

ASYMMETRIC INFORMATION AND THE COMPOSITION OF FOREIGN INVESTMENT

Dietrich K. Fausten*

Monash University

JEL classification: F0, F21, F4

Key words: Foreign investment; international capital movements;
asymmetric information

Address for correspondence:

Department of Economics

Monash University

CLAYTON 3800

Australia

Email: Dietrich.Fausten@BusEco.monash.edu

Tel: (61+3) 9905 2345

Fax: (61+3) 9905 5476

* Paper prepared for the 2003 Hunan International Conference on Trade and Development, 31 October 2003. Financial support from the Monash Governance Research Unit and the Faculty of Business and Economics is gratefully acknowledged.

Abstract:

This paper seeks to apply to the recent foreign investment experience of Mainland China some insights from the macro finance approach to foreign investment. Specifically, potential implications of information asymmetries for the choice of investment type, and hence for the composition of foreign investment inflows, are examined. The strong bias in favor of FDI in newly emerging market economies dissipates with the progressive development of the domestic financial sector. The association between host country financial development and the share of portfolio flows in foreign investment raises the question whether this relation can be systematically exploited by discriminatory policies for the purpose of promoting financial development.

OUTLINE

1. **Introduction**
2. **Macroeconomic Effects of Foreign Investment Inflows**
 - i **Growth and distribution effects of foreign investment**
 - ii **Financial deepening and sectoral stability effects of foreign investment**
3. **Asymmetric Information and Foreign Investment Inflows**
 - i **The setup**
 - ii **The impact of asymmetric information on resource allocation**
 - iii **The impact of asymmetric information on the type of foreign investment**
 - iv **Efficiency and governance**
4. **The Pattern and Composition of Foreign Investment in China: 1982 -1996**
5. **Conclusion: The Composition of Foreign Investment - Indicator or Target**

1. Introduction

In the most general terms, foreign investment refers to the process of internationally reallocating the global pool of savings, and the real resources represented by that pool, in response to appropriate performance criteria. This reallocation may be initiated through purely net financial flows guided essentially by cross-border yield differentials – Foreign Portfolio Investment flows (FPI). Conversely, cross-border reallocation of resources may be effected in a more integrated “package deal” mode. In such “package deals” the potential investor provides simultaneously financial as well as appropriate real resources directly to the host country - Foreign Direct Investment (FDI).

Explanation of the pattern of FDI has traditionally focused on such microeconomic issues as market structure and the pursuit of market power (Caves, 1971). Subsequent interest has shifted increasingly to the firm level and the specific intangible knowledge and productivity advantages, or assets, which individual firms possess. Another strand of micro-based inquiry emphasizes network effects, the division of labor and transaction costs (as, e.g., in the exploration of China’s foreign investment abroad by D.Yang, 2003).

A second approach highlights regulatory restrictions and rigidities. These may take the form of governmental regulations such as trade barriers, taxation regimes, or industry policy, or they may result from the fixed geographic location of particular elements of the production process, most notably the location of raw materials.

A third approach to cross-border capital movements highlights the macroeconomic dimension, emphasizing shifts of host country production functions that may be caused by spillover effects of FDI, for example, and exploring their implications for labor markets and economic growth (e.g., Krussell *et al.*, 1997). More recently, interest has shifted to macro-finance issues such as the effect of nominal and real exchange rate changes on relative cross-border costs of investment and production, and the structure of financial markets (Froot, 1991). Compared to the more traditional micro-based analysis of FDI, this approach adopts a more inclusive view of foreign investment to encompass both direct and financial flows. It recognizes that the traditional stereotypes may no longer capture the salient features of particular types of cross-border capital flows. For instance, FDI may well consist simply of licensing or joint-venture arrangements that are largely financed in the host country while the foreign investor mainly contributes indivisible intangible assets in exchange for “control” of the operation. The mix of financial and real elements in foreign investment activity moves the financial arrangements in host countries to a prominent position in this macro-oriented line of inquiry. In consequence, the familiar information and incentive problems that distort financial markets become important subjects of investigation in the foreign investment literature.

The present paper reviews some implications from the macro-finance approach for the determination of the pattern of foreign investment, and applies these insights to the recent foreign investment experience of Mainland China.

The review (in section 2) of macroeconomic effects of foreign investment and of the progress of domestic financial markets in emerging economies indicates that the predominance of FDI diminishes with the development and increasing maturity of financial arrangements in the host country. A prominent element of this development pattern is the deepening of financial markets in host countries and, by implication, of the nature of the institutional environment which determines their functionality and performance. But these dimensions are intertwined in complex ways that may give rise to two-way interaction: the pattern and composition of foreign investment inflows are shaped by and simultaneously influence the development of financial markets in host countries. Accordingly, the question arises whether host country governments can successfully exploit this association by targeting the composition of foreign investment inflows as a specific objective of their domestic economic policies.

Section 3 reviews some of the implications of asymmetric information for the composition of foreign investment flows between portfolio (FPI) and direct investment (FDI). By way of confronting a major finding about the temporal evolution of the composition of foreign investment inflows with the facts, the recent foreign investment experience of Mainland China will be reviewed (in section 4), albeit in the manner of casual empiricism. The robust empirical evidence and analytical support of a relatively stable association in the temporal evolution of financial arrangements in the host country and the composition of the foreign investment it attracts suggests that the latter may be a useful indicator of the former. The resulting policy implication – whether domestic policy

in emerging market economies should target the composition of foreign investment inflows is addressed in the concluding section (5).

Macroeconomic effects of foreign investment inflows

Net investment flows from abroad expand the budget constraint of the host country. By augmenting national savings they facilitate domestic capital formation and extend the scope for intertemporal substitution at the aggregate level. Direct investments (FDI) are traditionally conceived of as “package deals” that comprise finance, tangible assets in the form of capital goods, as well as less tangible assets such as human capital, technological and managerial knowledge, and property rights to patents, superior product features and production processes. The defining characteristic of FDI is the conferral of control (loosely defined) over the investment project to the foreign investor. In contrast, financial portfolio inflows (FPI) do not formally confer such control. They provide the financial resources to the host country that enable entrepreneurs, domestic or foreign, to undertake investment projects. Simultaneously, the purchases of debt or equity by foreign wealth owners make available the foreign exchange to finance additional imports of goods and services. Net portfolio inflows, thus, extend the domestic temporal resource constraint to the full extent of the investment.¹ Their effects on the intertemporal budget constraint depend upon the uses to which these resources are put, whether they are invested in productive assets

¹ Strictly, the provision of additional foreign exchange occurs only in the case of new investment inflows as distinct from the reinvestment of earnings derived from existing capital investments and financial holdings in the host country. But even in these cases the retention of earnings eases the resource constraint since it obviates the need to raise foreign exchange from additional net exports to effect the repatriation of those earnings.

or expended on additional consumption. The successful transformation of FPI into net domestic capital formation depends on the response of entrepreneurs to the market signals that are created by the capital inflow, and on the information content and reliability of those signals. FDI, on the other hand, short-circuits the transmission process by providing the financial and tangible resources in one integrated package, thus ensuring additional domestic capital formation as part of the investment deal. In either case, the allocation of the additional resources will be guided by profitability and productivity considerations.

In practice, the constitution of FDI packages can vary considerably. In particular, there is no requirement that direct investment includes a net inflow of finance. "Not all direct foreign investment around the world represents net capital flows. Often such investments are financed in local markets" (Feldstein, 2000). Local financing weakens the potentially expansionary stimulus of FDI by tightening the credit constraint in the host country and crowding out domestic investors (e.g., Harrison and McMillan, 2003). The extent of crowding out may be quite severe in the presence of credit rationing: domestic banks prefer to lend to foreign (multinationals) borrowers with established track records of profitability, creditworthiness and sound collateral. In such circumstances the potential benefits of FDI ventures for the host country depend predominantly on the improvement in productivity that the intangible ownership assets of the foreign investor impart to domestic economic activity.

Aside from the potential crowding out of domestic enterprise, the macroeconomic benefits of international capital movements may be

compromised in other ways. International financial integration raises the specter of the “impossible trinity”: open capital accounts, fixed exchange rates and monetary independence are mutually incompatible. It introduces new sources of instability and enhances susceptibility of the host country to the contagion of financial distress originating elsewhere in the global economy. A relatively immature state of domestic markets, limited institutional infrastructure, and intrusive governmental regulations preclude the efficient functioning of market processes. Information and agency problems distort market outcomes and may, for example, lead to excessive borrowing (McKinnon&Pill, 1997), increased cost of asset liquidation (Rodrik&Velasco, 1999), and maintain differentials in cross-border rates of returns (Razin et al., 1997). They drive wedges between private and social rates of return (Razin et al., 1999) preventing socially optimal rates of saving and investment.

Information problems are pervasive. They are particularly disruptive in the absence of deep and well-functioning markets. Their impact on the choice between direct and portfolio foreign investment has potentially wide-ranging macroeconomic ramifications in the host country. These ramifications range from the process of financial market development to the direction and effectiveness of resource allocation and, ultimately, to the determination of economic growth. These two sets of issues are surveyed briefly in the following two subsections.

2.i Growth and distribution effects of foreign investment

A growing body of evidence attests to the beneficial effects of foreign investment on host country growth. Specific findings differ between countries and time periods, and they depend on the econometric methods and data employed. Just the same, there is increasingly robust evidence on the foreign investment – growth nexus, which indicates that countries that have received more capital inflows have grown faster (Soto, 2003). But the evidence also retains ambiguities about the nature of the apparent interdependence. The nexus may be sustained by two-way causation with foreign investment causing growth while better growth performance attracts larger inflows of foreign investment. Razin (2002, p.23), for instance, provides evidence of reverse causation driving the FDI component of foreign investment: “Among the main determinants of capital inflows, domestic investment, or output growth, have more pronounced effects on FDI inflows, than on loans and portfolio flows”.

The growth-effects of foreign investment differ across categories of capital inflow. Sarno and Taylor (1999) find evidence that FDI exerts permanent effects in the host country while financial and portfolio flows (equity, bonds, official financing) have only temporary components. Soto (2003, p.203) traces the permanent effect to bank lending, observing that “[b]ank flows stand as the sole source of foreign financing that displays a positive and robust correlation with growth”.² Bosworth & Collins (1999) observe that the nexus is dominated by FDI: the coefficient of covariation of the foreign and domestic investment

² This summary finding is based on an investigation of seventy two countries, using annual data for the period 1985-1999.

rates, each expressed as a proportion of GDP, is about 0.5. This means that approximately half of any change in the foreign investment rate passes through to domestic investment. That pass-through rises to virtually 100 per cent for FDI. The authors could not detect any discernable association between FPI and domestic investment. Clearly, the type of foreign investment, whether FDI or FPI, and among FPI the distinction between portfolio equity investment and debt, carries potentially important consequences for the macroeconomic performance of the host country. Hence, the type of foreign investment is a matter of economic significance for the host country, and the welfare costs of distortions of the composition of foreign investment can be substantial.

To the extent that foreign investment promotes economic growth, it may be expected to ameliorate the large distributional inequalities that are frequently observed in emerging market economies. The Stolper-Samuelson diagnosis suggests that the degree of functional inequality varies with the extent of relative factor abundance. Sectoral or geographical inequality may reflect obstacles to factor movements within the host country. Foreign investment may alleviate both problems. Deployment of additional capital reduces the relative abundance of labor and other cooperating factors, improving their productivity and relative returns. In the presence of regional immobility of capital, the geographical distribution of returns is likely to reflect the pattern of capital scarcity once we control for other influences. Installation of new capital in areas of scarcity removes some of the scarcity rents while improvements in productivity, and rewards, draw cooperating factors into those regions. Clearly, this benign outcome

hinges importantly on the intranational and interregional mobility of the relatively abundant cooperating factors.

Alternatively, infrastructure and institutions may dominate the location decision for new investments. Geographically specific favorable business environments may evolve spontaneously, like Silicon Valley. Conversely, they may be encouraged by official sanction and regulatory intervention like “special economic zones”. Placement of new investments may sustain and, in fact, reinforce the superior economic performance of those areas. Such self-perpetuating processes (“virtuous circles”) of economic expansion and development may, however, remain narrowly confined geographically. The increasing regional disparity in factor incomes provides a strong indication of the extent of regional factor immobility in the host country.

This latter scenario of widening regional income disparity appears to capture salient features of the recent experience of mainland China. Dayal-Gulati and Husain (2002, p.365) report that the ratio of per capita income in the richest region compared to the poorest region of mainland China has increased by 33 per cent in one decade, from six in 1987 to almost eight in 1997. At the same time, foreign investment has been moving predominantly into the richer regions. The rate of average FDI inflows into the coastal regions was almost eight times as large as the corresponding rate into the western and southeastern regions over the reporting years 1993-1997. Notwithstanding the persistent disparity in the geographical destination of foreign investment inflows, Dayal-Gulati and Husain detect some evidence of convergence of per capita income in the data. But that convergence is conditional on region-specific

determinants of macro performance such as the rate of investment and the stance of public policies. The strong evidence of persistent disparities in steady state regional per capita income suggests the presence of significant limitations to interregional factor mobility.

2.ii Financial deepening and sectoral stability effects of foreign investment

Foreign investment helps to open up domestic financial markets, and this process feeds back into the composition of foreign investment flows. Competition from foreign banks reduces lending margins and restrictive practices by domestic banks. Improvements in the quality and extent of intermediation activity promote allocative efficiency in the host country (Summers, 2000). Easing of credit conditions helps to increase liquidity in stock markets (Levine and Servos, 1998). The realization of these benefits depends importantly on the synchronous progress of “internal opening”, i.e. on the liberalization of domestic financial markets. Restrictive controls and quantitative prescriptions for credit allocation need to be replaced by transparent regulations, and legal and governance institutions that protect and support contractual arrangements. In general terms, external opening to the global financial market encourages the process of internal opening. This process centers on the development of institutions and business practices that improve the efficiency of the financial system (Levine, 2001). Once again, the effect is not univariate. Klein and Olivei (1999, p22) note that “capital account liberalization may not provide the same benefits to

developing countries as to industrial countries with respect to its promotion of financial deepness”.

In the absence of an effective intermediation infrastructure foreign investment is essentially confined to “bundled” FDI packages. Since such packages require minimal organizational and institutional input by the host country they avoid some of the agency problems associated with more specialized investment modes. Bank lending and portfolio equity investment, in contrast, require reliable risk assessment and intensive monitoring on behalf of the financier. For this purpose appropriate financial institutions capable of managing the intermediation process effectively and reliably need to be set up. Similarly, a regulatory/legal environment that maintains adequate disclosure standards and governance structures is an essential prerequisite for the viability of the various types of financial investment (Razin et al. 2001).

To the extent that foreign investment promotes financial deepening in host countries it increases the range of feasible investment modes and hence expands the volume of foreign investment activity. A coarse indication of the depth of financial markets may be gleaned from the aggregate debt-equity (D/E) ratio. Empirically, foreign investment flows into low and middle-income countries have been dominated initially by FDI. Equity portfolio inflows tend to occur only at a later stage, and they are positively correlated with increases in the share of FDI in total capital inflows from developed countries (Soto, 2003). FDI, thus, continues to perform a crucial role in cross-border capital movements beyond the initial phase. Adherence to such a non-specialized activity as the preferred mode of foreign investment may seem surprising

against the backdrop of progressive development of market structures. One possible set of explanatory factors may revolve around attitudes to risk in an incomplete information environment.

The composite nature of direct investment together with the controlling interest in the investment project renders such investments relatively illiquid and correspondingly less volatile compared to financial investments. Owners seek to avoid the capital losses that premature realization of illiquid assets tends to generate. The fact that net FDI flows are consistently (90% of the time) less volatile than other capital inflows (Albuquerque, 2002) corroborates the “locked in” phenomenon. Lipsey (2001) documents the stability of FDI in East Asia against the backdrop of significant instability of cross-border holdings of financial assets during the “Asia Crisis” of 1997. While FDI may provide some protection against systemic instability and risk, compared to FPI, it is vulnerable to productivity shocks. It follows that the relative expected stability of the real and financial sectors in the host country may exert some influence over the preferred mode of investment in a way similar to the Poole (1977) argument for the optimal choice of monetary policy instrument. Productivity shocks and real sector instability reduce the expected return from direct investment projects and render FDI a less suitable investment type compared to FPI. Conversely, financial instability and liquidity shocks shift the balance of advantages towards FDI as long as solvency of the project can be maintained. This relative advantage may be reinforced to the extent that incomplete and asymmetric information increase the cost of premature termination of investment projects (Goldstein and Razin, 2002). Accordingly, investors with low liquidity needs are particularly well-placed to undertake FDI

projects. The prominence of large multinational firms among FDI investors lends tacit support to this conjecture.

Expansion of the range and volume of foreign investment activity affects the stability of the financial sector. In general, “deepening” enhances financial resilience by developing mechanisms that process disturbances more efficiently. However, the enhanced “sensitivity” of markets can turn adverse if the signals that drive the adjustment process are subject to distortion. Rules and regulations, and the exercise of market power inhibit the effective functioning of markets by preventing agents from realizing their optimal plans. Market failures or imperfections open up opportunities for moral hazard and adverse selection to inhibit or to deflect the equilibrating properties of market forces. In particular, informational asymmetries may influence systematically the selection of investment projects and the mode of financing: they prevent market prices and yields from revealing the social value of economic activities; they distort the distribution of returns among the several stakeholders; and they provide unreliable guidance to the resource allocation decisions that are the crucial driver of the development process. The following section reviews an analytical approach for the formal exploration of these issues.

2. Asymmetric information and foreign investment inflows

In perfect markets the method of financing a business is of no relevance to the performance and value of the enterprise. Like all “eternal verities”, the Modigliani-Miller Theorem is based on a set of restrictive assumptions that can be characterised as the “efficient markets hypothesis”. By virtue of the unassailable logic of its fundamental insight the theorem has become a central tenet of finance literature notwithstanding its restrictiveness. However, the efficient markets hypothesis creates a conundrum: “[T]he assumptions that all markets, including that for information, are always in equilibrium and always perfectly arbitrated are inconsistent when arbitrage is costly” (Grossman & Stiglitz, 1980, 393). In other words, the fact that information is costly causes the breakdown of competitive markets even when the efficient markets hypothesis is true. The reason is that the cost of information “unlevels’ (unbalances) the playing field”. To the extent that different (groups of) transactors place different valuation on the benefits of information they will invest varying amounts of effort and resources into obtaining it. These differences in valuation may be entirely attributable to subjective factors including individual attitudes towards risk and uncertainty. Whatever the cause, the consequence is that different (groups of) agents typically enter into exchange negotiations with different information sets. As a result, costliness of information establishes “an equilibrium degree of disequilibrium: prices reflect the information of informed individuals (arbitrageurs) but only partially, so that those who expend resources to obtain information receive compensation” (*op.cit.*, 393). Hence, informational asymmetries

deflect the bargaining process and drive wedges into the determination of prices.

I propose to discuss some aspects of the asymmetric information phenomenon that have a direct bearing on foreign investment activity, and ultimately on the allocation of resources. The story that follows pulls together insights from the research program that Assaf Razin has been conducting in collaboration with various colleagues over the last decade or so. Progress of this work has been reported mainly in a stream of working papers published by the *NBER*. The main underlying issues are the role of foreign investment in the process of transforming host country saving into capital formation, and the economic significance and relative advantages of alternative types of foreign investment. The following discussion explores implications of asymmetric information for the resolution of these issues. By way of anticipating the basic message, asymmetric information may render emerging equity markets inoperable or excessively narrow; FDI is a potentially effective means of overcoming the “lemons problem” in these markets; FDI may be a more effective mode of investment for capturing the returns from superior information and knowledge, while FPI may be more effective in coping with liquidity shocks.

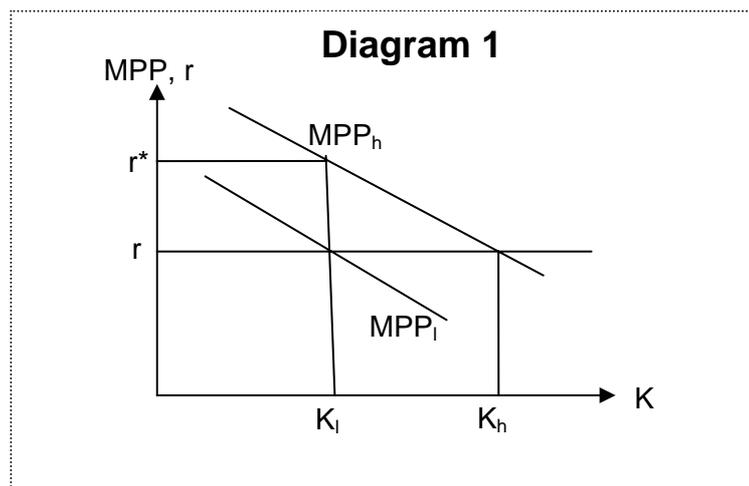
i The setup

The contextual setting is a typical “emerging market economy” with a rudimentary market infrastructure and limited supporting legal and economic institutions. The economy is small so that the relevant

opportunity, or cost, of raising funds is given by the predetermined world rate of interest (r^*). The main players are domestic agents who may assume different “stakeholder” roles, and foreign agents who appear as investors. Not surprisingly, transactors are assumed not to possess perfect foresight, and they operate in an environment that is subject to stochastic disturbances. Two types of disturbances figure in the story – productivity shocks and liquidity shocks. Transactors have to cope with these disturbances as best they can. Their ability to do so is influenced in important ways by differences in the information at their respective disposals. Market processes are, therefore, susceptible to opportunistic behaviour that may be incited (induced) by moral hazard and adverse selection problems. The specific issue under consideration is the installation of real assets in the emerging market economy, the “host” country, and the methods (forms, modes or types) of financing such investments which include direct foreign investment, portfolio equity funding and debt finance (or lending).

The analytical setup used in the work of Razin *et al.* features three groups of *ex ante* identical agents. They comprise firms engaged in production in the host country, potential financiers (or savers) resident in the host country, and foreign investors intending to capture profit opportunities in the host country by direct involvement in production (FDI) or by purchasing equity or debt issued by a firm (FPI). Stochastic shocks affect productivity of firms or liquidity of the system, respectively, or the potential solvency of individual financiers. The operationally relevant distinction between the groups is the type and extent of information they possess about the performance of the firm. Incompleteness, or asymmetry, of information implies that the different

groups of agents form different views about core decision variables such as rates of return and firm value. These disparities may give rise to indeterminacy of equilibrium, multiple equilibria or, indeed, an empty “lemons” equilibrium that prevents a market from getting going in the first place.



By way of illustration, productivity shocks (ε) shift the marginal product of capital schedule. In Diagram 1, MPP_h represents the schedule for a firm that has experienced a positive productivity shock (ε^+), and conversely for MPP_l . Alternatively, in a slight deviation from the basic setup, firms may be separated into low-performing and high-performing firms represented by the alternative marginal product schedules in Diagram 1. Alternatively, agents may fall into groups distinguished by different liquidity needs. In either case, the “outsiders” (financiers) do not know exactly the extent and impact of the shocks, or the difference in performance between different firms. Instead, they are obliged to form subjective assessments, and those assessments differ among the groups of stakeholders by virtue of their different information sets. Owner-managers are in a better position to monitor the performance of

a given firm than are the financiers. They know, for instance, that a firm has experienced a positive productivity shock and is positioned on MPP_h . Outside financiers, in contrast, expect the firm to achieve some average productivity as represented by MPP_l . In consequence, owners encounter difficulties in realizing the value of the firm in the equity market or through outright sale. The market will pay only the discounted value of the earnings stream represented by r , whereas owners require the present value of r^* . Alternatively, asymmetric information may cause the market rationally to misinterpret business decisions. For instance, the issue of new equity may be taken as evidence that owners think the current market price overvalues the firm, or debt raising as evidence of financial weakness. Owner awareness of these signaling problems and of the probability of rational misinterpretation of their actions compels them to adopt strategic behavior that deviates from their preferred course.

ii **The impact of asymmetric information on resource allocation**

In emerging market economies investment and growth are frequently depressed because of the difficulties of mobilizing national saving. A major obstacle is the lack of sufficiently broad and deep financial markets for the efficient intermediation of loanable funds on mutually acceptable terms between suppliers (savers) and demanders (investors). Razin *et al.* (1997) use the stylized setup of the preceding section to demonstrate “that FDI has an essential role to play in restoring the function of an equity market for capital investment” (p2) in the emerging markets environment.

Potential financiers of investment projects include domestic and foreign savers. The latter may purchase equity in host country firms or they may elect to buy the firm and run it themselves. That is to say, they face the choice between portfolio equity investment and FDI. Equity investors base their offer price for (shares issued by) a firm on their assessment of the expected average rate of return that similar enterprises or projects generate. Owners, in contrast, possess more exact knowledge about the performance of the firm they propose to sell. They know about the specific impact that productivity shocks have on its performance. Accordingly, at the price offered by the financiers owners will sell only those firms which generate rates of return equal to or below the average rate of return imputed by the potential financiers. In other words, they will only sell “lemons” at the offer price, i.e., firms that perform worse than the average performance expected by the financiers. Recursive application of this logic successively reduces the offer price of savers and also the quality of firms offered by owners until no firm will be brought to market (Akerlof, 1970).

Equity markets in emerging economies may well resemble a pure “lemons” market, preventing the mobilization of loanable funds for investment. The fundamental problem is that the two groups of agents are unable to settle on mutually agreeable terms.³ The fact that foreign portfolio investors are standing in the wings does not materially alter the outcome. As potential outside financiers they are no better informed than domestic savers. They also rely on subjective assessments based on expectations of average performance. Hence, they have no reason

³ In terms of Diagram 1, owners require the present value of earnings stream r^* while financiers are willing to pay only for the expected average earnings stream r .

to expect the average rate of return to differ from r . The decisive information differential that separates owner/managers with privileged information from financiers who must rely on imprecise signals and conjectures is attributable to the economic position and function of agents, not to their place of residence.

FDI is a potential means for overcoming the paralyzing effects of the information asymmetry. As well as finance it brings a composite bundle of inputs to the project that include tangible and intangible assets and factor services. This bundle of inputs confers control over the firm. Since the FDI investor is a financier who also manages the project, this type of “direct” investment short-circuits the information asymmetry. It provides the financier with reliable inside information about the productivity of the firm which is accessible only to the owner/manager. Foreign direct investors are able to exploit this information advantage over pure financiers by selling the “lemons” while retaining the better performing firms and financing them in-house.

In the stylized setting of an emerging markets economy, domestic agents do not have the wherewithal to achieve the bundling of finance and control. Managers need to rely on outside finance to undertake capital formation, and savers do not possess the managerial skills to run enterprises. Foreign investment provides both types of resources in an integrated package and drives a wedge into cross-border rates of return that enables the foreign investor/owner to earn a higher rate of return (r^*) than the pure financier (r). This wedge is commensurate with the value of the information differential that distinguishes the two groups of agents. It correctly prices the information asymmetry that restricts the

mobilization of domestic saving. Without the return differential the equities market, and ultimately the market for firms, would collapse entirely because “there exists no vehicle to channel domestic savings to productive investment. FDI flows are essential to finance capital investment if internal finance by domestic firms is infeasible (due to, say financial constraints)” (p10).

The effectiveness of FDI in mobilizing domestic savings in the presence of asymmetric information depends on the joint hypothesis of dispersed domestic (equity) ownership and concentrated ownership on the part of the foreign investor. This stylized fact seems to be quite consistent with casual empiricism. Much FDI activity has been conducted by large multinational companies.⁴ While instances of high concentration of financial wealth in emerging economies are frequently observed, there is little indication that this wealth is readily available for deployment in the “white economy” to finance capital formation and infrastructure development.

A variation on this theme emphasises productivity-enhancing knowledge instead of the bundling effect of foreign investment. By way of illustration, assume that the foreign investor has developed managerial procedures that expedite and improve the firm’s response to productivity shocks and, hence, lift its performance under FDI management. On the basis of the expectation of superior performance, FDI investors are willing to pay a price in excess of the reservation price

⁴ The prominence in some contemporary FDI activity of relatively small and widely dispersed family businesses is a relatively recent development. It may be a response to changes in the commodity composition of FDI activity that have increased the share of highly specialized small intermediate components and services. This development may reflect the substantial economies that can be reaped from specialization and the division of labour (D.Yang, 2003).

set by domestic owners or the bid price of potential domestic owners. Selling to foreign investors at a higher price enables the owners of domestic firms to collect some of the gains from the superior performance that foreign management expects to achieve. At the same time, their inferior information base precludes them from extracting all the gains from superior knowledge (or management) so that the foreign investor collects some of the rents. The distribution of the gains from superior productivity depends on the information distribution between domestic sellers and foreign investors, as well as on the extent of foreign interest in the host country. The opening of an economy with a large internal market, for example, could attract substantial numbers of foreign investors. Competition among the foreign investors raises the premium over the reservation price and with it the share of the rents that accrues to domestic owners. In the limit, perfect competition among foreign investors raises the price all the way to the augmented value under foreign management. In that limiting case foreign investors just earn the opportunity cost of the investment, i.e., the rate of return in the ROW. All the “intrinsic” gains attributable to the superior operations management and productivity under foreign investment accrue to the domestic owners in the host country.

iii The impact of asymmetric information on the type of foreign investment

We noted previously the potential of capital account liberalization to promote financial deepening. However, the problems of asymmetric information are not resolved with the progress of financial market

development. Their impact and immediate consequences may take different forms, but their distorting effect on allocation decisions remains in force. Specifically, signaling problems under incomplete information give rise to an information-based tradeoff that influences the choice between FDI and FPI as the preferred mode of investment and their relative volatility (Goldstein and Razin, 2002).

Moving beyond the institutional setting of the preceding section, assume that a debt market exists in the host country. Foreign investors now have the choice between FDI and FPI. In addition to the advantages of FDI mentioned before, the direct control of the investment project by the foreign investor avoids many of the agency problems that are associated with financial investments. The FDI investor manages the firm more efficiently or productively by virtue of the particular skills he brings to the project. FPI-financed projects are run less efficiently by domestic owners. The differential performance is acknowledged in the valuation placed on the firms by the capital market. At the same time, the superior information about the firm held by the foreign owner/manager creates a lemons problem: the market interprets an offer to sell as a signal of bad news and, hence, marks the value of the firm down. The tradeoff between the relative efficiency gains from FDI and the “lemons” discount on disposal is likely to bias foreign investment flows against FDI. The more susceptible a firm is to adverse liquidity shocks the larger is the probability that it will need to be sold. Since disposal is costly, by virtue of the information problem, the efficiency gain from using FDI is eroded by the probability of discount at the time of sale. To the extent that the “lemons” problem

reduces the resale value of high productivity projects it will induce a preference for debt finance (Razin *et al.*, 2001).

The importance of the signaling problem varies with the probability of premature disposal of the investment which, in turn, depends on the financial circumstances of the investor. The more susceptible the investor is to adverse liquidity shocks the greater is the probability that the project may need to be liquidated at a time other than the investor's choosing. Hence, the probability of discount is more important to investors who are likely to experience high liquidity needs, while the prospect of superior return is more important to investors with low expected liquidity needs. The efficient outcome would see relatively liquid investors undertake FDI and investors who expect to become illiquid to prefer FPI.

This pattern may be subverted by adverse selection: investors with potentially high liquidity needs will opt for FDI to earn the higher return compared to FPI. Their high susceptibility to adverse liquidity shocks implies a high probability that the project will have to be sold prematurely. The market, on the other hand, does not know of the liquidity pressure on these FDI investors and discounts investments heavily on disposal. This reaction is based on the presumption that the sale is made prematurely by an investor with relatively low liquidity needs, and on the inference that a sale under those circumstances is evidence of bad news. This creates a "lemons" externality for liquid investors which discourages them from undertaking FDI. They will opt for FPI instead as a strategy to reduce the risk of large capital losses on disposal of the investment. For the host country the consequences of

the “lemons” externality include the underprovision of FDI and the real output losses that would have been gained from the superior efficiency of FDI.

If we explore the implications of asymmetric information for FPI, i.e., for debt and equity financing, we find similar distortions. Since their relative information disadvantage causes financiers to undervalue high productivity firms, those firms prefer to use debt. By the same token, those firms will rely on equity funding which experience productivity levels consistent with the average rate expected by the equity market. In view of the risk that productivity shocks may be negative not all relatively productive firms will actually raise debt. If a productivity shock is sufficiently adverse it may cause default on the debt and substantial losses of capital and intangibles. Hence, asymmetric information could conceivably isolate an intermediate range in the productivity spectrum in which individual firms do not invest at all. That range would be bounded by the (relatively low) maximum productivity cutoff point for equity funding, and the higher minimum productivity cutoff point for debt finance.⁵ Since the mean productivity of firms using debt exceeds the mean productivity of firms using equity, the amount of debt-financed investments is larger than the amount of equity-financed. This result, derived from the projected liquidity needs of individual firms, reinforces the point made previously about the underutilization of equity finance in emerging market economies.

The case in favour of FDI rests substantially on allocative efficiency arguments. The gains from superior productivity are real, and to the

⁵ The sequential order of the cutoff points along the productivity spectrum may be inverted in which case no set of inactive firms emerges.

extent that they are captured by the host country they can contribute materially to its development and growth. Collective action problems reinforce the case for FDI against FPI. The controlling interest in the firm and the ability to capture (at least some of) the gains from productivity improvements are incentive compatible with the promotion of initiative and efficiency. “Thus, the unique advantage to FDI ... is the potential for superior micro-management, based on the specialization in niches of industry” (Razin, 2002, p4). At the same time, free rider problems on the financing side may undermine this advantage and work in favor of debt finance. While the beneficial effects on management of any initiatives exerted by individual shareholders accrue to all owners of equity, individual debt holders are better positioned to pursue specific contractual obligations of the firm without dilution. “So creditors impose discipline on management in a way that shareholders do not” (Hart, 2000, p. 22). Similar arguments based on accountability and precommitment can be made in support of short-term debt as against long-term debt. These benefits do carry economic costs. The potential gains in operational efficiency may be eroded by the impairment of initiative that may occur under a strict discipline regime. This discipline-incentive tradeoff provides an argument in favor of mixed methods of finance involving, in the present context, equity and debt, possibly of different maturities.

iv Efficiency and Governance

Asymmetric information distorts the choice of investment method, imposing efficiency costs on the host country. The severity of the

distortion depends on the extent of the information failure and on opportunities that are available for neutralizing it. Transparency of decision-making, accountability, monitoring – in short, the complex of governance arrangements – influence the impact of information failures and, ultimately, the choice of investment method. For instance, it has been argued that FDI is simply “an extension of corporate control across national borders” (Razin, 2002, p 2), i.e., a strategy for containing the agency costs of operating independent corporate establishments abroad. The power of that comparative advantage of FDI would diminish with the containment of agency costs.

The interdependence between the composition of foreign investment and governance arrangements has potentially powerful implications for growth and development in the host country. Importantly, changes in governance arrangements will influence the connection between foreign investment and host country growth. As governance arrangements mature, financial markets deepen, and transparency in the various dimensions of business conduct improves, the preferred method of foreign investment changes. Empirical evidence demonstrates that the observed association between foreign investment and growth gains robustness as the composition of foreign investment changes (Klein and Olivei, 1999). In the limiting case of a “perfect” governance setup, the differential effects of alternative types of foreign investment would disappear entirely, and we would find ourselves in the world of Modigliani and Miller. But Grossman and Stiglitz (1980) have demonstrated that the costliness of information renders that world metaphorical.

The economic significance of the costliness of information depends in important ways on the institutional and regulatory infrastructure. Observance of the rule of precedence or more codified contractual arrangements provides means to reduce the extent of uncertainty consequent on information failure. At the same time, prudential provisions and the development of a resilient financial sector are associated with the emergence of increasingly sophisticated financial intermediation instruments tailored to progressively more specific circumstances. The augmentation of the information set available to contracting parties reduces the extent to which they need to rely defensively on cost-minimizing conjectures and strategies. Greater capital market transparency reduces the extent of the “lemons” problem, and greater transparency in corporate governance (b/w managers and owners) reduces agency costs and diminishes the importance of adverse selection (Goldstein and Razin, 2002). As investor knowledge about operational efficiency increases, transactions in the outstanding shares of a firm are based increasingly on observable fundamentals of the project rather than on unobservable characteristics of the investor. Problems of collective action may be contained by suitable contractual commitments among the parties involved that curb free riding and moral hazard.

Confidence in the integrity and stability of the institutions and regulatory environment strengthens the effectiveness of those arrangements and their progressive evolution. That confidence will be sustained by, indeed depend to some extent on the tangible evidence provided by practical experience. Hence, foreign investment is important not only for the resource reallocation to the host country and the resulting increase in its

growth potential. The harnessing of foreign investment opportunities in emerging market economies makes invaluable contributions to the process of institution-building and through this channel to financial deepening in host countries, with beneficial consequences for the volume and composition of foreign investment flows (Klein and Olivei, 1999). Changes in the composition of foreign investment, in turn, generate “intrinsic” gains that are specific to particular types of investment as distinct from the generic gains from cross-border capital movements. Insofar as financial deepening ameliorates the economic impact of information-based market failures, it may, for example, alter the aggregate structure of foreign investment inflows in favor of FPI, and within portfolio flows from debt in favor of equity. Secular changes in the aggregate debt-equity ratio of an economy should be reflected in compatible changes in the composition of foreign investment inflows. This expectation is supported by casual empirical observation, e.g., the increasing debt-equity ratio in a cross-section of low and middle income host countries (Razin *et al.*, 2001). In the same vein, the resilience of FDI during financial crises and relatively greater volatility of FPI that were observed in developing countries (Lipsey, 1999) may be weaker in developed economies that have higher levels of transparency in their capital market and better corporate governance institutions.

3. The Pattern and Composition of Foreign Investment in China: 1982 -1996

By way of applying the preceding discussion in a concrete context I present some summary data on China's experience with foreign investment inflows. The scope of this information is substantially supply-constrained. Annual IFS data on China's International Transactions are readily available for the period 1982-1996. These collections present relatively disaggregated gross flows, that is, inflows and outflows of direct investment and changes in portfolio assets and liabilities, respectively. The World Bank *World Tables* extend up to 2001, but they report only net flows on financial account. The immediate objective of this exercise is to ascertain whether China's experience displays (some of) the stylized features of the secular pattern of foreign investment that are associated with asymmetric information problems.

Figure 1 shows the secular evolution of net financial transaction flows between China and the rest of the world. The (positive) balance on Financial Account has increased more than tenfold from the mid-1980s to reach a net inflow of almost \$US 40,000 million in 1996. Capital inflows occurred at a relatively stable rate during the first decade without any readily discernable trend. That pattern changed dramatically in 1992. Starting from the atypical lowpoint of that year, the last five years experienced a remarkable growth in foreign investment to generate a cumulative volume of inflows more than three times the size of the preceding decade.

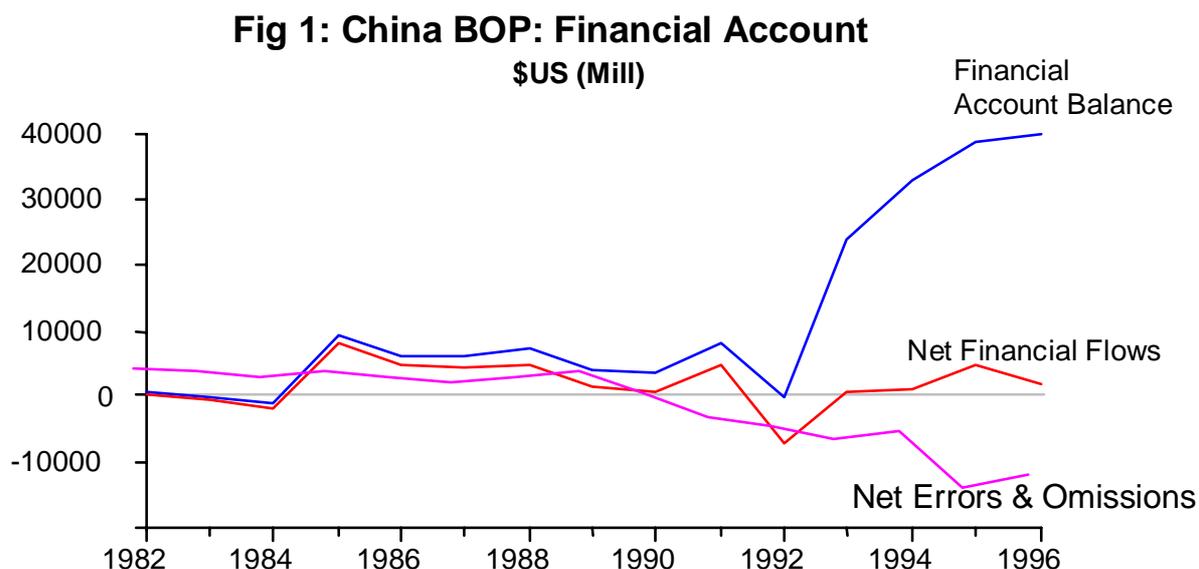


Figure 1 also informs about the composition of the financial account balance. Traditionally, the main distinction was drawn between long-term flows and short-term flows, the latter comprising assets with a holding period shorter than a year. Since it is very difficult to capture that distinction reliably in the data, the conceptual dividing line now tends to be drawn between the generic categories of “direct investment” and “financial or portfolio investment” with no regard to the holding period or maturation of the assets involved. The composite financial investment item shown in Figure 1 includes “portfolio” flows and “other” flows, the latter comprising government and financial sector transactions. Both categories have been predominantly positive throughout the observation period, excluding the years immediately surrounding 1992. These financial flows track exactly the movements in the net financial account until 1992, with a modest secular increase in the absolute size of the gap between the two series.

The IFS data attribute the portfolio component of financial flows entirely to private sector debt accumulation. The acquisition by Chinese residents of portfolio assets abroad has been remarkably stable and small. Aside from two dramatic outliers with opposite signs, in 1984 and 1985, the average rate of annual private acquisition of foreign assets has been of the order of \$US 400 million or so. By contrast, inflows displayed considerable variability around a rising trend. The World Bank data show substantial acceleration during the latter part of the decade. Notable is the significant drop off, and virtual cessation, in foreign portfolio investment inflows during the 1989-1992 interval. The temporal evolution of "Other Foreign Investment" follows a similar pattern. Outflows remained basically steady throughout the period with an outlier in 1992. Inflows averaged approximately \$US 4,000 million per year except for the significant repatriation flows (reduction in Liabilities) over the 1992-4 triennium. The substantial liquidation of liabilities in 1992 was accompanied by a proportionately even more substantial increase in the acquisition of foreign assets.

The complementary capital flow item, net direct investment, is represented in Figure 1 by the gap between the financial account balance and net financial flows. It is evident that direct foreign investment has dominated China's cross-border capital movements from 1992 onwards. After the steady performance throughout the 1980s there was a dramatic turnaround in 1992 that led to a ten-fold increase during the subsequent five-year interval. Outflows also increased significantly, jumping by approximately 350 per cent in 1992. That

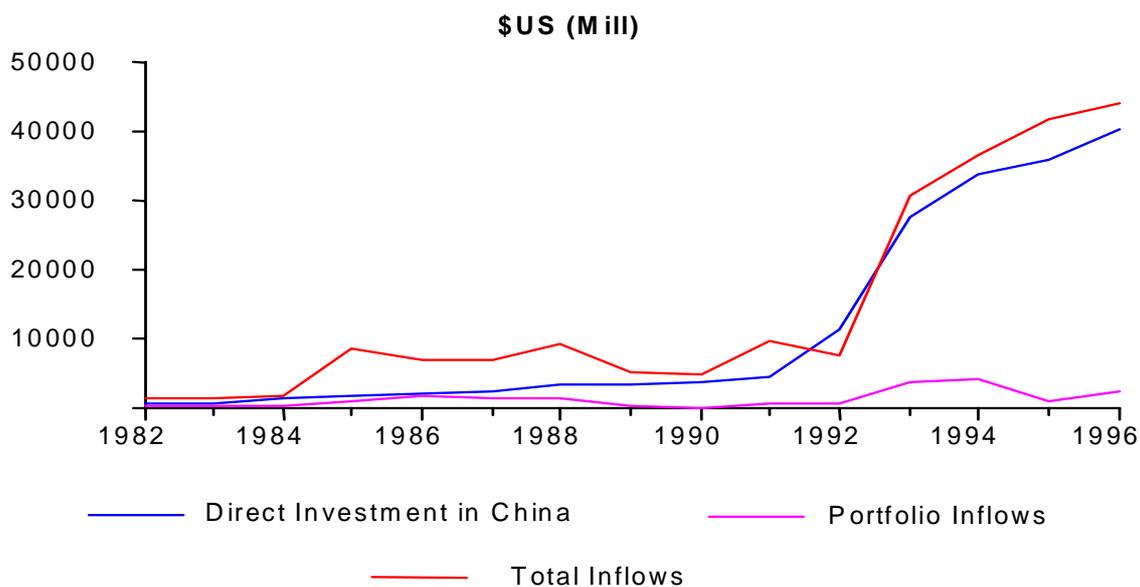
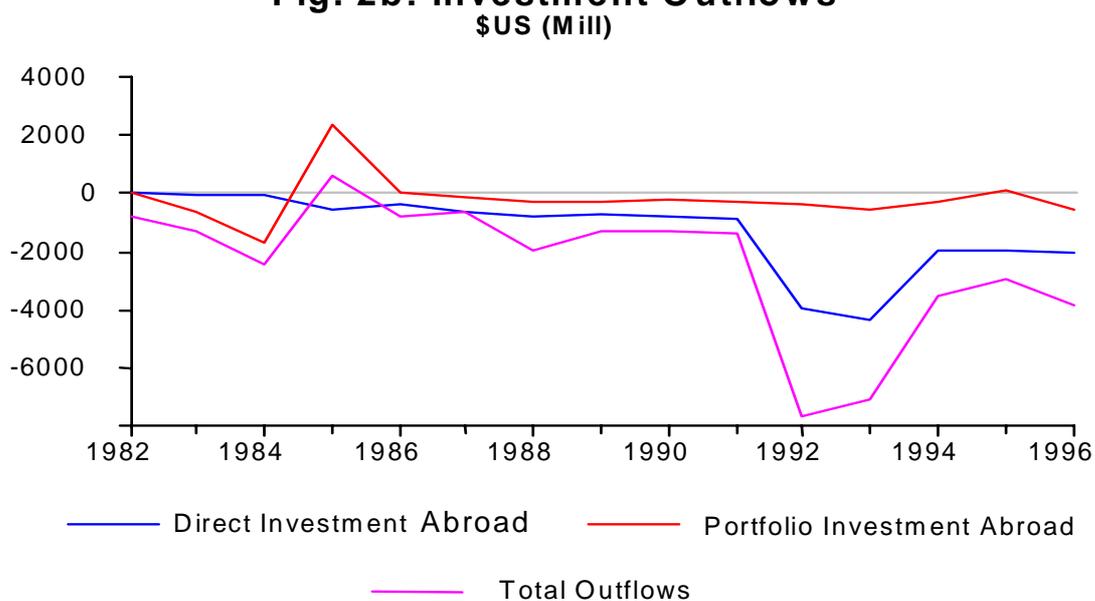
change was partly reversed in 1994, and outflows have stayed relatively stable during the remainder of the observation period.

As a reminder of the practical and conceptual difficulties of data collection, Figure 1 also shows the “Errors & Omissions” (E&O) reported in China’s balance of payments accounts. This residual balancing item is determined by the requirements of double entry bookkeeping to bring the two sides of the cross-border transaction accounts into balance. As such, there is no presumption that unrecorded or misrepresented transactions on either the financial account or on the current account dominate the reported E&O. The mechanical requirements of ‘balancing the books’ operate independently of the nature of transaction categories. However, the comparative fluidity of financial markets and the low cost and ease of transacting in financial instruments encourage the view that a substantial portion of the reported E&O may well be attributable to transactions that should have been recorded on Financial Account. If that inference is, at least partially, correct then a debit entry on E&O would indicate a corresponding overstatement of the capital inflows recorded in the Financial Account. E&O have been consistently in deficit, accelerating significantly during the second half of the 1990s. This would suggest that actual foreign investment in mainland China may fall well short of the amount of capital inflows reported in the balance of payments accounts.

If we were to push that view to the extreme and attribute all E&O to unrecorded Financial Account transactions while ignoring possible remaining “commissions” of mistakes in the balance of payments

records, then the reported 1996 surplus on financial account would shrink by almost forty percent to nearly \$US 25,000 million. Performing the same exercise for 1992 would yield a reported deficit of almost \$US 8,500 million. After this rather arbitrary adjustment for errors and omissions we still observe an improvement of \$US 33,000 million in net financial transaction flows during the last five years of the observation period.

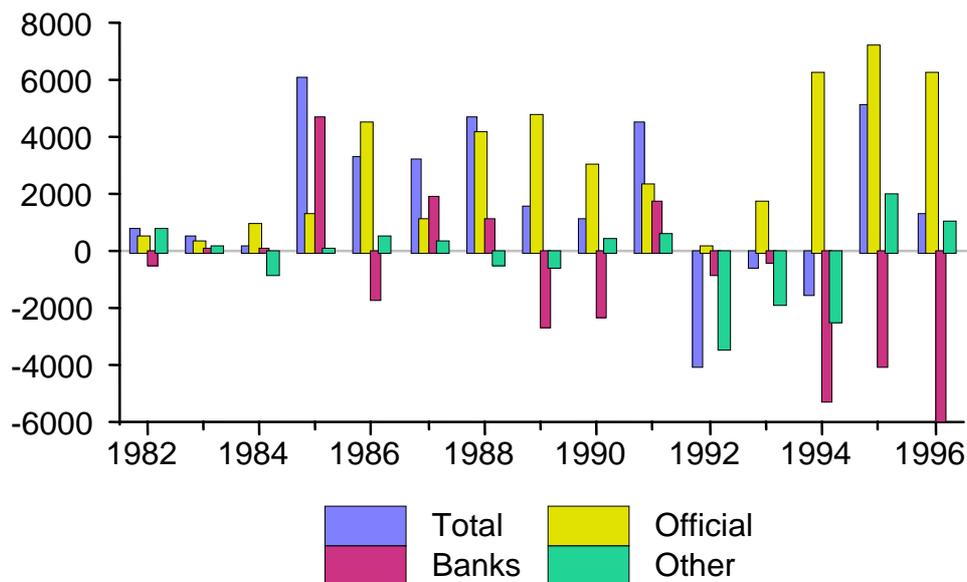
The general picture does not alter dramatically if we examine gross inflows and outflows separately. Figure 2 shows the major categories of capital inflows, and Figure 3 the corresponding composition of outflows from China. The data do not provide exact documentation of gross outflows and gross inflows since they report (net) changes in assets and liabilities, respectively. An increase in Portfolio Assets (decrease in Portfolio Liabilities) represents a capital outflow. Conversely, a decrease in Portfolio Assets (increase in Portfolio Liabilities) represents a capital inflow. Since the data report only net changes in assets and liabilities, respectively, they do not capture mutually offsetting inflows and outflows in either category during the reporting period. By netting out transaction flows in assets and liabilities, respectively, the available data is likely to underreport the true extent of cross-border transaction activity.

Fig. 2a: Investment Inflows**Fig. 2b: Investment Outflows**

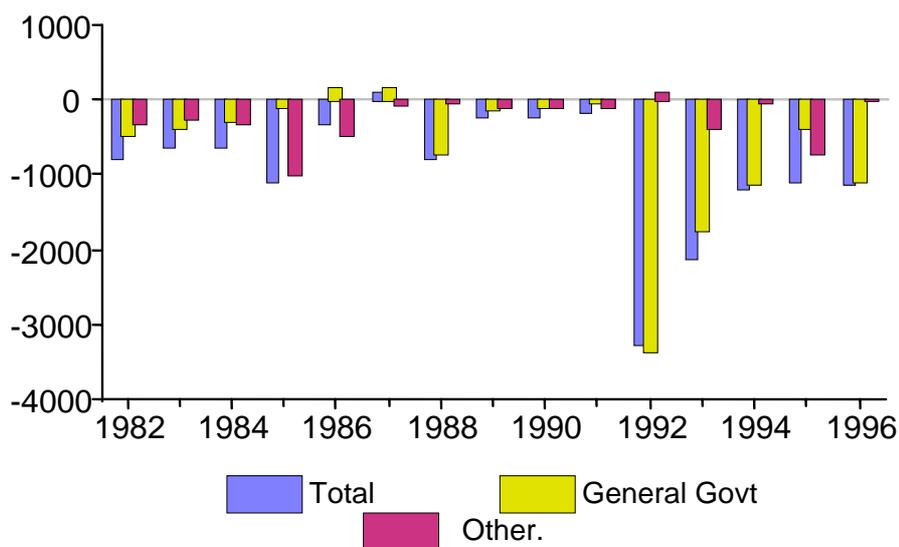
The remarkable increase in 1992 in official involvement in financial cross-border transactions is brought out in Figures 3. The General Government has been receiving significantly increased financial inflows (increase in Liabilities) from 1985 onwards. After a temporary cessation in 1992 (\$US-18m) this inflow has resumed at close to double the level

of the 1980's. At the same time, the General Government commenced in 1992 to acquire investment assets abroad at approximately seven times the average rate during the initial decade of the 1980s (\$US-216m p.a. and \$US-1540m p.a., respectively).

Other Investment Liabilities \$US (Mill)



Other Investment Assets \$US (Mill)



The outstanding features of this brief survey that are of general interest include, first, the existence of a clear breakpoint in 1992. This apparent structural shift affects virtually all component series of the Financial Accounts Balance. Secondly, the reported Errors & Omissions entry has been persistently and significantly negative throughout the 1990s. During the decade of the 1980s it displayed seemingly random volatility with little discernable trend, recording an average negative entry of \$US-470m per annum. From 1990 onwards, the annual negative entry has increased more than twenty times to \$US10,100m. The (relative) explosion in the average magnitude of the Errors & Omissions could indicate a serious overreporting of foreign investment in China.

The principal feature that is of specific interest to the question of the composition of foreign investment in China is the unequivocally dominant position of FDI. Foreign investment in China really “took off” after 1992, with the acceleration concentrated almost entirely in FDI. Net FPI recorded a little turbulence around 1992 and resumed its earlier pattern thereafter. On average, China received \$US15 FDI for each \$US1 of FPI during the post-1992 period. This unequivocal dominance of FDI dramatically illustrates our analytical conjectures about the pattern of foreign investment during the early phase of transition and opening up to the market system. Informational asymmetries may well provide a formidable force to discourage FPI inflows during this phase of China’s development.

The second point to note is that it no clear secular trend has yet emerged for FPI. The IFS data series is rather too short for that purpose. However, the slighter longer series available from the World

Tables is more suggestive – albeit of a seemingly perverse pattern for FPI. Net inflows are replaced in 1998 by substantial net outflows from China of nearly \$US10,000m p.a. Net inflows of FDI have continued unabated during those years, albeit at a relatively stable rate of approximately \$US38,000m p.a. Regrettably, the World Tables report only net figures which makes it impossible to make informed assessments of the pattern of FPI inflows into China, and of the possible influence of asymmetric information on that pattern. It is however worth to note in passing that the “unexpected” behavior of net FPI flows from China occurs in tandem with similarly unorthodox behavior in the geographical pattern FDI outflows from China (D.Yang, 2003).

4. Concluding Observations: The Composition of Foreign Investment – Indicator or Target?

Costliness of information is one factor that differentiates the benefits from alternative types of foreign investment. The nature and extent of these benefits vary with the institutional and regulatory environment in the host country. As a result, information asymmetries may contribute to the emergence of a dynamic pattern of comparative advantage across the alternative types of foreign investment that evolves with the progressive diffusion and refinement of market processes in emerging market economies. The characteristic temporal sequence has FDI as the dominant category of foreign investment during the initial phase of host country opening. As market arrangements gain hold FDI is progressively succeeded by FPI, and by systematic changes in the

composition of FPI, as the prominent type of foreign investment. This secular pattern of the composition of foreign investment is corroborated by remarkably robust empirical evidence based on extensive cross-section and time series investigations of economies distributed across the full spectrum of stages of development and transition. It is also consistent with our casual empirical review of China's recent experience with foreign investment.

Analytical conjectures about the way agents respond to information failures in a changing environment, and the empirical evidence in support of these conjectures that is evident in the extant literature, combine to establish a strong presumption that the composition of foreign investment inflows is a useful indicator of the state of market development in the host country. More succinctly, it provides pertinent information about the state of financial development and the complex of institutions, regulations and practices that govern the conduct of business and its financing. The remarkable stability in the sequential pattern of the composition of foreign investment inflows raises the question whether the composition of foreign investment may constitute a useful target for economic policy. Ample historical evidence attests to the fact that countries, or regions within countries, have expended substantial resources in the attempt to attract private investment inflows. Popular incentives offered by potential hosts range from the award of tax holidays and preferential tax treatment to subsidies, provisions in kind, and to assistance in human resource management.

A core element of the apparent structural linkage between foreign investment and the progress of economic development is the depth and

resilience of the financial sector in the host country. In the present context, the apparent linkage raises at least two issues: One, systemic, issue is whether the potential benefits from foreign investment for the domestic financial system should be exploited systematically in pursuit of the objectives of financial deepening and maturation as handmaidens of economic growth. The second issue is more narrowly focused on the distinguishing characteristics of alternative types of foreign investment. It concerns the question whether host countries should seek to exploit the “intrinsic” gains specific to particular types of foreign investment. These gains arise from the differential advantage of alternative methods of foreign investment in diffusing or ameliorating information-based market failures.

Regarding the first issue, a vibrant and competitive financial sector embedded in a supportive regime of prudential regulations is a powerful, indeed necessary, instrument for mobilizing domestic savings and drawing on the pool of global savings. By helping to channel resources into domestic capital formation it promotes growth and development, generating a net return to society. This return justifies the allocation of public resources to the process of financial deepening. It is less clear, however, whether financial deepening also satisfies the second-order conditions. There is evidence to suggest that the link from foreign investment to economic growth “is likely to be shut down for a developing country, at least when such a link is presumed to work through an increase in financial deepness” (Klein and Olivei, 1999, p 22). In other words, financial deepening *per se* may not be sufficient to promote growth and development. Rather, the efficacy of capital deepening does appear to depend crucially on the institutional

environment in which the markets operate, specifically on intangibles like “government reputation” (Edison *et al.*, 2002). Or, to quote from the influential work of Klein and Olivei (1999),

“...one interpretation of our findings is that countries require a constellation of economic, legal, and social institutions, institutions present in industrial countries but less common among developing countries, in order to have capital account liberalization translate to greater financial depth” (p.2) to sustain the foreign investment–growth nexus.

Regarding the second issue, the exploitation of the “intrinsic” gains specific to particular types of foreign investment raises significant conceptual and implementation problems. The conceptual problem is that the market failures that may warrant discriminatory intervention with foreign investment inflows are multidimensional, or multifaceted. For example, it was noted above that the possibility to exploit informational advantages about the conduct of a business may provide an escape from the “lemons” problem and an incentive for FDI. However, we also noted that the superior productivity of foreign-invested companies may create a different “lemons” problem under incomplete information of domestic wealth owners that argues in favour of FPI, specifically in favour of debt finance as against equity finance. *A priori*, the optimal policy would vary with the exact incidence of the information asymmetry. This requirement poses formidable identification problems that may well lie beyond the abilities of policy makers in emerging market economies. But suppose that several information asymmetries (affecting, e.g., operations, productivity, factor markets and the like) interact in a particular investment project or program. Or assume that alternative types of market failure, for instance the “lemons” and “free rider” problems, interact in determining the relative efficiency of FDI and

FPI. For the sake of sharp articulation, suppose further that the various asymmetries require incompatible or mutually exclusive policy interventions. Such scenarios of complex staggering and interaction of various market failures render the formulation of welfare-enhancing optimal policy virtually impossible.

Implementation of discriminatory policies imposes extremely demanding knowledge requirements on the policy maker. These requirements correspond to analogous problems that inhibit the vigorous pursuit of optimal tariff or industry policy by national policy makers. Aside from the problem of identifying the precise nature and impact of the information failure which the policy is intended to correct, or exploit, exact knowledge is also required about the quantitative structure of the economy. In the absence of such knowledge the impact of incorrectly calibrated corrective policy is likely to exacerbate the extent of the distortion and misallocation. Hence, the probability of implementing successfully discriminatory policies to target the composition of foreign investment inflows is exceedingly low.

This pessimistic assessment emerges independently of the fundamental challenge to policy activism posed by the Lucas Critique (Lucas, 1978). Clearly, the existence of information failures is not a matter of indifference. Distortions do elicit optimizing responses by contracting agents affected by them. Such optimal responses, however, are project-specific or specific to the particular circumstances affecting a concrete agent at a particular point in time. They do not extend over the entire set of a transaction category or class of agents. Hence, they

cannot be formalized into a set of general rules that can be implemented by disinterested policy makers.

Empirical evidence reinforces the case for circumspection in the advocacy of discriminatory policies aimed at influencing the composition of foreign investment inflows. After careful investigation of the capital flow-growth nexus for 72 countries over the period 1985-1999 Soto advances two main policy conclusions (2003, p 218):

“... first, the use of incentives to attract specific types of foreign investment is unjustified since there is no sign that foreign capital has a return larger than domestic capital; and second, selective taxing of capital inflows is not justified either, since there is no robust evidence that specific forms of foreign capital hinder economic growth.”

Preoccupation with discriminatory policies of uncertain benefit and reliability may well be a favourite engagement for populist governments. Such demonstrative activism carries significant economic costs because it distracts attention from important and legitimate objectives. Paramount among those objectives is the development of those “economic, legal, and social institutions” alluded to by Klein and Olivei that create an environment in which foreign investment can flourish. Confidence in the integrity of political governance arrangements and the protection of private property rights, “the rule of law” (Arteta, 2001), and “economic freedom” (Bengoa and Sanchez-Robles, 2003) are all core elements of successful development to a market economy. The cultivation of “social capacity” (Abramovitz, 1986), shaped by the endowment of human capital, economic and political stability, is essential to absorb the cultural and institutional upheaval that accompanies a successful transition. The creation of such intangible

assets is not congenial to the political process that is subject to a short life span, but they are no less important for that.

REFERENCES

- Abramovitz, M., "Catching up, forging ahead, and falling behind," *The Journal of Economic History*, 46 (1986), 385-406.
- Akerlof, G.A., "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics*, 84 (August 1970), 488-500.
- Albuquerque, R., "The Composition of International Capital Flows: Risk Sharing through Foreign Direct Investment," *Journal of International Economics* (2002).
- Arteta, C., B. Eichengreen and C.Wyplosz, "When does capital account liberalization help more than it hurts?", *NBER Working Paper 8414*, 2001.
- Bengoa, M. and B. Sanchez-Robles, "Foreign Direct Investment, Economic Freedom and Growth: new evidence from Latin America," *European Journal of Political Economy*, 19 (2003), 529-545.
- Bosworth, B.P. and S.M.Collins, "Capital Flows to Developing Economies: Implications for Saving and Investment," *Brookings Papers on Economic Activity* (1999:1), 143-69.
- Caves, R. E., "International Corporations: The Industrial Economics of Foreign Investment," *Economica*, 38 (February 1971), 1-27.
- Dayal-Gulati, A. and A.M.Husain, "Centripetal Forces in China's Economic Takeoff," *IMF Staff Papers*, 49/3 (2002).
- Edison, H.J., M.W.Klein, L.Ricci, and T.Sloek, "Capital Account Liberalization and Economic Performance: Survey and Synthesis," *NBER Working Paper 9100*, August 2002.
- Feldstein, M., "A Self-Help Guide for Emerging Markets," *Foreign Affairs* (March/April, 1999).
- Feldstein, M., "Aspects of Global Economic Integration: Outlook for the Future," *NBER Working Paper 7899*, 2000.
- Froot, K..A., "Japanese Foreign Direct Investment," Working Paper No 3737, *US-Japan Economic Forum*, ed by Feldstein and Kosai (1991).
- Furman, J. and J.E.Stiglitz, "Economic Crises: Evidence and Insights from East Asia," *Brookings Papers on Economic Activity* (1998:2), 1-135.
- Goldstein, I. And A. Razin, "An Information-based trade off between Foreign Direct Investment and Foreign Portfolio Investment:

- Volatility, Transparency and Welfare,” *NBER Working Paper 9426*, December 2002.
- Grossman, S. and J.E. Stiglitz, “On the Impossibility of Informationally Efficient Markets,” *American Economic Review*, 70 (June 1980), 393-408.
- Harrison, A.E. and M.S. McMillan, “Does Direct Foreign Investment affect Domestic Credit Constraints?” *Journal of International Economics*, 61 (2003), 73-100.
- Hart, O., “Financial Contracting,” *Nancy L. Schwartz Lecture*, Northwestern University (June 2000).
- Klein, M. and G. Olivei, “Capital Account Liberalization, Financial Depth, and Economic Growth,” *NBER Working Paper 7384*, October 1999.
- Krugman, P., “The Fall and Rise of Development Economics,” in *Rethinking the Development Experience* ed. by L.Rodwin and D.A.Schöm (The Brookings Institution and The Lincoln Lincoln Institute of Land Policy, 1994).
- Krussell, P., L.E.Ohanian, J-V. Rios-Rull and G.L.Violante, “Capital-Skill Complementarity and Inequality: A Macroeconomic Analysis,” *FRB Minneapolis Staff Report #236*, August 1997.
- Levine, R., “International Financial Liberalization and Economic Growth,” *Review of International Economics*, 9 (2001), 688-702.
- Levine, R. and S.Servos, “Capital Control Liberalization and Stock Market Development,” *World Development*, 26 (1998), 1169-1183.
- Lipsey, R.E., “The Role of Foreign Direct Investment in International Capital Flows,” *NBER Working Paper 7094*, 1999.
- Lipsey, R.E., “Foreign Direct Investors in Three Financial Crises,” *NBER Working Paper 8084*, 2001.
- Lucas, R.E., “Econometric Policy Evaluation: A Critique,” in *The Phillips Curve and Labor Markets*, ed. by K.Brunner and A.H.Meltzer, Carnegie-Rochester Conference Series on Public Policy, Supplement to *Journal of Monetary Economics*, 1 (1976), 19-46.
- McKinnon, R. and H.Pill, “Credible Economic Liberalizations and Overborrowing,” *American Economic Review*, 87 (1997), 189-193.
- Poole, W., “Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model,” *Quarterly Journal of Economics*, 84 (1977), 197-216.
- Razin, A., “FDI Contribution to Capital Flows and Investment in Capacity,” *NBER Working Paper 9204* (September 2002).
- Razin, A., E. Sadka and C-W Yuen, “Channeling Domestic Savings into Productive Investment under Asymmetric Information: The

- Essential Role of Foreign Direct Investment,” *NBER Working Paper* 6338, Dec 1997.
- Razin, A., E.Sadka and C-HHW Yuen, An Information-based Model of Foreign Direct Investment: The Gains from Trade Revisited,” *NBER Working Paper* 6884, January 1999.
- Razin, A., E. Sadka and C-W Yuen, “Why International Equity Flows to Emerging Markets are Inefficient and Small relative to International Debt Flows,” *NBER Working Paper* 8659, December 2001.
- Rodrik, D. and A. Velasco, “Short-term Capital Flows,” *NBER Working Paper* 7364, September 1999.
- Sarno, L., and M.Taylor, “Hot Money, Accounting Labels and the Permanence of Capital Flows to Developing Countries: an Empirical Investigation,” *Journal of Development Economics*, 59 (1999), 337-364.
- Soto, M., “Taxing Capital Flows: an empirical comparative analysis,” *Journal of Development Economics*, 72 (2003), 203-221.
- Stiglitz, J.E. and A. Weiss, “Credit Rationing in Markets with Imperfect Information,” *American Economic Review*, 71 (June 1981), 393-410.
- Summers, L., “International Financial Crises: Causes, Prevention, and Cures,” *American Economic Review*, 90 (May, 2000), 1-16.
- Tesar, L.L and I.M.Werner, “U.S. equity investment in emerging stock markets,” *World Bank Economic Review*, 9 (1994), 109-30.
- Tung, S. and S. Cho, “Determinants of regional Investment Decisions in China: an econometric model of tax incentive policy,” *Review of Quantitative Finance and Accounting*, 17 (2001), 167-185.
- Yang, Dexin, *Transaction Efficiency, Division of Labour and Foreign Direct Investment*, PhD Dissertation, Department of Economics, Monash University, 2003.