

**FINANCE FOR DEVELOPMENT;
RELEVANT WORK, IMPORTANT GAPS AND RESEARCH PRIORITIES¹**

Dr Stephany Griffith-Jones

Institute of Development Studies
University of Sussex
Brighton
BN1 9RE

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I Introduction

This paper is aimed at setting out the main issues affecting the mobilisation, efficient allocation and intermediation of finance for development, and thus contribute to the ODA's definition of a three year research programme; this research programme will be relevant to policy-makers in low-income countries and their development partners.

The paper focuses on the issues that ODA identified as likely to form the basis for the research programme (please see Terms of Reference below). ODA has also requested that any obvious gaps in this list be identified. An important additional related issue identified in this paper is that of savings, particularly given the very low level of savings in Sub-Saharan Africa (this is discussed below).

The paper reviews research completed and in progress in the finance for development field, identifies major research gaps and proposes priorities for a three year research programme.

TERMS OF REFERENCE

ISSUES IDENTIFIED AS LIKELY TO FORM THE BASIS OF THE FINANCE FOR
DEVELOPMENT PROGRAMMEA1. Financial Sector

A1.1 What roles should the financial sector play

A1.2 What institutions are needed to play those roles

A1.3 How does the state of the financial sector affect investment

A1.4 What are the policy implications of A1.1 - A1.3

A2 Other determinants of investment:

A2.1 Which perceived risks have the most effect on investment

A2.2 How can those risks (or perceptions of risk) be altered

A2.3 What are the other determinants of investment, and what does this imply for policy

A.3 Foreign investment flows

A3.1 How, if at all, should foreign investment flows be managed

A3.2 What are the policy and institutional requirements for the proper management of foreign flows

A1 Financial Sector

In the 1990's, there has been a resurgence of interest in the relationship between financial intermediation and economic growth. This issue had been extensively studied around twenty years earlier by the so-called "financial repression" school of thought developed by Goldsmith (1969), McKinnon (1973), and Shaw (1973). This influential school of thought observed that during the process of economic development, countries generally experienced a more rapid growth in financial assets than in their national income; from this they concluded that there had to be some close relationship between financial development and growth. They emphasised, for example, the role of better financial intermediation in increasing the supply of credit, which both allowed for more and more efficient investment. They further argued that government intervention in the pricing and allocation of loanable funds, called "financial repression" inhibited financial development by depressing real interest rates (see, also Kapur 1976 and Fry, 1995). Furthermore, they argued that low or negative real interest rates discouraged economic growth through their effects on the level and productivity of investment (World Bank, 1989). However, the empirical evidence on interest rate elasticities in savings and investment functions is either mixed or unsupportive of the repression school (see, for example, Cho and KhatKhate, 1989, for a sample of Asian countries and Massad and Eyzagirre, 1990, for Latin America). There is, however, stronger evidence that higher real interest rates stimulate financial savings (Fry, 1988), implying a substitution from real assets or shares to interest-bearing assets. There is also evidence that negative real interest rates, as occurred under cases of extreme financial repression had a very negative effect on growth, and on other macro-economic variables; however, very high real interest rates can also have negative macro-economic effects, in developing countries as became evident in Latin America in the early 1980s; thus, optimum levels of real interest rate may therefore lie in between both extremes, which is what the South East Asian countries seem on the whole to achieve so effectively.

The analysis of "financial repression" provided much of the theoretical underpinning of financial reform policies in developing countries, particularly during the 1970s and 1980s, and in low-income countries also in much of the 1990s. The basic philosophy was that lifting controls on interest rates and credit allocation would reduce "repression" of financial development, increase the willingness to save in financial assets and improve efficiency of investment. It was assumed that financial liberalization would both increase savings and investment, as well as the efficiency of investment.

The experience with financial sector development in the last twenty years in LDC's, as well as new theoretical developments - particularly those linked to the insights of endogenous

growth theory - are beginning to lead to a more nuanced view of the role which financial markets can and should play in growth. The more recent literature is for example arguing that clear pre-conditions need to be met for financial liberalization to be successfully carried out. Caprio (1994) for example starts rightly from the central fact that in developing countries information normally is at a premium, and financial repression has led banks to under-invest in information capital, as it reduced the returns on information; particularly in countries where financial repression has been long and severe, financial liberalization will find banks with little information. Furthermore, other structural reforms taking place simultaneously, (such as for example trade liberalization) may render uneconomic much of the information capital banks possess. In such a context, banks may opt to hold safe assets and lend relatively little, particularly to the small and medium private sector, which may curb growth (this problem was particularly severe in transition economies, see Griffith-Jones and Drabek, 1995). As a result, specific measures need to be taken to reduce the cost of information capital to the financial sector, by supporting the development of the legal, accounting and auditing profession. More generally, if as modern economic theory argues, the essence of finance is information, then the essence of financial reform implies large improvements in its collection and processing. Caprio, *op.cit*, suggests a pattern of financial reform sequence, that begins with those changes that have a long gestation period and are critical to success, highlighting the importance of rapid progress in altering incentive systems and encouraging investment in human and information capital. Priority should also be given to institutional changes, such as clarifying property rights (to permit borrowers to offer collateral) and establishing bankruptcy laws.

Furthermore, Pagano (1993) and others have argued that the effect of financial development on growth can vary depending on the specific market where it occurs; thus, while higher private bank lending to private companies or the creation of stock markets are likely to promote growth, other forms of financial development, such as expansion of household credit may well reduce the growth rate, via reduced savings. Some post-Keynesians (Gibson and Tsakalotos, 1994) have emphasised the opposite risk: that an increase in savings due to financial liberalization may lead to a fall in output and growth due to the reduction in effective demand. This seems less of a serious risk in low-income countries and particularly in S.S.A., given their low levels of savings (see below).

The negative link between some forms of financial development (in particular expansion for credit for housing) and levels of savings is not just a feature of some developing countries, but can occur in developed countries, such as the UK (Begg and Griffith-Jones, 1996). As a consequence, there seem to be issues not just about the appropriate pre-conditions and timing of financial liberalization, to make its' impact on growth positive, but also issues about timing

of financial liberalization in different financial sectors (banking, capital markets, consumer credit, venture capital, etc.).

As mentioned above, the experience with financial sector development has influenced significantly academic and policy-makers' perceptions on the subject. In particular, the rather extreme financial liberalization policies of the "Southern Cone" Latin American countries ended with major financial collapse in Argentina, Chile and Uruguay in the early 1980s, which were very disruptive for output and very costly in fiscal terms. That experience was perhaps best summarised by the title of Diaz-Alejandro's (1985) paper: "Goodbye Financial Repression, Hello Financial Crash". It is interesting that after studying the experience with Latin American financial liberalisation, McKinnon (1988) himself recognised the limitations of his original approach and stated that the order in which the macro-economy is stabilised in comparison with the deregulation of banks and other financial institutions "must be more carefully considered that had previously been thought". This line of analysis was part of a consensus that emerged on the general rule that deregulation of the domestic financial sector should not take place if the economy is facing major macro-economic instabilities, reflected in high inflation and large fiscal deficits (Corbo and de Melo, 1985; Roe, 1988; Edwards, 1989). However, the recent Mexican peso crisis and its very negative impact on the banking sector have confirmed the need for additional pre-conditions being added for a successful financial liberalization; these relate to the need to devise appropriate supervisory and regulatory tools to control financial risk, especially in the banking sector; in this area a new consensus is emerging (Rojas Suarez and Weisbrod, 1996). In this context it is interesting that Chile, the country that in Latin America has best combined since the mid-1980s prudent macro-economic management with very careful regulation of the banking system, also has in recent years been the country in that region to have seen the fastest increase in savings, investment and growth rates, (there are, however, other factors explaining Chile's high saving rates) (Ffrench-Davis et al. 1995).

It is interesting that careful empirical work done at the I.M.F. (de Gregorio and Guidotti, 1995) shows a robust and significant negative correlation between their measure of financial intermediation (for which they use the ratio of domestic credit to the private sector to G.D.P.) growth in Latin America. This is attributed to the above mentioned extreme experiments of unregulated financial liberalization in that region during the 1970's and early 1980's, which later collapsed. It is particularly interesting that in general for developing countries, de Gregorio and Guidotti, op. cit find a positive effect of their measure of financial intermediation and long-run growth; this positive effect is particularly strong in middle and low-income countries (where banks represent a far larger share of the financial system than in

high income countries); it is also interesting that the relationship between financial development and growth is stronger in the 1960's than in the 1970's and 1980's.

De Gregorio and Guidotti's op. cit findings on a positive effect of increased financial intermediation on long-term growth for all developing countries confirms findings of previous recent empirical studies, in particular by King and Levine (1993 a and b). King and Levine use four financial indicators (the size of liquid liabilities of the financial system to G.D.P., importance of banks relative to central banks, the percentage of credit allocated to private firms, the ratio of credit issued to private firms to G.D.P.) and four growth indicators (including not just G.D.P. growth, but also the ratio of domestic investment to G.D.P. and a residual measure reflecting mainly improvements in efficiency). The results obtained by them show strong and robust correlation between these two sets of indicators. King and Levine (1993 b) further contribute to the analysis by estimating that "roughly one third of the gap between very fast and very slow growing countries is eliminated by increasing the scale of the financial intermediation sector". King and Levine (1993 a) also show with empirical analysis that, for countries with "intensive adjustment lending", those countries having a higher pre-reform financial development tend to have higher growth rates (even when other effects are separated by using growth residuals). This is clearly consistent with case study evidence. Thus, Harvey (1996) finds that a key reason for Zimbabwe's relative success in financial liberalization is the fact that the banks were strong at the beginning of the process.

King and Levine do make two other interesting contributions. Firstly, they incorporate in their model the Schumpeterian idea that financial institutions are important because they evaluate and finance entrepreneurs in their initiation of innovative activity and the bringing of new products to market. Thus, financial systems influence decisions to invest in productivity enhancing activities through two mechanisms: a) evaluating prospective entrepreneurs and b) funding the most promising ones. King and Levine, however, do not pick up one central point in Schumpeter, which is crucial to recent theoretical discussion, as well as to developing country experience. According to Schumpeter, not all credits are growth promoting. Indeed, according to Schumpeter, a number of credits - such as consumption credits and credits for bailing out failing companies - do not contribute to development. Brainard and Tobin (1992) model this important distinction between what they call productive and financial capital.

Secondly, King and Levine de-compose the functions through which the financial system encourages innovative activity. These are: 1) evaluating prospective entrepreneurs and choosing the most promising projects, 2) mobilising resources to finance promising projects, 3) allowing investors to diversify risk associated with uncertain innovative activities and 4)

revealing more accurately potentially large profits associated with the uncertain business of innovation.

Econometric work linking financial development and growth has also been carried out at a country level, in particular recently for three low-income countries, Nepal and India (Demetriades and Luintel 1996 a and b) and Kenya (Kariuki, 1995). The two first studies also introduce important methodological innovations. They measure banking sector controls directly (with indicators such as directed credit programmes, and not just interest rate levels). They focus on the role of financial institutions, which previous empirical work had largely ignored. They assume that the banking sector has an imperfectly competitive behaviour. This is either because there is a small number of banks and/or because of the presence of imperfect information. Following Stiglitz (1994) it can be argued that asymmetric information in loan markets is sufficient to generate some degree of market power for lenders who act as if they were monopolists, because their specialised knowledge of, and long-term relationship with their customers makes it difficult for these customers to go to other banks. The introduction of imperfect competition affects the way in which financial repression has an impact on financial development and on growth. Furthermore, asymmetric information combined with implicit or explicit deposit insurance can lead to moral hazard in the banking system, reflected in excessively risky lending strategies; in this context, interest rate ceilings can encourage financial development by improving the public's perception of the soundness of the banking system. The econometric evidence for Nepal suggest that interest rate controls have a positive effect on financial deepening whilst non-interest rate controls seem to have a negative effect. It is also interesting that the level of long run per-capita income in Nepal exhibits a positive association with financial depth and a negative association with the number of bank branches; the latter may reflect the inefficiency of financial intermediation at any given level of financial development. The study on India shows econometrically the negative effects that banking sector controls have had on financial development in India; this is consistent with King and Levine's conclusions for a sample of developing countries, which shows that such controls have a negative effect on financial intermediation and on growth. However, the India case study also finds evidence that the imposition of a lending rate ceiling had a small positive effect on financial deepening. This result provides support for the recent World Bank conclusion that mild repression of lending rates may actually enhance economic development (World Bank, 1993).

The Kariuki (1995) study provides econometric and sample survey analysis of the impact financial liberalization in Kenya; the Kenyan experience provides an interesting case study because financial sector reforms there were one of the earliest in Africa, leading to positive real interest rates since 1983. Kariuki's econometric analysis shows that there is a

statistically insignificant relationship, between the real deposit rate and real broad money; she concludes that other (non-interest) factors play an important role in determining the amount of savings and the form in which they are held. Kariuki also tests for the correlation between investment and real interest rates; the conclusion is that the relationship is negative, challenging at least for the Kenyan case the positive relationship between investment and real rates postulated by the McKinnon Shaw model. Kariuki stresses the importance of other components of the cost of capital as well as other operational constraints, such as demand constraints (the latter factor being highlighted by entrepreneurs in her survey) for determining investment levels.

The impact of financial liberalization depends very much on institutional and historical factors, as Harvey (1996 a) shows for Zimbabwe. At the time of independence, Zimbabwe had long had a central bank and had a much more sophisticated financial sector than nearly all other Sub-Saharan African countries. After independence, very little changed; though the share of government ownership increased somewhat, banks were managed basically on commercial principles. As a result, financial liberalization was less important, given that Zimbabwe already had a fairly developed financial sector. Financial liberalization is reported to have achieved little, as higher real interest rates did not stimulate more lending to S.M.E.'s, nor cause financial deepening. The impact of Ethiopia's financial liberalization is also linked to its' history (Harvey, 1996 b). Ethiopia, which had been independent for longer than most S.S.A. countries, already had a central bank, as well as a state-owned banking system in the mid-1970's. In the socialist period, surprisingly government owned banks remained relatively sound, partly because the parastatal sector remained profitable, and partly because branch expansion was steady. Harvey, op. cit argues that the impact of financial sector reform on increasing the ability to service the rapidly growing private sector was limited by factors such as the unwillingness to allow foreign ownership of banks, as well as rejecting any foreign technical assistance. However, as regards entry of foreign banks some authors have argued that this may pose risks to domestic banks, as foreign banks are likely to pick up the more profitable and less risky enterprises as clients. Harvey also extracts important hypothesis from his empirical work and that of Brockenbridge (1996 a, b, c and d); for example, that the indigenous banks in S.S.A. are better at lending to S.M.E.'s, because they have better information on them.

Much of the empirical literature stresses rightly more the role of banks in low-income countries, given banks' crucial role. However, stock exchanges have recently become regarded as an important key to successful market reforms. The classic function of a stock exchange is to provide long-term funding via capital to business, while also providing an important outlet for savings. Faber (1995) stresses that for S.S.A. a number of special

purposes may be served by establishing a local stock exchange. It can widen the ownership of assets, giving a larger proportion of the population a stake in creating a profitable environment for firms; it can facilitate the "localisation" of foreign owned companies; it can be used in the privatisation of state companies, particularly via the flotation of minority interests in state companies run on commercial lines, that will ease the move to majority privatisation; the existence of a stock market can also help encourage F.D.I. as a direct investor often looks at the prospect of selling off all or a portion of the investment (possibility of exit) once it has matured (Faber, op. cit and interview material); finally the stock exchange is naturally a key mechanism to attract foreign portfolio flows.

Except for South Africa, (whose stock exchange is very large) all S.S.A. stock exchanges are very small, as measured by any indicator, and in some countries inexistent. Faber op. cit argues that the small size of the exchanges and limited number of players implies that markets are often very narrow, easily led by one dominant player and prices tend to be volatile both for individual stocks and for market indices. This is illustrated by Zimbabwe, which in 1990 was the best performing emerging market and in 1992 was the worst one (based on I.F.C. data).

There is surprisingly little empirical analysis of the extent to which corporations fund their growth in low-income developing countries via equity, that is via the stock exchanges; more generally, there is little evidence and analysis on the extent to which corporations in those countries rely on internal as opposed to external sources of finance (either debt or equity). This is a very important gap, where further empirical research is required; this would help not only establish what patterns of funding exist, but also examine empirically whether particular structures of corporate finance are more conducive to growth (see also below).

For O.E.C.D. countries, Mayer (1988) had found that new equity issues provided less than 5 per cent of the net financing of private investment. The data presented in Stiglitz (1994) confirms the small role played by equity in developed countries; it is interesting, however, that his data for East Asian countries show a higher proportion of corporate finance coming from equity than from bonds, both for developed and East Asian countries. Stiglitz's data show the main source of companies' funding to be retained profits. However, recent empirical research suggests surprisingly that at least large firms in several developing countries have a different order - in fact practically reverse order - to that of developed countries; though there are variations in corporate financing patterns, in a sample of ten developing countries Singh (1994) found that large corporations rely very heavily on external funds and - within those - very heavily on new share issues on the stock market to finance growth of their net assets. In Zimbabwe, the only S.S.A. country in the sample, Singh op. cit

suggests that between 1980 and 1988, 43 per cent of the new financing raised was through equity. However, for one of the two low-income Asian countries in the sample, (Pakistan) Singh, op. cit found a "pecking order" close to that of developed countries, starting with retained profits, and within external finance, with loans a larger source than equity. It would seem therefore valuable to establish for low-income countries, through additional research, what the scale of equity financing of corporate financing is, what the reasons for this are, and what are the effects on growth and efficiency. To what extent is the stock exchange used in low-income countries to fund new investments or privatisations; what proportion of stock exchange transactions are used for secondary transactions, which mainly affect the price of shares, but not the cost and availability of capital for expansion?

Analysis of the role which financial sector development played in the "East Asian miracle" also offers important and relevant insights, which can be to a certain extent adapted for low-income countries (World Bank, 1993; Stiglitz and Uy, 1996; Stiglitz, 1996). Stiglitz (1996, op. cit) emphasises that East Asian governments intervened intensively in the operations of their financial systems, but did so in ways that increased the likelihood that those interventions would work and decreased the likelihood of abuses. Amongst the measures highlighted by Stiglitz and others (e.g. Wade 1990) are: the creation of postal savings institutions (with an extensive branch network, tax exemptions on interest rates, etc.) and provident funds to increase domestic savings; established prudential regulations to enhance the safety and soundness of financial institutions, as well as promote financial deepening (however, in spite of this, there have been important banking crises in Asia, though on a far smaller scale than in Latin America (see Vos, 1995)); policies - such as promotion of education and receptivity to foreign investment - that increased the returns to private investment; actions by governments to help create market institutions, such as capital markets, and providing the institutional infrastructure to enable them to work more effectively; and helping direct resources in ways that stimulated economic growth, not just by directing credit to priority areas - such as exports - but away from speculative real estate and consumer durables. Though some analysts (Jaramillo-Vallejo, 1994) find the kind of intervention practised in East Asia and supported by Stiglitz too intrusive, the East Asian experience in financial sector development needs to be seriously considered because of those countries' incredibly successful growth record. However, questions may need to be raised about the extent to which the experience of financial market development in East Asia can be transferred to other countries, with lower incomes, weaker governments, etc.

Empirical analysis, case studies and theoretical developments (especially those gains from the insights and techniques of endogenous growth models) allow us today to better understand the link between financial development and growth, as well as the roles which the

financial sector should play. This opens up an important new agenda for empirical case study and policy oriented research. Endogenous growth theory shows that the growth rate of an economy can be related to preferences, technology, income distribution and institutional arrangements; in this context, financial intermediation has effects not only on levels of macro-variables but on their growth.

In this context, financial development can affect growth via three mechanisms, which it is very important to distinguish: a) it can raise the proportion of saving funnelled to investment; b) it can increase the social marginal productivity of investment and c) it can influence the savings rate.

a) Raise the proportion of savings channelled to investment

In the process of transforming savings into investment, financial intermediaries absorb resources, so that a part of households' savings does not go into investment. This absorption of resources by the financial sector is primarily a reward for services supplied, but it can also reflect inefficiency of financial intermediaries, as well as their market power. Additionally, their activity is often taxed directly (e.g. transaction taxes) or indirectly (e.g. high reserve requirements). If financial development reduces this leakage of resources, it raises the proportion of savings going to investment, and thus the growth rate of the economy.

b) Improving the allocation of capital

A key role of financial intermediaries is the allocation of funds to those projects where the marginal product of capital is the highest, that is increasing the efficiency of investment, thus promoting higher growth. Financial intermediation increases the productivity of investment in two ways: by collecting information to evaluate alternative investment projects and by inducing individuals to invest in riskier but more productive technologies, by creating risk sharing mechanisms (Pagano, 1993).

As regards the informational role of financial intermediation, this has been related to productivity growth particularly clearly in Greenwood and Jovanovic (1990). If there are safer, but lower yielding technologies as well as riskier but higher yielding ones, financial intermediaries - because of their large portfolios and their greater access to information about the overall economy - can choose the higher yielding technology, which leads to higher growth.

Financial intermediaries also enable investors to share risks (Pagano, 1993). This risk sharing role is not just carried out by insurance markets, but also by banks and securities markets. Banks play a key role here, by pooling the liquidity risk of depositors and investing most of their funds in more illiquid but more productive projects. Without banks to perform this role, households could guard against liquidity shocks by investing only in productive assets that can be quickly liquidated, which would imply losing opportunities of more productive, but more illiquid, investments. Bencivenga and Smith (1991) show that an additional service provided by banks is that they reduce investment waste due to premature liquidation. More generally, banks perform a vital function in the payments mechanism, as well as collecting deposits and allocating them according to the most promising returns. Because banks pool risks by collecting deposits among a large number of individuals, they can transform the risk, the maturity and the size of the claim. As intermediaries - and because financial claims are by nature vitiated by asymmetric information and because it is impossible to enforce complete contracts - banks screen and monitor their borrowers; this screening and monitoring helps curb adverse selection and moral hazard that arise in the context of asymmetry of information. The productivity gains provided by banks lead to higher growth. However, Stiglitz and Weiss, (1981) have also argued that even in competitive credit markets, information asymmetries can result in somewhat inefficient results due to credit rationing. In this context, Stiglitz and Weiss, op. cit argue that raising interest rates does not necessarily lead to higher profits for banks and better allocation of funds, due to adverse selection and incentive effects. Higher interest rates would lead to an increase in the average risk of loans outstanding to banks, causing a fall in their profits; furthermore, borrowers may turn to projects with lower probability of success, but with higher rates of return. However, given that information on the riskiness of investment projects is both costly and imperfect, banks may ration potentially high yielding, often innovative and productive investment projects. Thus, financial liberalisation, does not necessarily lead to complete disappearance of credit rationing, as interest rates will be below market-clearing levels. In this context, some - though clearly not all - of the productivity gains provided by banks and by their liberalisation may be lost.

Households' liquidity risks can also be shared via security markets. Thus, individuals can buffer liquidity shocks by selling shares on the stock market rather than taking money from the bank (Levine, 1991); more importantly, the stock market also allows agents to reduce rate of return risk by portfolio diversification. As in the case of banks, the stock market increases the willingness to invest in less liquid, more productive projects and avoids unnecessary liquidation. Furthermore, stock markets allow firms to augment productivity by specialising. The increase in the risk from sectoral demand shocks is

shared efficiently via the stock market (Saint Paul, 1992). These different productivity gains also increase the growth rate.

c) Affecting the saving rate: the sign is ambiguous

Financial development can also affect growth by its effect on the saving rate. However, as already discussed briefly above, and in Japelli and Pagano (1992) the net effect of financial development here is ambiguous, as particularly certain forms of financial development (like expansion of consumer credit and housing mortgage loans) can lower savings, and thus reduce growth. Stiglitz (1996), op. cit and others have argued that the limits on consumer credit in South East Asia are a fairly important factor in explaining high savings rates in Asia, furthermore, rapid growth of consumer credit in Mexico in the early 1990's is seen as having contributed to the sharp fall in the savings rate in that country (Calderon, 1996; Griffith-Jones, 1996). Even the development of stock markets, which reduces risk of rate of return, may lower precautionary savings. Bencivenga and Smith, op. cit, and others incorporate the fact that development of banks may reduce the savings rate, but identify conditions under which the growth enhancing effect of financial intermediation is larger than the negative impact of the lower savings rate. Pagano (1993), op. cit takes a more cautious view, while Levine (1991) assumes a constant saving rate. This seems as area where more case study and empirical analysis is clearly required, particularly for low-income countries.

A separate question arises about the potential effects on private and national savings of introducing mandatory pension plans, as well as the replacement of pay-as-you-go pension systems by fully funded plans. (Schmidt-Hebbel, Serven and Solimano, 1996). Recent research at the World Bank (for example, Arrau and Schmidt-Hebbel, 1993) the I.M.F. and ECLAC (Uthoff, 1996) show - contrary to what was assumed previously - that the long-term direct effects of tax-financed transitions in pension reform on variables such as savings are fairly small and occur only in the long term. However, the indirect effects on savings and long-term growth via deepening and development of the capital markets seem to be far more important, and to take place relatively soon after the reforms have taken place.

On the other hand, there is some evidence that Singapore's fully funded Central Provident Fund has increased total savings and that in Chile the replacement of fully funded for pay-as-you-go systems has contributed to Chile's large increase in private saving, though there is quite a lot of dispute about in what magnitude.

Little research has been done on the implications of pension fund reform for low-income countries, and this may be an important area for policy relevant research.

Another way in which borrowing constraints can affect growth is by affecting the structure of investment; thus liquidity constrained households may buy smaller and cheaper housing, which may redirect savings away from residential towards non-residential investment. De Long and Summers (1991) find that growth is much more strongly associated with machinery and equipment investment than with other components of investment, such as residential housing. As a consequence, certain types of financial development of housing credit could lead to lower growth, not just via lower household savings but also via lower productivity. On the other hand, in developing countries investment in housing does have important positive effects, in that it tends to be relatively labour intensive and intensive in use of local inputs.

There is also a clear positive link between increased household borrowing and growth, if households borrow to finance the accumulation of human capital, in particular for training or education (De Gregorio, 1992). This is particularly relevant for countries where human capital formation is self-financed by households, and perhaps less relevant for low-income countries, where governments still finance a higher proportion of education and training. Again more research is needed to clarify these links for low-income countries.

Important progress has been made in understanding the links between finance and growth. It is interesting, however, there is practically no analysis on the link between finance and the broader variables included in development additional to growth, such as income distribution. It would seem that this dimension should be included in future research, both theoretical and in case studies.

This theoretical and empirical review leads us to conclude that much of financial development can make an important contribution to growth. However, certain styles of financial development (very rapid and extreme liberalisation in a context of large macro-economic imbalances and poor regulatory structures) and specific developments in certain sectors (such as household credit) may have detrimental effects on savings, as well as on other variables.

In the case of S.S.A. low-income countries, most of them are at an early stage of financial development, with commercial banks apparently dominating the formal financial system (though with increased importance for stock exchanges). Ownership of banks by governments is still common. In the past, policy towards the banking sector has on the whole

tended to fit the general characteristics of financial repression. However, recent financial liberalisation has been tentative and so far had relatively limited success. The key policy issue is not whether further liberalisation is desirable, but rather when and how financial liberalisation and development should be brought about.

Conclusions and suggestions for further research on the financial sector

A very important new agenda for further research has opened up in the field of finance and development. This is in a context where there are no longer doubts about the importance of finance for development, as had been reflected in Joan Robinson (1952) phrase "By and large, where enterprise leads finance seems to follow". The 1989 World Bank World Development Report synthesised the importance increasingly attached to this issue, by devoting a whole report to it and concluding that there was "a central role for finance in development".

A first point to make is that relevant research on low-income countries is not mainly to be based on further econometric cross-country work. There may be some interest in assessing whether low-income countries are different in the link between financial development and growth, though most of the recent empirical evidence suggest that they are similar (King and Levine, 1993 a and b; Montiel, 1995). However, given the difficulty in explaining why S.S.A. countries grow relatively less (in cross country growth regressions), this issue could merit some further study. Such cross-country studies might somewhat help assist policy-makers identify conditions under which financial liberalisation and development can be particularly beneficial. However, such studies are unlikely to help design financial development and liberalisation strategies in low-income countries. Thus a far higher research priority needs to go to country specific work. A first category of countries is those where a large proportion of the banking sector is insolvent and inefficient, with a very high proportion of bad debts on banks' portfolios. The type of issues to be addressed in those countries are: i) how can the provision of the most basic banking services be most efficiently restored? ii) how can the bad debts of banks be significantly reduced, without excessive fiscal cost and without - as in the past - leading to a recurrence of high levels of bad debts? Does bank privatisation lead to non-recurrence of bad debt problems? A second category of countries are those where banks are basically sound. What were the reasons why they have basically remained sound, and what lessons can they and other low-income countries draw from this favourable experience? In these countries - as well as in the previous category - how can their financial system be further developed, for example to broaden access to S.M.E.'s without incurring repayment problems? What are successful relevant experiences in low-income countries, and in middle-income countries (e.g. Indonesia). What can be learned

particularly from successful experiences as regards institutional structures, incentive systems to bank employees and borrowers, etc. that can be applied to low-income countries? Why particularly in S.S.A., small indigenous private banks seem to be better at lending to S.M.E.'s? How much is this due to their better information on S.M.E.'s? (This latter links to the theoretical discussion above of asymmetric information).

How much emphasis should be placed, and resources used, on making S.M.E.'s more creditworthy and efficient; how could this be best achieved? Indeed, the identification of real-sector policies conducive to the creation of a vigorous private entrepreneurial class is also an important research issue in the area of financial development.

A second point to make is that future research, both empirical and in case studies, needs to examine the impact of financial liberalisation and development on growth and development in specific markets. Thus, expansion of bank credit to companies should be analysed separately from the role of the stock market, though their links need to be carefully analysed. Within bank credit to enterprises, it may be valuable to distinguish between rural and urban credit, and particularly distinguish credit for micro-enterprises, S.M.E.'s and large enterprises, and, where still relevant, to private and state enterprises. The type of issues shown by the theoretical literature to be important - such as asymmetry of information, imperfect enforcement of contracts, moral hazard - should illuminate the context within which specific sectors and case studies are analysed. Besides bank credit to enterprises and capital markets, other parts of the financial sector need to be examined separately. These include credit to households (by banks as well as by non-financial firms) and pension funds. As discussed above, pension fund reform has in countries like Chile had an impact not just on the level savings, but particularly on the deepening of financial markets, which has improved the efficiency with which savings is channelled to investment (Uthoff, 1996). The possibility of channelling finance from pension funds and other local institutional investors to long-term investment, such as for example private investment in infrastructure has begun to be explored with some success in middle-income countries; their relevance for low-income countries needs to be assessed. More generally, the issue of mechanisms in low-income countries to attract long-term funds and channel them productively to long-term investment is of central importance and requires further research.

Development of local institutional investors - such as pension funds, but also insurance companies and mutual funds - will not only contribute to development and deepening of stock exchanges, but will also allow local investors a greater share in privatising companies, and facilitate the process of privatisation itself. Research should illuminate what policy measures should be taken by governments to encourage the development of local institutional

investors and stock exchanges. What enabling legislation and measures are required? What regulations are necessary, e.g. custodian arrangements, insider trading regulation? What is the best institutional regulatory structure? Should stock markets in low-income countries regulate themselves, should it be done by the Ministry of Finance or should a special Securities Exchange Commission be set up? These issues are important not just for providing security to domestic but also to foreign investors. What lessons can be learned from the serious problems on the Bombay Stock Exchange; how can they be applied to other low-income countries?

Reform of the banking system is a particularly high priority area both for research and for policy-making in low-income countries. Such reforms should have two objectives: create a banking system that a) contributes most to growth, through the channels outlined above and b) avoids financial crises, which are not only disruptive of growth, but can have a very high fiscal cost. It is also important to avoid such failures, as they reduce the reputation and support for the overall reform process.

Fragility of banks, banking crises and their inter-action with macro-economic disequilibria is a growing area of concern worldwide, in developing countries and also in low-income countries. A recent I.M.F. study of 181 member countries found that, over the last 15 years, no fewer than 133 had suffered significant problems in their banking sectors, and in 36 countries, the problems had reached the level of a full-blown crisis. Policy-relevant research is required to establish, in specific institutional contexts, the pre-conditions and modalities for successful banking reform. Of importance are: a) when and how should government banks be privatised? b) At what speed and with what timing should liberalisation of banks' portfolios be done? c) How should information capital be built and rebuilt? d) How can the cost of information be reduced and quality improved, for example by developing the accounting and auditing profession. e) How should bank staff be trained in risk evaluation, as well as designing appropriate incentives to encourage appropriate lending. f) How should appropriate regulation and supervision be developed and improved not just in legal terms but also in terms of proper implementation? g) What supporting measures/legislation needs to be adopted to permit borrowers to offer collateral (by clarifying property rights and by privatisation), and to facilitate and reduce the cost of contract enforcement (by improving the efficiency and impartiality of the court system, by clarifying bankruptcy procedures and by easing their implementation)?

Interesting new conceptual issues, with a lot of policy relevance have arisen in several of these areas. For example, in the field of banking regulation the view has recently emerged, particularly in certain Latin American countries (Arzbach, 1996, Hausmann 1996) that the

minimum prudential capital adequacy ratio established for banks by the Basle framework (developed initially for the industrialised countries) may be insufficient for developing countries, given the higher risks occurring. As a consequence, countries like Argentina have adopted already a capital adequacy ratio higher than the minimum 8% adopted by Basle.

More generally, the issue needs to be evaluated whether other developing countries - e.g. low-income ones - should also have higher capital adequacy ratios than the minimum established by Basle; furthermore, should additional prudential regulations for banks - e.g. liquidity requirements - be adopted in low-income developing countries, to take account of the fact that assets and liabilities may be more volatile than in industrial countries? Naturally the costs of additional regulation (to governments, but particularly the impact on banks' costs, which will be transferred to their customers) need to be evaluated jointly with the benefits of a more stable and solvent banking system.

As mentioned above, a particularly important issue which requires research in low-income countries is how to deal with the problem of bad banks' debts. General research is needed for designing programmes that conciliate the need to strengthen banks, provide incentives for them to make new loans to efficient enterprises, (including S.M.E.'s) minimise direct and indirect negative fiscal impact of "cleaning" bad debts, and minimise moral hazard. Lessons (positive and negative) need to be drawn on how such problems have been dealt with in transition, (see Griffith-Jones and Fitzgerald, 1995) and middle-income developing countries.

It is crucial to understand why in certain low-income countries, bank recapitalisation has been followed by renewed bad debt problems. What can be done to stop this vicious circle? Is one of the options to close down certain banks? What would be the costs of that option, in terms of reducing financial intermediation?

A related issue is what explains the survival of some small indigenous banks in certain S.S.A. countries in spite of extremely unfavourable circumstances, such as inappropriate regulation and supervision? Is it because they are more competent at lending to certain sectors, such as S.M.E.'s? Or is it because these banks hold Treasury Bills, trade in dual exchange markets or even behave corruptly? Particularly if and where indigenous banks are shown to lend without major losses to S.M.E.'s what can be done to strengthen those banks?

What explains high spreads in low-income countries' banks, especially in S.S.A.? Are they due to lack of competition, to the high level of non-performing loans in the portfolio, or other causes? What role in this and other aspects (e.g. improved expertise, lower costs, facilitate access to international credit) can the entry of new foreign banks play? Given the reluctance

of foreign banks to set up branches in S.S.A., (interview material) what can be done to attract them?

A2 Other determinants of investment

It is important to stress first that ex-post investment is equal to the sum of domestic and external savings. In the case of S.S.A., national saving rates have fallen steadily since the early 70's. Indeed, S.S.A. average gross national saving ratio to G.D.P. fell from 10.5% during 1965-73 to a really low 6.4% in 1984-93 (Schmidt-Hebbel and Serven, 1996, based on World Bank data). The growing gap between domestic investment and national savings has been filled by foreign savings, and particularly by foreign aid (with total foreign savings reaching more than 10% of G.D.P. since the late 1970's). This dependence on foreign savings and particularly on foreign aid, to fund investment is problematic for many reasons; however, it is particularly so at present due to the declining trend of aid. As a result, in the case of S.S.A., low domestic savings is a major problem, which constrains - and is likely to do so even more in the future - investment and growth; raising domestic savings is thus a necessary condition for higher growth in S.S.A. It is interesting that foreign bankers and portfolio investors increasingly perceive S.S.A.'s low savings rates as a major factor, that inhibits their willingness to lend and invest in the S.S.A. region (based on interview material).

The World Bank is beginning to undertake a major research project on saving mainly focused on econometric work (Schmidt-Hebbel and Serven, 1996). The World Bank work on Africa will try to shed light with econometric estimation and simulations on S.S.A.'s very bad savings performance, to explain why S.S.A. has a lower private saving rate than other regions. Given the importance of the subject for Africa's investment and growth performance, there seems to be a case for further complementary research to that of the World Bank on how to encourage domestic savings in S.S.A. in specific country and institutional contexts. For example, when studying (as discussed in section A.1) the role of financial institutions to channel more efficiently savings to investment, parallel research could be valuable on how those same - as well as other - institutions could encourage savings, particularly of the household sector? How could both government and enterprise saving be increased?

As regards investment, before examining factors other than the financial sector, that determine its' level, it seems useful to show the evolution of total investment in S.S.A., and South Asia and compare it with that of other developing regions. The first striking fact in Table 1 is that, according to these data, total investment as proportion of G.D.P. was actually

quite high in S.S.A. in the seventies, and has declined significantly since; South Asia's investment ratio is incredibly constant, as according to these data, is Latin America's investment ratio (ECLAC data show somewhat different trends). East Asia - as is well known - shows a rapid and steady increase in the investment ratio. S.S.A.'s investment ratio in the first half of the 1990's is clearly the lowest of the four regions, though not that much lower than in Latin America and South Asia.

TABLE 1

Total Investment (as proportion of G.D.P.) - Weighted Averages

	Average 70-79	Average 80-89	Average 90-94
Sub-Saharan Africa	25.8	19.3	16.3
South Asia	20.0	18.8	20.0
East Asia	24.6	27.6	34.0
Latin America and Caribbean	20.5	20.6	19.2

Source: Data based on Jaspersen et al "Trends in Investment in Developing Countries" IFC Discussion Paper 28

As regards determinants of investment (other than the financial sector), a first important insight is Keynes' (1936) contribution that private investment is intrinsically volatile since any rational assessment of the return on investment was bound to be uncertain; the "animal spirits" of private investors would, as a consequence, be the main force in investment decisions.

Recent theoretical and empirical work on the determinants of investment deals with issues of uncertainty and irreversibility (Dixit and Pindyck, 1994 and Pindyck and Solimano, 1993). This approach could be very fruitful for S.S.A., given that uncertainty seems to be a major impediment of investment there, particularly for F.D.I. (interview material). The key point of this theoretical literature is that risk factors can have a very negative effect on irreversible investment. Intuitively, if the future is uncertain, investments today create the risk that the company can be stuck tomorrow with excess capital, which it cannot sell without a major

cost. Indeed, the scrap value (or recovery cost) is smaller than the cost of investment, because investments are firm-specific and cannot easily be sold on the secondary market.

The uncertainty and irreversibility approach emphasises that:

- a) investment decisions face uncertainty about future benefits and costs; investors can only attach subjective probabilities to net returns of projects;
- b) investors can postpone the investment decision, allowing them to get additional information, that may reduce investment uncertainty and
- c) most investment decisions are partly or completely irreversible

Within this perspective, the new option approach, as called by Dixit and Pindyck (1992), derives a rule for the investor that the anticipated return on the new investment must exceed the cost of the investment by an amount equivalent to the value of keeping the investment option alive. This is because investment today carries an additional cost in the loss of the option to invest tomorrow. Recent empirical studies confirm the practical relevance of this approach (Pindyck and Solimano, op. cit). At the corporate level, the value of waiting may be considerable, especially in a highly uncertain environment like the S.S.A. one.

Econometric work for developing countries (Serven and Solimano, 1993) and for some S.S.A. countries (Oshikoya, 1992) show that in the face of uncertainty, investment can have strong inertia and an insensitivity to improvements in profitability. Oshikoya, op. cit finds that for S.S.A. uncertainty about macro-economic policies and instability of key variables (particularly volatility of G.D.P. growth and exchange rates) had a negative effect on levels of private investment during the 1980's. Recent interviews, carried out by the author, of foreign direct investors in S.S.A. revealed that several of them discount very heavily (or even totally) expected medium term returns on investment (e.g. in 5 years time) due the perceived high level of uncertainty on both economic and political future development, even in countries that are seen to be fairly successful at present.

Thus, the option perspective on investment is particularly relevant in conditions of economic and political instability.

Large external shocks or political conflicts create considerable uncertainty about variables critical to the investment decision; this increases the value of waiting for new information. Even when conditions (both external and domestic) improve, it can take a long period before potential investors revise their expectations, which can imply long periods of low investment after a successful adjustment programme.

Oshikoya, op. cit raises the complex issue that, structural adjustment and stabilisation can have an adverse short-term effect on private investment partly caused by the initial decline in output growth. However, the problem is that without a sufficient recovery of investment, resumption of long-term growth in many S.S.A. countries could be jeopardised, which can have negative effect on the future of structural adjustment programmes. As a consequence measures that will encourage recovery of investment after structural adjustment are essential.

The fact that declining investment is perhaps the most negative measured impact both of structural adjustment and stabilisation programmes is fairly well established in the empirical literature, produced both by academics and by the Bretton Woods institutions. Thus, detailed evaluations of World Bank structural adjustment programmes, (Mosley, Harrigan and Toye 1991; World Bank, 1989; Corbo and Webb, 1991) consistently show both low and often declining post-programme investment levels. As regards low-income countries, Loxley (1984) found investment rates fell throughout I.M.F. programmes. More recently Killick (1995) tested the impact of I.M.F. programmes for 16 developing countries, and found that there was a statistically significant evidence that the brunt of reduced absorption fell on fixed investment, which declined significantly over the whole programme period. Killick op. cit points out that if Fund programmes have the effect of bringing excess capacity into utilisation, temporary reductions in investment can be consistent with continued growth; what is problematic when depressed and declining investment becomes a constraint on future growth. It is also interesting that Killick op. cit finds a decline in investment as the only major economic cost of I.M.F. stabilisation programmes, as on the whole I.M.F. programmes - according to his study - have rather limited economic effects.

Though much empirical research has been done on the links between structural adjustment and stabilisation with declining investment levels, more specific research (e.g. at a country level, by types of investors) is required to define mechanisms and incentives that will lead to increased investment in the context of structural adjustment.

The new approach described above to analyse the role of uncertainty in determining investment has important policy implications, as in a context of uncertainty investment seems to be less responsive to incentives such as subsidies and tax concessions; as a consequence, relatively large incentives may be necessary to counteract the negative effect of high levels of uncertainty on investment. This is consistent with Daniel's (1991) conclusion that specific incentives, investment codes and institutional devices to promote F.D.I. are not that effective. A recent study on effectiveness of tax incentives on investment for developing countries (Shah, forthcoming) concludes that this is severely limited by the weakness of tax administration and by market distortions, such as credit rationing; as a consequence, tax

incentives may affect the allocation of rents more than they affect investment decisions. Furthermore, loss of fiscal income - implicit in such schemes - has clear opportunity costs. More than specific tax incentives, Shah op. cit concludes, it is the stability and predictability of the tax regime which is a pre-condition for the effectiveness of investment incentives.

The evidence is however not totally conclusive. For example, tax incentives in certain regions in China seem to have been effective in helping attract F.D.I. Furthermore debt-equity swaps, which provided often fairly large subsidies to foreign investors, seem to have been very effective in helping attract back foreign direct investment in the 1980's to Latin American countries, emerging from structural adjustment (Griffith-Jones, 1992). The potential relevance for that type of schemes to help spark off initial interest by foreign investors which may then lead also to future higher levels of investment in low-income countries needs further evaluation. Furthermore, theory tells us that some tax or other incentives, can be justified in situations of market failures such as imperfect information among international financiers about low-income countries or in a context of imperfect competition, as in the absence of such incentives, the level of investment may be below the socially optimum. The problem of inadequate information, as well as of negative perceptions of certain countries, may provide a particularly important case both for specific measures to try to overcome those problems as well as possibly for providing some initial tax concessions or other incentives.

The need for specific tax incentives for this type of purpose may require further evaluation, as will the optimum modality; to whom and when should the incentive be given? Should the incentive be given to the foreign investors or, for example, to local banks which attract new investors to the country? For how long? Should it be automatic or discretionary? Should it be given for some sectors or across the board? It is therefore necessary to identify by research the specific problem to be addressed (e.g. poor information on country, anti-Africa bias of investors) and then define the best interventions to overcome such problems.

Clearly, however, a key way to promote either domestic or foreign investment in low-income countries is to provide a broad supportive and stable policy and institutional framework. This includes: a) macro-economic stability, b) well defined and effectively enforced code of property rights and c) democratic, stable and accountable governments.

A democratic and accountable government will increase the credibility of government economic policies. The important role of policy credibility and sustainability in determining private investment decisions has been highlighted for example by Rodrick (1990). This issue is particularly relevant to S.S.A. countries, where investors seem not to believe in the

sustainability of policies. Thus, issues of governance and of politics are also important in determining investment levels. The nature of the links may require additional research.

A related issue is that of corruption; its existence on a large scale can be a major factor discouraging investment, as it significantly increases the cost of doing business. Recent cross-country work by Mauro (1995) shows that higher levels of corruption are associated with a significantly worse than average investment performance. Recent interviews have also shown that for several S.S.A. countries, corruption - or perception of widespread corruption - is an important disincentive to foreign direct investment. The cures of corruption are of course complex; they include not just institutional measures, but may require higher salaries for civil servants, as in many - though not all - cases, corruption is caused by very low salaries in civil service.

Another important issue is the link between public and private investment. Till recently, the literature had focused on the impact of aggregate public investment on private investment. As Serven and Solimano, *op. cit.*, argue such aggregated analysis can be quite misleading for developing countries where the state carries out many and diverse activities; in this context, different types of public investment have different effects on private investment. Thus, public investment in roads, telecommunications, ports, etc. will clearly increase the profitability and feasibility of private investment; similarly, public investment in education will have the same effect, by increasing the skills of the labour force. There is a great deal of empirical evidence that investment in human capital not only increases the profitability but also the productivity of new physical investment. On the other hand, public investment in industry and commerce, (which competes with the private sector) will probably discourage private investment. Easterly and Rebelo (1993) in a cross-country study find some empirical evidence that these hypothesis are correct. It is interesting that they find that the largest effect - on private investment and on growth - relates to public investment in transport and communications.

Further research seems to be needed at a country level on what areas of public investment are most crucial for encouraging private investment, and on mechanisms to ensure that priority is given to those investments in the budget process. A key issue is how such investments will be financed; could, for example, part of the investment be privately financed? What measures would need to be taken to encourage that?

Finally, it should be stressed that it is not only the level but also the social productivity of investment that is important for growth. The former socialist countries provide extreme examples of cases where distortions in the economy were so severe that increased investment

actually lowered social welfare and did not increase growth. Thus, the productivity of investment will not just be increased by crucial complementary investments in human capital, but also by eliminating large economic distortions such as high tariffs.

A3 Foreign capital flows and their management

During the last three or four years, there has been a growing amount of literature on private capital flows to developing countries and the issues related to their management. Initially, attention focused on the increase of these flows, their causes and nature. Gradually, it moved to their macro-economic impact and the policies for their management. Following the Mexican peso crisis, analysis has focused on the issue of sustainability of flows, on how to avoid currency crisis and how to better manage them both nationally and internationally if they unfortunately happen.

Most of the writing has focused on Latin America (for example French-Davis and Griffith-Jones 1995; Calvo, Leiderman and Reinhart 1993) or on Latin America and East Asia compared (Khan and Reinhart, 1995; Reisen, 1995). There has been relatively little analysis of Eastern Europe, with one exception being the ODA/EU funded project on capital flows to Eastern Europe, directed by Griffith-Jones. Analysis of Africa has been even more rare (with only Asea and Reinhart, 1995 and Kasekende, Kitabire and Martin, 1996). One major reason for the lack of attention to Sub-Saharan countries has been that the scale of capital flows to other developing regions appear to dwarf flows to S.S.A. However, the relevant way to judge the scale of capital flows is to do so in relation to macro-economic variables such as G.D.P. It is very interesting that the paper by Kasekende, Kitabire and Martin, op. cit concludes that if returning capital flight and other flows misrecorded under "private transfers" as part of the current account is included in capital flows, some Sub-Saharan countries have reportedly seen capital inflows relative to G.N.P. larger than Asia or Latin America. This conclusion assumes a particular interpretation of the data; it needs to be stressed in this context that data on capital flows to Africa are extremely unreliable, with inadequate recording systems in many countries leading both to the under-estimation and miscategorisation of capital flows in S.S.A. An ongoing research project led by Matthew Martin on capital inflows and macro-economic policy in five Sub-Saharan countries (South Africa, Tanzania, Uganda, Zambia and Zimbabwe) will amongst other aspects focus on the crucial issue of improving the data. However, further work is required on the data issue not only in other Sub-Saharan countries, but also in the five countries listed above, given the magnitude of the task.

Though apparently some S.S.A. countries have fairly large private capital flows, and occasionally have suffered from over-abundance many other S.S.A. (e.g. Mozambique and Tanzania) and other low-income countries suffer from periodic foreign exchange shortages, with very problematic effects.

Perhaps even more than in other developing countries, low-income countries face important challenges; a) to attract sufficient long-term capital flows b) to have adequate macro-economic management of capital flows, so as to avoid these flows resulting in excessive over-valuation of the currency and/or excessive inflationary pressures, as well as to minimise the risk of costly foreign exchange crisis occurring should the more short-term flows reverse, themselves and c) to strengthen prudential regulation of banks to avoid capital inflows increasing banks' fragility. A foreign exchange crisis (à la Mexican peso crisis) in a low-income country would be particularly damaging, given the fragility of financial systems and of the whole economy, given the large number of people below or close to the poverty line and given the rather low probability that significant international resources could be rapidly mobilised for a rescue package of a low-income country.

In what follows we will first put the analysis of capital flows in a broad analytical framework relevant for all developing countries and we shall then identify issues and gaps where further research is required for low-income countries.

A first general point to make is that external capital flows have long been assigned an important role in development. Amongst the positive effects of external capital flows are: a) they are seen as mobilising external savings, which it is hoped will mainly supplement domestic savings, and thus raise investment, growth and employment; b) they are seen as contributing to smooth out expenditure over time, for example if a country faces a sharp deterioration in its terms of trade, as often low-income countries do; and c) these flows are expected to increase the micro-efficiency of production, by causing lower intermediation spreads between lenders and borrowers. Far more important for low-income countries, micro or sectoral efficiency can be expected to be boosted by the transfer of technology and management know-how, which often accompanies particularly foreign direct investment, (see Devlin, French-Davis and Griffith-Jones, 1995). Therefore, we can conclude that private capital inflows have important beneficial effects to help fund the increased investment required for an acceleration of economic growth in low-income countries.

However, external capital flows can also have problematic effects on domestic economies. Even though these are to a great extent the problems of success, nevertheless their negative effects can be seriously magnified if the flows are badly managed.

The first central issue is that of the potential temporary nature and potential volatility of some capital flows, and of the high costs for domestic economies which can be incurred by such volatility. As economic history and economic analysis (Kindleberger, 1978; Davis, 1992; Calvo and Mendoza, 1995) have taught us, international private capital markets are sometimes characterised by successive periods of over-lending (and over-investment) followed by underlending (and under-investment), often resulting in costly financial and / or debt crises.

Furthermore, the concern has been raised that as such a high proportion of private capital flows to low-income developing countries are channelled via short-term flows; this generates an important additional source of volatility. Again further empirical work is required in the low-income countries to establish more precisely the composition of the flows. An important distinction in this context is the extent to which capital flows are likely to be permanent or temporary (and thus volatile). It is difficult to judge ex-ante the 'temperature' of flows, that is how 'hot' or 'cool' they are (see, Claessens *et al.*, 1995 and Reisen, 1995). However, it could be very useful also for low-income countries to follow Turner's (1991) ranking of capital flows ranging from the most permanent to the most temporary: 1) long-term bank lending; 2) foreign direct investment; 3) portfolio investment; 4) short-term bank flows. For the first two categories, additional flows or their servicing can vary but the existing stock remains for a long period. For the latter two the stock can fairly easily flow out. Though data exist for low-income countries, they often have severe problems of classification, which need to be tackled.

A second central issue about foreign capital flows relates to their use in the recipient economy, and in particular to their impact on productive capacity. In this context, it is important to ascertain what proportion of these external flows in low-income countries go to investment in the recipient country, how productive this investment is, and what part of it goes - directly or indirectly - to the production of tradables. If a large proportion of the capital flows go to increase investment, if such investment is efficient and if a high proportion of the output generated by the new investment goes into tradables, this both improves the long-term impact of external capital flows on the recipient country's growth and its more short-term ability to cope better with changes in the volumes of external capital flows.

The middle-income country experience shows a rather sharp contrast between Asia and Latin America. Indeed, in Latin America the turnaround in capital flows between 1984-89 and 1990-93, which was of 4.0 per cent of GDP, was accompanied by an increase of a mere 0.4

per cent of the average investment ratio. This is in sharp contrast with the Asian experience, where an increase in 1.6 per cent of GDP of capital flows was accompanied by a 3.5 per cent increase of the average investment ratio (Griffith-Jones, 1995). In the case of S.S.A. reliable data on savings and investment is rare; data on composition of imports is somewhat out of date. Refinement of the data in this context are also important, as studies up to now have produced ambiguous results (Asea and Reinhart op. cit).

The different effects of capital flows to Latin America and Asia on the composition of aggregate demand are one of the key factors which play a role in determining whether the real exchange rate appreciates or not. Indeed, as Calvo, Leiderman and Reinhart (1993) have argued, if the increased investment (in Asia) is tilted more toward imported capital goods and the increased consumption (in Latin America) has an important domestic component, other things being equal, the real exchange rate appreciation in Latin America would tend to be stronger than in Asia, as was indeed the case. The other key factor which determines the evolution of the real exchange rate is the macro-economic policy response to the surge in capital flows, related to the decision of the economic authorities whether they wish or not to resist the appreciation of the exchange rate leading to 'financial Dutch disease' - which results from large external capital inflow. This is one of the main challenges posed for macro-economic management of external capital flows, which has been little discussed in the context of low-income countries.

The unwillingness of the Asian countries' economic authorities to accommodate external capital flows with an upward float of the exchange rate - and the resulting impact on monetary aggregates - implied that during the capital surge episode analysed inflation increased though from fairly low levels, in most Asian countries. In sharp contrast, several Latin American countries - and especially Argentina, Mexico and Peru - gave very high priority to reducing inflation, and to using an overvalued exchange rate for this purpose. However, if we follow the story through, the least successful story - even as regards inflation - is the Mexican one. Though in the short-term (till December 1994), the Mexican authorities successfully used an overvalued exchange rate to lower inflation to one digit levels (an achievement to which they attached very high priority), the excessive overvaluation of the exchange rate and the resulting very large current account deficit assumed continued very high levels of external capital flows. When the trend changed, and then reversed brutally, the resulting collapse of the Mexican peso started provoking a very rapid acceleration of Mexican inflation, reaching around 50 per cent (ECLAC, 1995). Therefore, the more prudent approach towards exchange rate appreciation and inflation reduction pursued by the Asian countries - and to a lesser extent by Chile - seems to give more satisfactory results in the medium-term for the domestic economy, including for inflation, and therefore is more likely

to contribute to the sustainability of capital inflows in the medium-term. Research is required about whether this type of conclusion is also applicable to low-income countries.

As Williamson (1994) and others (I.M.F. 1995) show, governments faced with large capital inflows, have a variety of alternative policy instruments which can be deployed. The right mix for a particular country will depend on domestic country circumstances (such as depth of financial markets in the case of low-income countries), on a perception of what proportion of the flows are likely to be permanent and on policy objectives.

It would seem desirable that amongst the policy objectives countries should follow in this context are: 1) maintain international competitiveness, which is particularly crucial for very open economies; 2) avoid over-reliance on short-term capital flows, which may either decline or reverse themselves; 3) encourage more long-term capital flows; 4) avoid risk of future debt or foreign exchange crises and 5) attempt to complement increased external savings with higher domestic savings.

It seems useful to order in three levels the policy measures that can be pursued to manage capital flows (see ECLAC, 1994). An initial level of intervention arises in the foreign exchange market. The purpose of intervention is to moderate trends towards excessive appreciation of the real exchange rate, since this rate has become one of the main instruments of export promotion. This point was well summarised by the President of the Central Bank of Chile (Zahler, 1992): 'If the exchange rate remains below equilibrium for too long, it will have at least two kinds of undesirable effects. First, the tradables sector of the economy may be hurt. It is a well known fact that many of the economies that have been successful in recent years (especially the small ones) have based their development on the growth of the export sector ... Second, ... sooner or later the value of the currency will have to return to its level of long-term equilibrium (or even rise above it for a time), and this will put pressure on prices, thereby jeopardising the goal of curbing inflation.'

At the first level of intervention two very different options can be taken depending on how central banks respond to increases in capital inflows. One strategic response is not to intervene at this first level (not to accumulate reserves). In this case, capital flows would not bring about any changes in the international assets held by central banks and their entire increase would put pressure on the exchange market to reevaluate. In this way, the international capital market is used for funding an increase in the current account deficit that will lead to increased investment and / or consumption. The alternative strategic response occurs when the central bank intervenes at the first level by accumulating reserves. In this situation, a second decision must be taken whether or not to sterilise the effects of the

accumulation of reserves on the money supply. There has been an important debate in the literature (Reisen, 1993 and Calvo et al, 1993) about the costs and benefits of sterilisation. However there has been no in-depth analysis of this issue for low-income countries, even though as a result of sterilisation and other policies, interest rates have at times been very high in countries like Kenya, Zambia Uganda and Zimbabwe; this has further attracted private inflows, particularly of a short-term nature (Kasekende, Kitabire and Martin, op cit). At this second level, intervention involves choosing between an active or a passive monetary policy (in terms of managing aggregate demand), which also determines its relationship with stabilisation.

In the third instance, countries can always consider revising the nature of the capital account liberalisation in order to regulate the composition of inflows. A third level of intervention then occurs. For example, some countries (like Chile, Colombia and several Asian ones) have chosen to prevent or discourage the entry of short-term capital which does not contribute to the investment process.

To sum up, policy options are available at three levels: i) intervention in the foreign exchange market through an accumulation of reserves compatible with the various aspects of exchange rate policy; ii) Central Bank sterilisation of the monetary effect of the accumulation of reserves in order to influence the level and composition of aggregate demand; iii) regulation of capital movements in order to alter their level and composition in favour of more long-term flows. In the case of low-income countries, these measures may need to be accompanied by measures to attract long-term capital flows.

The possible combinations between the first and second levels of intervention yield different mixes of exchange rate policy and monetary policy which make it possible to distinguish two major intervention alternatives. The first, favoured by countries which have chosen to maintain a passive monetary policy, is that known as **non-sterilised intervention**.

The second alternative, adopted by countries which, together with defending the exchange rate, have chosen to pursue active monetary policies, is known as **sterilised intervention**. The purpose is to isolate the money stock from fluctuations stemming from the mobility of foreign capital. This type of sterilisation, if effective, prevents domestic real interest rates from falling. This has the advantage of helping control aggregate spending and preventing further appreciation of the real exchange rate. However, with this option, if interest rate differentials persist, capital inflows continue to be stimulated, generating further needs for sterilisation; at the same time, the intervention may be a source of quasi-fiscal deficits, since the Central Bank is placing commercial paper in the domestic market at higher interest rates

than those it obtains on its international reserves. These quasi-fiscal losses may be partly offset by a subsequent capital gain derived from the appreciation of foreign exchange reserves.

The two problems of sterilisation just mentioned (higher interest rates leading to continued inflows and the quasi-fiscal cost of sterilisation), problems which have been important in low-income countries, imply that it may also be desirable to use mechanisms other than issuing government paper for sterilisation. The monetary impact of capital inflows can also be neutralised by raising the reserve ratio for banks. Reportedly some S.S.A. countries (e.g. Kenya and Tanzania) have used variations of reserve requirements. However, it has been argued (Williamson, *op cit.*) that high reserve ratios may impose costs of a different type, by reducing the efficiency of the financial system as borrowers are diverted away from those lenders subject to high reserve requirements to others that can escape that condition. This is particularly problematic in countries with weak banking systems, as many low-income countries have. As some Asian countries do, another way of achieving de facto sterilisation of capital inflows without issuing government paper is to require government controlled financial institutions to switch deposits from the commercial banks to the Central Bank. Somewhat similarly, some Eastern European governments (e.g. Czech Republic) switch proceeds from privatisation from commercial banks to the Central Bank, for the same purpose. As the process of privatisation accelerates in low-income countries, the latter may become an interesting policy option.

Complementary measures to sterilisation (which can reduce its cost) can include: i) increase the demand for foreign exchange through incentives for the outflow of capital; this can be done by relaxing the rules governing investment by nationals abroad and by authorising domestic institutional investors to invest abroad and various debtors to make advance payments abroad; ii) liberalise restrictions on imports of goods and services; and iii) promote the introduction of mechanisms which encourage productivity increases; iv) introduce mechanisms for regulating financial systems in order to avoid distortions in the sector and remedy weaknesses in the prudential financial regulation of the banking system; these measures are more crucial in countries (like many low-income ones) which already have weak banking systems, weaknesses that can be accentuated if they intermediate very large short-term capital flows; v) pursue a more contractionary fiscal policy; this is particularly appropriate if there are significant fiscal imbalances and vi) adopt institutional measures, such as private provision of pensions and a postal savings system, to encourage increased private savings; vii) adopting measures to discourage short-term capital inflows, which can take for example the form of adjustments of the reserve requirements, often without interest, on bank deposits or other credits from abroad, as applied in Chile and Colombia.

Many of the policy measures recommended for other countries appear problematic for Sub-Saharan governments.

This is particularly true of those designed to increase demand for foreign exchange (liberalisation of capital accounts). Many non-C.F.A. S.S.A. countries have de facto liberalised capital accounts due to poor monitoring/recording of capital flows under the current account, which make the current account liberalisation "porous" (see Martin and Mistry 1995).

As pointed out above, the literature disagrees over the degree to which sterilisation through open market operations is easy, or difficult because it perpetuates interest rate differentials and creates excessive quasi-fiscal burdens (Calvo et al 1994; Frankel 1994; Reisen 1993). Reserve requirements (Reinhart and Reinhart) or moving government or other deposits from commercial to central banks or into government paper (Fischer and Reisen 1992; Reisen 1993; Khan and Reinhart 1995) are other possible options. Analysis is required to throw light on some of the problems with such measures in low-income countries with chronically underdeveloped financial systems. Some authors place emphasis on fiscal restraint, especially expenditure cuts, as the main policy tool (Corbo 1994), but the low levels of expenditure in many S.S.A. Countries may reinforce the view that long-term fiscal policy should not be distorted by short-term capital flows (Calvo and Reinhart 1995).

Finally, there has been heated debate over the desirability and feasibility of controls and taxes to influence the scale or composition of flows (contrast Griffith-Jones 1995, Williamson 1995 with Mathieson 1993); after the Mexican peso crisis there seems to be a consensus emerging that reserve requirements, quantitative restrictions, taxes and minimum stay periods can play a positive role (B.I.S. 1995; I.M.F. 1995). It will be important to analyse the applicability of these methods in countries with minimal capacity to monitor and implement controls and taxes, and which have invested so much political capital into liberalisation.

In the case of low-income countries, we can conclude that there is an important agenda for policy relevant research on attracting and managing capital flows.

Suggestions for further research on foreign capital flows and their management

The areas that need to be covered in research include:

- 1) What measures are most effective in helping attract higher levels of F.D.I. and other forms of long-term finance to low-income countries? What measures should recipient governments, donors, others, most effectively take? A reply to this question may need a study of the reasons for which different long-term investors and lenders seem more reluctant to go to low-income countries, and particularly to S.S.A.; to what extent are the reasons general and to what extent are they country specific? What measures can be taken to encourage return of capital that has fled these countries, and how can future capital flight best be discouraged?
- 2) How should low-income countries manage surges of short-term capital inflows? To what extent should, in specific country contexts, measures like sterilisation of the monetary impact of capital inflows be adopted? What are the effects on the costs and benefits of sterilisation, given the fact that domestic financial markets tend to be so shallow and banks are often fragile in low-income countries. What role should tightening of fiscal policy play? How should tighter fiscal policy be made consistent with maintaining or increasing levels of public investment, particularly given the complementarity discussed above, between certain types of public investment and private investment? What measures - if any - should be adopted to discourage Dutch Disease types of appreciation of the exchange rate, when large surges of capital flows occur and/or when these are procyclical and coincide with a surge in the prices of countries' main exports, as occurred recently in Uganda and Kenya; how could such measures be implemented in the context of floating exchange rates as are widespread in many S.S.A. countries? Should certain levels of maximum current account deficits as proportion of G.D.P. also be defined in low-income countries, as they are beginning to be mainly for middle-income countries? How should these levels be defined? If very large surges were to occur in low-income countries, should measures such as reserve requirements be used to discourage short-term flows; how could the problems of implementing them be overcome?
- 3) When and how should low-income countries liberalise their capital accounts? Is the issue so important as in the past, given that in many S.S.A. countries a large part of capital flows goes through a fairly "porous" current account? What is the correct sequencing of capital account liberalisation for low-income countries, in relation to other measures (such as stabilisation, financial sector strengthening and liberalisation)? Should all capital flows, and both inflows and outflows be liberalised at the same time in low-

income countries, or is there value in sequencing within capital flow liberalisation? Given the crucial importance of the capital account liberalisation issue for South Africa (and the complex dilemmas faced, in a context of clear need for liberalisation of capital account, but with high risks given very low foreign exchange reserves and a large potential for outflows by domestic institutional investors), it would seem valuable to carry out a case study on this issue in South Africa, linked to an analysis of determinants and trends of capital flows and exchange rate for that country.

- 4) What are the links between domestic financial sector reform and attraction, as well as management, of private capital flows? For example, how can the development of stock exchanges contribute most to facilitate privatisations and to attract foreign investment? What pre-requisites will those stock exchanges need to have for them to attract large investments? What role can the local banking sector play to help attract foreign investment? Should, perhaps banks be given special incentives, if they successfully help to attract foreign investment?

Particularly if large flows occur - and especially if a large part of them are channelled via the banking system - should additional regulatory and supervisory measures be adopted to avoid any volatility of the capital flows leading to threats to the stability of the banks, for example to take account of additional risks (e.g. exchange rate risk) that banks are bearing in case of future large devaluations?

- 5) To what extent are the capital flows being channelled to consumption or to investment in different low-income countries? (This very important issue is methodologically difficult to answer because some flows are fungible). More generally, do foreign savings in low-income countries complement or substitute for domestic savings? What part of the additional investment goes to tradeables? How best should low-income countries monitor these trends?
- 6) To what extent are intra-low-income countries capital flows an important and growing phenomenon? For example, has and will South Africa become a sort of sub-regional financial centre for both F.D.I. and portfolio flows? How are these flows linked to processes of regional trade integration? Should measures be taken to encourage such flows?

In the field of foreign capital flows two considerations should be borne in mind. First, is the need to do work to improve the quality of the data, as regards the level and composition of capital flows, their uses, etc., without imposing any onerous recording demands on investors

or lenders. Research in this field should be done particularly closely with the Bretton Woods institutions, but also with low-income country governments, and academics, so as to not only generate better data, at that moment in time, but also to make suggestions to them on how to improve monitoring of capital flows. Second, it is important that low-income countries do not repeat mistakes done in other countries, as well as learn positive lessons. It is therefore an important area of work to draw together analytically and systematically the large country experience, particularly in the 1990's, in South East Asia, Latin America and Eastern Europe, as well as the related literature produced by international institutions, academics, etc., and draw carefully the relevant lessons for low-income countries in general and for specific low-income countries or categories of countries.

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ANNEX 1

List of People Involved in Research on Finance for Development
Whom O.D.A. May Wish to Invite for Workshop²

Bob Annibale, Citibank, London, Head of Africa Division
Angela Cozzini, Cross Border Capital
Kofi Bucknor, Executive Director, Lehmann Brothers, London
Mike Faber
Maxwell Fry
Stephany Griffith-Jones
James Graham, Africa Manager, Foreign and Colonial
Charles Harvey
Tony Killick
Jonathan Leape
Matthew Martin, Director, External Finance for Africa
Percy Mistry
Paul Mosley
Machiko Nisanke
Michael Power, Barings, Simba Fund (for Africa)
Helmut Reisen, Head of Research, O.E.C.D. Development Centre³
John Toyé
Valpy Fitzgerald

² Have included private sector colleagues, who both do research and have valuable practical experience in finance for development.

³ Paris based