available to the state steel industry at a real cost of funds of 2 percent, additional investments would be undertaken until the return to capital in the industry fell to 2 percent. Of course, subsidized capital was not available in unlimited quantities to any sector, but certain sectors clearly had preferential access to large loans, while others could finance capital accumulation only through retained earnings and borrowing in the high cost informal sector. The relative rates of return to capital in these 10 sectors used in the base period for the China and India models are presented in Appendix 2. Note that much more substantial differences are shown for China, compared with India, indicating the greater extent of government intervention in investment decisions.

Scenario 2 consists of reallocating capital, as financial intermediation channels funds toward higher returns, such that the rate of return to capital across sectors of the economies is equalized. In actuality, even in advanced industrial economies some differences in rates of return to capital persist across sectors, reflecting the fact that the *expected* rate of return, subject to *risk*, is what is really equalized.[29]

The third scenario considers the impact of financial liberalization on international capital flows. Integrating their financial markets more fully with international markets, including allowing greater participation by foreign banks and non-bank financial institutions, will clearly generate an additional inflow of foreign capital for these relatively capital scarce, high growth economies. However, economic theory gives us little guidance on the expected magnitude of this effect. Instead, we merely present a range of alternatives, centered around estimates of $20 billion for China and $10 billion for India.

Two types of results are presented. The first batch are "comparative statics," meaning the expected changes in key variables like aggregate and sectoral production, exchange rates, and trade balances in the base year *if* financial liberalization had been instituted well *before* the base year, and the economy had completely adjusted. These changes should be read as once and for all changes in the levels of these variables that could result from financial liberalization. We also project different *growth rates*, based on differences in savings and investment levels in the base year, indicating how financial liberalization may change the course of the economies over time.

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[29] One would expect to observe consistently higher average rates of return in, say, oil exploration and internet start-ups than in retail trade, while sound investments in agriculture or real estate may yield higher or lower than economy-wide average returns due to good or bad years for key variables that are difficult to forecast.

Modeling Results

Results of the three modeling scenarios are presented in Appendix II (Tables 1-3 for China and Tables 4-6 for India). The results for China and India are presented as percentage changes from the base scenario (no financial liberalization). Scenarios 1, 2 and 3 are as described above, with column 4 presenting the estimated aggregate effect of the three reforms.

A number of general points can be highlighted, beginning with the results for China. As mentioned above, the big boost to GDP comes from scenario 2, the rationalization of the capital stock and thus the structure of production. This scenario alone contributes nearly five percent of the total 5.3 percent GDP increase. Rationalizing production also promotes trade (exports and imports), as China increases its specialization in production according to its comparative advantage. Agricultural sectors, light manufacturing, and services benefit, while the highly subsidized heavy industry sectors (mines and capital goods) contract, and others grow more slowly. This differential expansion of sectors naturally increases the demand for factors used intensively in those sectors. Thus the return to agricultural land and labor, and unskilled urban labor all rise. Of course improvements in the allocation of capital across sectors raises capital's rate of return as well.

The primary impact of scenario 1 (higher deposit rate of interest) is to transfer income from consumption activities to savings. Impacts on overall GDP and trade flows are insignificant, but investment rises by 5 percent. Scenario 3 (a $20 billion foreign capital inflow) similarly boosts investment, but has the further effect of increasing imports and decreasing exports, as the capital account surplus must be matched by a current account deficit. The rise in imports is certainly reasonable, as it may represent increased demand for foreign capital goods.

Greater investment and more capital goods partially offset the changes in the structure of production generated by scenario 2. All of the sectors that enjoyed double digit gains in scenario 2 fall in scenarios 1 and 3 combined (Grain, Textiles and Wood). As a result, the impact on factor incomes is different, as well. Capital income rises a bit, but the return to agricultural land and labor fall by four and 3.5 percent, compared to increases of 11.2 and 10.4 percent in scenario 2. The return to skilled labor and professional workers rises in both scenarios 1 and 3, while the return to unskilled urban workers rises a bit in scenario 3 but is unchanged in scenario 1.

The results and interpretations for India are very similar, reflecting similarities in the countries themselves and the modeling approaches taken. The primary difference is in the magnitude of the results. Where scenario 2 boosts China's GDP by nearly five percent, with the other two scenarios contributing an additional 0.5 percent, Indian GDP rises just one percent in scenario 2 and another 0.2 percent in the other two combined. While China's increase in investment of over 18 percent implies a growth rate about 0.8 percentage points higher in the medium term, India's 13 percent investment increment would raise its growth rate by about 0.4 percentage points, we estimate.

In scenario 1, a similar increase in the deposit rate of interest leads to a similar boost in savings and investment, but a somewhat different trade response from the China case. The $10 billion capital inflow has a smaller impact on investment, as one would expect, but a similar impact on trade flows, reflecting the lower base export and import figures as a share of GDP.

In terms of sectoral output, as in China mines contract the most, with scenarios 1 and 3 adding to the sharp contraction in scenario 2, while textiles is the big winner, with scenarios 1 and 3 partially offsetting the large rise in scenario 2. The magnitude of sectoral adjustment required from financial liberalization is less in all sectors in India. The primary difference in the pattern for India is the nearly 9 percent decline overall in grain production, compared to a rise of nearly 10 percent for China. Grain and some other agricultural production (sugar is a prime example) in India are moderately subsidized (both the credit subsidies that are the focus of this model and other subsidies provided through water, fertilizer, transport, and other infrastructure policies) and inefficient. If financial liberalization "shakes up" the grain sector, causing a rationalization of input use, farm size, etc., then the contraction could be a short term one, leading to more efficiency in the future.

The results and implications for factor incomes are nearly identical to those for China. Scenarios 1 and 3 reduce the strong income gains provided to agricultural land and labor in scenario 2 and augment those gains for capital owners and unskilled urban labor. Skilled and professional labor find that their incomes would fall in scenario 2, but the fall would be mitigated to less than one percent if scenario 2 were combined with 1 and 3.

The lesson to draw here in the political economy sense is that a full liberalization of the financial sector, combining these three liberalizations, is the best way to make the changes palatable to the various segments of society. Interest rate decontrol or increase capital inflow alone could worsen income distribution by hurting agricultural labor and owners of agricultural land. But in conjunction with the cessation of subsidized lending to heavy industry, the net effect is strongly positive for both groups. On the other hand, skilled labor and professional workers, who face about a five percent fall in income from the end of subsidized credit to sectors in which they are used intensively, would see there real income losses offset to less than two percent and one percent, respectively, if combined with the other two liberalizations. In terms of sectoral output, aside from the mines and capital goods sectors, where any change from the status quo will involve sharp reductions in output, simultaneous pursuit of all three forms of financial liberalization may reduce, rather than increase, the adjustment burden on individual industries.

Dynamic Gains from Liberalization

As mentioned above, scenarios 1 and 3 result in a level of GDP that is about the same as that of the base, in a comparative static sense. Yet the higher investment rates in these two scenarios would result in higher real income over time, as investment leads to more

rapid growth. In this section we present counter factual GDP levels as if the liberalization efforts had taken place a decade earlier, and the two economies has grown faster due to the higher investment rates. These estimates, in percent and dollar values, are presented in Tables 7 and 8.

The results for India show both the power of investment in raising growth rates and the power of compounding growth rates over time. Scenario 1, with an increase in the investment rate of almost 5 percent, generates a growth rate almost 0.6 percentage points higher, which, over the course of a decade, would have given India a 6 percent higher GDP in 1992, or about $16 billion.[30] The third scenario conveys even larger gains. The increase in the rate of investment of nearly 8 percent leads to a growth rate more than 0.9 percentage points higher. Scenario three assumes an increase in foreign capital inflows of 10 billion dollar, not a large sum given the size of the Indian economy. Compounded for 10 years, the level of GDP in 1992 would have been 10 percent ($26 billion) higher. Taking scenarios 1 and 3 together generates 1.5 percentage points of additional GDP growth, which compounds to an additional $43.8 billion, or 16 percent of India's 1992 GDP. If one then adds the 1.25 percent static effect, a grand total of 17.3 percent of 1992 GDP, or $47.2 billion, is the estimate of the costs of financial repression in India.

The results for the three scenarios for China are similar in nature but greater in magnitude. Scenario 1 would increase investment by about 5.1 percent by boosting domestic savings. This would boost the growth rate by 0.9 percentage points, leading to an additional $44.7 billion of GDP in 1992.[31] Scenario 3, with its increase in the investment rate of nearly 13.5 percent, would lead to an increment to the growth rate of more than 2 percent, and after 10 years of compounding 1992 GDP would be 26 percent greater. It is important to remember that our Scenario 3 for China is based on a 20 billion dollars increase in foreign capital inflows, a growth rate which is moderate given China's recent record. Adding the impacts of scenarios 1 and 3 together would yield an additional $181 billion in 1992 GDP, a level more than a third greater than the actual 1992 figure. In conjunction with the 5.3 percent static gain, our total estimate of the potential gain is more than $200 billion, more than 40 percent of 1992 GDP. These latter extreme figures must be interpreted with caution. Like much economic analysis, the concept of the ICOR is most useful when interpreted for marginal changes in investment levels. For the huge changes considered here, the ICOR would likely be rising, representing capital deepening in the economy, and the growth impact would be somewhat less. On the other hand, there is convincing evidence that investment rates are linked to technological progress, learning

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[30] These calculations assume an incremental capital-output ratio (ICOR) of 2, which means that two dollars of additional investment generate one dollar of additional GDP. Two is quite good (low) for developing countries as a whole, but represents a somewhat conservative estimate, given that calculations for India using data in the 1997 IMF International Financial Statistics Yearbook yield an ICOR of 1.85 in 1992 and 1.99 in 1995.

[31] An ICOR of 2 is used for China, as well. Two estimates of the ICOR for China in 1992, based on two different sources of investment data (Chinese investment data is not given in the IFS Yearbook) yielded 1.86 and 2.02. No formal sensitivity analysis is needed, however, as the linear nature of the calculations means that an assumed ICOR of 2.2 would reduce the following growth estimates by 10 percent.

by doing, and economies of scale and scope in some sectors. The actual growth effect of the investment increases could as easily be greater than the estimates presented here.

Sensitivity Analysis

Since empirical guidance from the literature in determining the likely values of key parameters used in the simulations was quite limited, sensitivity analysis is particularly important. In each case, the parameter estimate used to generate the above results is the central value of three presented in Tables 9-14 below, which present the same results as Tables 1-6.

For scenario 1, we simulate twice and half the reduction in the spread (rise in deposit rate of interest) used above. As sensitivity analysis for scenario 2, we simulated entirely eliminating differential rates of return to capital that were more and less severe than those used above. Notice that this is *not* the same as a partial reduction in the spread. In fact, we can infer from the sensitivity analysis in Table 4 that eliminating half the differential would generate from two-thirds (India) to three-quarters (China) of the GDP gains, implying that large distortions hurt economic performance proportionately more than mild distortions. The final scenario is simulated with alternative capital inflows of $10 and 30 billion for China and $5 and 15 billion for India.

IV.   Conclusions

In this paper we have tried to convey a feel for the possible gains from financial liberalization for the Chinese and Indian economies. These gains depend both on economic theory and on the specific circumstances of each national economy. Thus we have tried to incorporate an understanding of the specific challenges facing each economy, as well as recognizing past successes in their liberalization efforts, in designing and interpreting our economic models and their results.

Our results suggests that substantial gains could accrue to each country from a comprehensive program of financial liberalization, but more so for China than India. We estimate that approximately 1.4 percentage points of China's recent economic growth rate of nearly 10 percent can be attributed to financial liberalization efforts. In the case of India, more than 0.5 percentage points of their five to six percent real growth rate over the past few years is due to financial liberalization.

Many further challenges exist for both countries. Interest rate decontrol, generally the first stage of financial liberalization, is not complete in either country, although China has done a much better job recently of ensuring that depositors receive a positive real rate of interest. But we hope that studies like this contribute to the policy debate in two important ways. First, policy makers must understand the costs paid by the entire economy stemming from the decision to protect an inefficient domestic financial system from competition. Secondly, our results indicate that financial liberalization is more effective and more acceptable to a wide range of interest groups and social classes if it is

done in a comprehensive fashion, combining interest rate decontrols with an end to subsidized credit to heavy industry and improved access to international capital markets.

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