

**The Dual Role of Financial Markets
in Economic Development:
Engine of Growth and Source of Instability**

A survey of economic theory
with reflections on the East Asian financial crisis

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Dr. Adalbert Winkler

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Abstract

In recent years an increasing amount of attention has been devoted to the connection between financial markets and economic development. New insights in growth theory and the theory of finance establishing a link between "finance and growth" as well as the results of a large number of empirical studies suggest that financial markets can be regarded as an engine of growth. However, the empirical evidence also shows that crisis-like developments in the financial markets have occurred with increasing frequency in recent years, and that such phenomena at least temporarily limit the scope for economic development. How can one explain the fact that a sector which can be regarded as being at least partially responsible for a successful course of economic development is at the same time considered to be responsible at least for triggering crises which slow down economic development, often causing ground to be lost which it takes the economy years to regain?

The paper surveys how economic theory has dealt, or is dealing, with the dual impact of financial markets on economic development. Four theories have been selected for consideration - neo-classical and Keynesian theory, the New Development Finance approach and the new theory of finance which is grounded in the economics of information. Each emphasises different aspects of the relationship between financial markets and economic development, but so far it has proved impossible to arrive at a consensus view. Accordingly, the role of financial markets in economic development is still a controversial issue - and with good reason, as is shown by the Asian example of smooth financial development and extraordinary growth (1960 - 1996), followed by a severe financial crisis (1997). This is why, in the concluding section, the question is turned around: Does the Asian example - seen against the background of this theoretical surveys - give an indication of the direction in which theoretical research should move if it wishes to better explain the dual impact of financial markets outlined above? The answer is a clear Yes, pointing to the need for a more detailed analysis of the monetary aspects of the relationship between financial markets and economic development and of financial development itself.

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1. Introduction¹

In recent years an increasing amount of attention has been devoted to the connection between financial markets and economic development. New insights in growth theory and the theory of finance establishing a link between "finance and growth" or "finance and development"² have spurred interest in this topic, as has the appearance of a large number of empirical studies which have demonstrated a clear positive correlation between indicators providing a quantitative measure of activities of and on financial markets³ and quantitative indicators of the level of economic development.^{4,5} However, the positive connotation suggested by this literature represents only one side of the coin. The empirical evidence also shows that crisis-like developments in the financial markets have occurred with increasing frequency in recent years, and that such phenomena at least temporarily limit the scope for economic development.⁶ The East Asian financial crisis is the latest and most severe example. How can one explain the fact that a sector which can be regarded as being at least partially responsible for a successful course of economic development is at the same time considered to be responsible at least for triggering crises which slow down economic development, often causing ground to be lost which it takes the economy years to regain?

This is a question for economic theory, and it is not the first time it has been asked, given that this dual impact of financial markets characterises the economic development of basically any country. Thus, after creating a uniform basis and standard for comparison using a flow-of-funds analysis (Section 2), the following survey will seek to describe how economic theory has dealt, or is dealing, with the dual impact of financial markets on

¹ I would like to thank Katrin Berensmann, Andrea Schächter, Reinhard H. Schmidt, Marcel Stremme and Marcel Tyrell for valuable suggestions. It goes without saying that any errors or shortcomings exhibited by this paper are the sole responsibility of the author.

² See Gertler, M. (1988), Galetovic, A. (1994), Berthélemy, J.-C. and A. Varoudakis (1996), and Levine, R. (1996).

³ As used in the following, the term "financial markets" is broadly defined. In other words, it encompasses not only markets in the narrow sense (e.g. bond or stock markets), but also the activities of financial institutions which serve as intermediaries. Accordingly, financial markets are "the markets - i.e. the supply, demand and the co-ordination thereof - for the services provided by financial institutions to the non-financial sectors of the economy." Krahen, J.P. and R.H. Schmidt (1994), p. 4.

⁴ In the following the development of economies will be measured in terms of real per capita GDP. Selection of this yardstick, and its application in an empirical context, reflects the evolution of economic theory over the last 20 years. Since the late 1970s, growth theory has come to be regarded as a more useful approach to the theory of development than that formulated by the branch of economics which had dealt more explicitly, and narrowly, with this topic and which was associated with such names as Myrdal, Hirschmann and Lewis. (see Lucas, R. (1988), Krugman, P. (1993) and Klump, R. (1996).

⁵ The positive correlation between financial system development and economic growth can be measured with the help of variables which capture the level of financial asset formation in the banking system (see Goldsmith, R. (1969), King, R.G. and R. Levine (1993), De Gregorio, J. and P. Guidotti (1992), Gelb, A. (1989) and/or with various indicators of stock market development like size, liquidity and risk diversification (see, for example, Atje, R. and B. Jovanovic (1993) and Levine, R. and S. Zervos (1996).)

⁶ Caprio speaks of a "boom in banking crises", see Caprio, G. (1997), p. 2 and Johnston, B.R. and C. Pazabasiogly (1995), Mishkin, F.S. (1996), Caprio, G. and D. Klingebiel (1996).

economic development (Sections 3 - 6). Four theories have been selected for consideration - neo-classical and Keynesian theory, the New Development Finance approach and the new theory of finance which is grounded in the economics of information. Each emphasises different aspects of the relationship between financial markets and economic development, but so far it has proved impossible to arrive at a consensus view. Accordingly, the role of financial markets in economic development is still a controversial issue - and with good reason, as is shown by the Asian example of smooth financial development and extraordinary growth (1960 - 1996), followed by a severe financial crisis (1997). This is why, in the concluding section, the question is turned around: Does the Asian example - seen against the background of this theoretical surveys - give an indication of the direction in which theoretical research should move if it wishes to better explain the dual impact of financial markets outlined above? The answer is a clear Yes, pointing to the need for a more detailed analysis of the monetary aspects of the relationship between financial markets and economic development and of financial development itself.

2. Financial markets and economic development: An initial approach to the topic based on a flow-of-funds analysis

The empirically observable correspondence between the development of the financial markets and that of the real economy comes as no surprise. Indeed, in textbooks on macroeconomics and the theory of finance one need look no further than the introductory sections on the topic of financial markets to find explicit mention of the very close connections between economic activities and events in the financial markets: "Financial markets are important because they are intimately linked to every other market and every individual in the economy. ... The importance of financial markets therefore lies in their linkage with all our spending decisions, both in our personal lives and in the business world."⁷

Carrying out a flow-of-funds analysis is perhaps the easiest way of highlighting this close interlinkage of financial and real activity. Such an analysis posits that for each economic agent, i.e. at the level of individual economic units (micro level), the savings accumulated in a given period, in other words the increase in net worth, are equal to the sum of investment, i.e. the increase in real capital, plus the increase in financial assets. The term FS_{Micro} or, as the case may be, ΔFA_{Micro} may be either positive or negative depending on whether the economic agent in question shows a financial surplus or deficit during the relevant period.

⁷ Campbell, T.S. (1982), p.1. One finds a similarly worded passage in Burda, M. and C. Wyplosz (1993), p. 344.

$$(1) \quad S_{\text{Micro}} = I_{\text{Micro}} + FS_{\text{Micro}}$$

or

$$(1a) \quad S_{\text{Micro}} = I_{\text{Micro}} + \Delta FA_{\text{Micro}}$$

where:

S = savings = Δ net worth

I = investment = Δ real capital

Micro = at the disaggregated level (micro level)

FS = financial surplus, if $S_{\text{Micro}} > I_{\text{Micro}}$, and financial deficit, if $I_{\text{Micro}} > S_{\text{Micro}}$, and

FS = ΔFA_{Micro} , where FA = financial asset

Using equation (1), the central function and central characteristic of financial markets can be illuminated: Financial markets

- perform one primary function, namely, that of intertemporal and interpersonal resource transfer,⁸
- have the attribute of being monetary markets, i.e. the transactions on financial markets involve claims to the future payment of money, financial as opposed to real assets.⁹

Due to the fact that financial markets have the attribute of organising an interpersonal resource transfer, precisely this attribute recedes from view if the focus shifts to the level of the economy as a whole. Given that an economic agent or a group of economic agents - e.g. all private households or firms - can only show a financial surplus (or incur a financial deficit) if at least one other economic agent or group of economic agents has incurred an equal financial deficit (or accumulated an equal financial surplus), at the aggregate level the following applies:

$$(2) \quad \sum FS_{\text{Micro}} = \sum \Delta FA_{\text{Micro}} = \sum FA_{\text{Micro}} = 0$$

Equation (2) contains the well-known condition that the sum of all financial balances, and thus the total net monetary assets of all economic agents in an economy, must work out to zero. Accordingly, aggregate savings are equal to aggregate investment, as is specified in equation (3):

$$(3) \quad S = I$$

⁸ See Merton, R.C. and Bodie, Z. (1995), p. 12.

⁹ The link between the markets' monetary character and their function of effecting an intertemporal resource transfer emerges most clearly in a description of their function provided by Tobin: "Financial markets allow inside assets and debts to be originated and be exchanged at will for each other and for outside financial assets." Tobin, J. (1987), p. 341.

Thus, the preceding discussion may be summed up as follows:

- Financial balances, stocks of monetary assets and changes in these quantities are a manifestation of an interpersonal resource transfer.
- Financial balances, stocks of monetary assets and changes in these quantities are a manifestation of an intertemporal resource transfer on a disaggregated level. For the individual economic agent, they represent an additional means of increasing net worth (S) or of financing real capital (I). Because the formation of real capital is - apart from technological progress - the most important variable affecting economic development, and, as a result, equations (1) - (3) underscore the close relationship between financial markets and economic development.
- Financial balances, stocks of monetary assets, and changes in these quantities are monetary variables which are clearly linked, via a flow-of-funds relationship, to the formation of real capital when a disaggregated view of the economy is taken. On the aggregate level, however, financial balances, credits and debts are cancelled out, making it impossible to establish a direct connection between financial and real variables.

Thus, ever since economic theory began to study the nature of the connection between financial markets and economic development, the focus has been on three questions:

- 1) Is the interpersonal resource transfer growth-promoting? And if so, why?
- 2) Is the market relationship underlying this resource transfer particularly problematic? And if so, why?
- 3) Does the creation of stocks of monetary assets which takes place in financial markets impart to the savings/investment process a particular quality (leaving open for the moment the question of precisely how this quality might be defined) in the sense that monetary factors exert an influence on economic development? And if so, how is this influence exerted?

A review of the history of economic theory shows that neo-classical and Keynesian theory, the New Development Finance approach and the new theory of finance which is grounded in the economics of information provide four different combinations of answers to these three questions (see Chart 1.).

Chart 1: Main characteristics of theories of financial-market and economic development

	Neo-classical economics	Keynes	New Development Finance	Theory of finance grounded in the economics of information
Interpersonal resource transfer promotes economic development	Yes	Yes	Yes	Yes
Interpersonal resource transfer is problematic	No	Yes	No	Yes
Formation of stocks of monetary assets imparts a particular quality to investment/savings process	No	Yes	Yes/No	No (?)

Source: own compilation

A feature common to all theories is their *a priori* presumption that the interpersonal resource transfer promotes development. They differ, though, as to whether this interpersonal resource transfer is inherently problematic, and whether the form in which it occurs imparts a specific quality to the investment/savings process.

3. Neo-classical theory as a point of departure for the theoretical analysis

Modern neo-classical theory analyses economic activities from the perspective of a single, representative agent, comprising all private households as well as firms. The model provides – under certain assumptions: competitive markets, constant returns to scale, homogenous agents and goods, perfect foresight and information – a precise analysis of the optimality conditions of the intertemporal resource transfer, i.e. of the extent to which the representative agent should forgo consumption, accumulate capital, and allocate resources over time. Accordingly, this model provides the basis for an explanation of differences in development and growth among nations and economies world-wide.¹⁰ However, the model forgoes an analysis of the interpersonal resource transfer because, by definition, a

¹⁰ See Barro, R.J. and X. Sala-i-Martin (1995), p. 10 and p. 59ff.. The following statement by Arthur Lewis is regarded as a classic definition of the problem: "The central problem in the theory of economic development is to understand the process by which a community which was previously saving and investing 4 or 5 percent of its national income or less, converts itself to an economy where voluntary saving is running at about 12 to 15 per cent of national income or more. This is the central problem because the central fact of economic development is rapid capital accumulation (including knowledge and skills with capital)." Lewis, W.A. (1954), Economic development with unlimited supplies of labour, in: Manchester School, Vol. 22, p. 155; cited in: Stern, N. (1989), p. 625. The validity of this statement has been confirmed by a large number of cross-country growth regressions which invariably show the investment or savings rate to be a significant factor in explaining the level of (the growth rate of) real per capita income.

representative individual cannot undertake an interpersonal resource transfer. Strictly speaking, this implies that the interpersonal resource transfer which takes place on financial markets is of negligible importance as a determinant of growth.¹¹

This is, to be sure, a very extreme interpretation. It is generally agreed that the neo-classical assumptions of homogenous economic agents and homogenous goods are not valid, which means that, by virtue of their function of effecting an interpersonal resource transfer, financial market foster economic development in four ways:

- a) they transfer resources to those economic agents who have access to investment opportunities which are more productive than those available to other economic agents;
- b) they render investments feasible which, while comparatively productive, are indivisible, and thus are such that a single economic agent will not by itself have access to the resources needed to carry out the investment (lot-size transformation);
- c) they render investments feasible which, while comparatively productive, are intended to yield a return over the long term, and thus are such that a single economic agent will decide not to take advantage of these investment opportunities because it is uncertain as to when it would like to consume (maturity transformation); and
- d) they render investments feasible which, while comparatively productive, are also very risky, which means that a single economic agent would decide against carrying out these investments (risk transformation).

There are two reasons why the relationship between financial markets and economic development is nonetheless either regarded as insignificant or as a factor whose importance is highly overestimated:¹² For one thing, economic theory can tell us little *a priori* about the

¹¹ "The representative agent or firm approach to understanding macroeconomics is liable to leave key actors out of the play." Calomiris, C. W. (1993), p. 80; see also Tobin, J. (1980), p. 26 and Gertler, M. (1988), p. 565.

¹² See Stern, N. (1989) and Lucas, R.E. (1988). In the meantime, the new empirical research on growth has identified around 60 variables which have been found to be significant in at least one cross-country growth regression (see Sala-i-Martin (1997), p. 178), including the above-mentioned indicators which measure in quantitative terms the level of activity on financial markets. However, it is not possible to determine by empirical means the relative importance of financial markets as an engine of development because developed and developing economies such as those in East Asia not only have developed or developing financial markets. In the other areas which economic theory has identified as potential determinants of growth they are also at a considerably more advanced stage than underdeveloped countries, having gradually reached this higher plateau as a direct result of the growth process. It can be assumed that, "as a rough approximation, those countries that do things right do most things right, and those countries that do things wrong do most things wrong." Mankiw, N.G. (1995), p. 304; see also Berthélemy, J.-C. and A. Varoudakis (1996), p. 23.

size of differences among agents that invite mutually beneficial transactions on financial markets.¹³ For another thing, from the point of view of neo-classical theory there is nothing to indicate that the resource transfer on financial markets represents an economic problem. Accordingly, the best-known implication of neo-classical theory for the theory of finance, namely that which can be drawn from the Modigliani-Miller theorem, is that there is no such thing as a "financing problem".¹⁴ At the macro level, the Ricardian equivalence theorem has the same implication in so far as it posits that the way in which the government finances its expenditures is irrelevant for economic activity and development.¹⁵

A similar approach is used when dealing with the monetary character of financial markets and the assets or, as the case may be, debt instruments which are traded on them. In line with the neutrality theorem of money, the analysis of what happens on financial markets concludes that transactions on these markets are merely manifestations of transactions in the real economy, i.e. the intertemporal resource transfer discussed above. The supply on financial markets is seen as part of aggregate savings, i.e. as a supply of real capital, and the demand on these markets is seen as part of aggregate investment, i.e. as a demand for real capital.¹⁶ This implies that financial markets can be analysed in the same way as the market for any other good without having to pay particular attention to their monetary character: "borrowing and lending can be specified in "real" terms Awkward financial details such as the rate of price inflation, the demand for money, foreign exchange rates and the precise nature of banking intermediaries can all be suppressed in favour of a "perfect" national (or international) capital market with a single uniform rate of interest at which debt contracts are absolutely enforced."¹⁷

¹³ See Tobin, J. (1987), p. 344.

¹⁴ See Modigliani, F. and M.H. Miller (1958), pp. 261 - 297.

¹⁵ See Barro, R. J. (1974).

¹⁶ This also implies that a decline in the level of activity on the financial markets is equated with a decrease in savings and investment.

¹⁷ McKinnon, R.I. and H. Pill (1994), p. 7.

4. Schumpeter and Keynes: Financial markets as monetary markets

It was Joseph Schumpeter who first questioned the fundamental validity of the assumption made by neo-classical theory that financial markets play only a passive role in economic development, and he did so by choosing the relationship between financial markets and economic development as the starting point for a theory of economic development.¹⁸ In the form of credit and equity, the financial markets - personified by the "banker" and the "capitalist" - place the capital at the disposal of entrepreneurs which the latter need to perform their function in the economic process as defined by Schumpeter - namely, that of introducing new combinations of products and means of production. Functioning financial markets are thus a central prerequisite for economic development because they furnish capital to those economic agents who can put capital to the most productive uses - namely, entrepreneurs.

This basic proposition, with which - as has already been mentioned - almost all economists would probably agree, was, however, embedded by Schumpeter in a macroeconomic system based on a theory of capital, money and credit which stood in fundamental contradiction to the then prevailing neo-classical theory of capital, money and credit, which is still the dominant theory.¹⁹ This is manifested in Schumpeter's hypothesis that

- financial markets do not organise the co-ordination of savings (supply) and investment (demand), but rather the co-ordination of the supply of and demand for money; and that,
- the interest rate is not determined by factors in the real economy, but rather by monetary factors.²⁰

Schumpeter's ideas did not, however, become generally accepted in economic theory, and there were two main reasons for this lack of acceptance. For one thing, he did not present his ideas in the form of a mathematical model.²¹ For another, he emphasised almost exclusively the positive effects of financial markets on economic development. But this one-sided positive assessment was increasingly at odds with empirical reality. Even during Schumpeter's time, i.e. during the latter half of the 19th and the early years of the 20th century, it was no longer possible to ignore the negative consequences of financial crises for

¹⁸ See Schumpeter, J.A. (1998).

¹⁹ Schumpeter himself speaks of "heresy"; see p. 140.

²⁰ The emphasis on - in some cases indeed the glorification of - the role of the entrepreneur (in contrast to neo-classical economics, which stresses the role of the private household as the central economic actor) and the emphasis on the market form of imperfect competition with its accompanying phenomenon of "creative destruction", represent further theoretical elements of Schumpeter's model economy which for a long time were not incorporated into mainstream neo-classical economics. Only in recent years, with the emergence of the new, endogenous growth theory, have attempts been undertaken to design macro models on the basis of imperfect competition; see, in particular, Grossman, G.M. and E. Helpman (1991).

²¹ See Heertje, A. (1987).

the process of economic development - negative consequences which would eventually (i.e. during the Great Depression) trigger an economic crisis of almost unfathomable depth and severity.²²

In this situation, Keynes proposed a macro model which is similar to that of Schumpeter; however, he changed the emphasis and thrust of the ideas. As in Schumpeter's model, the rate of interest is a monetary phenomenon, and the money market becomes the capital market,²³ while equilibrium between investment and savings is achieved not through changes in interest rates, but rather through changes in income. The IS/LM model formally incorporates these relationships, and, in addition to its timeliness given the prevailing economic climate (Great Depression, global economic crisis), this is surely the principal reason why the Keynesian model was able, at least temporarily, to displace the neo-classical model.

Unlike Schumpeter, though, Keynes also formulated a theory which characterises the interpersonal resource transfer that takes place on financial markets as inherently problematic precisely because it is monetary in nature. This emerges most clearly in chapter 12 of the *General Theory*.²⁴ Here Keynes focuses initially on the positive aspect of financial markets, i.e. maturity transformation, which, at the macro level renders the financing of long-term, very productive investments possible because, at the micro level agents are given a chance to opt out of the financing relationship prior to the end of the life of the investment.²⁵ This positive attribute of financial markets is placed in an unambiguously monetary context because, "so long as it is open to the individual to employ his wealth in hoarding or lending *money* (Keynes' italics), the alternative of purchasing actual capital assets cannot be rendered sufficiently attractive (...), except by organising markets wherein these assets can be easily realised for money."²⁶

²² See, for example, Mishkin, F. (1991).

²³ In addition to the points on which they agreed, Keynes and Schumpeter were separated by substantive differences; for a discussion of the relationship between Schumpeter and Keynes, see Riese, H. (1986).

²⁴ A cursory examination of the various drafts of the *General Theory* and of the papers Keynes wrote directly after the publication of the *General Theory*, most of which dealt with the theory of interest rates, shows that he discusses the relationship between financial markets, investment activity and economic development (or "wealth owners and entrepreneurs", as he put it, personifying the relationships involved in much the same way as Schumpeter had) at length; see the various drafts presented in Moggridge, D. (1973a), as well as the essays "Alternative Theories of the Rate of Interest", "The 'Ex Ante' Theory of the Rate of Interest" and "Mr. Keynes' 'Finance'" reprinted in: Moggridge, D. (1973b), pp. 201 - 215, pp. 215 - 223, and pp. 229 - 233.

²⁵ "Investments which are "fixed" for the community are thus made "liquid" for the individual." Keynes, J.M. (1964), p. 153.

²⁶ Keynes, J.M. (1964), pp. 160f.

The problematic aspects begin to emerge when one considers the process by which prices are determined on financial markets. Keynes dismisses rational expectations as the basis of price determination, not only because in the real world the prerequisites for the formation of rational expectations are not given; he also stresses the fact that because of its liquid character, the investment can be sold by the investor at any time. Consequently, "they [the investors – author's note] are concerned, not with what an investment is really worth to a man who buys it "for keeps", but what the market will value it at, under the influence of mass psychology, three months or a year hence. ... This is the inevitable result of investment markets organised with a view to so-called "liquidity".²⁷

The prices arrived at under these conditions are, however, the measure of the profitability of new investments, "for there is no sense in building up a new enterprise at a cost greater than that at which a similar existing enterprise can be purchased;"²⁸ For this reason, Keynes is the first economist to posit a kind of dilemma which characterises the relationship between financial markets and economic development: Do the advantages of maturity transformation via financial markets outweigh the disadvantages of the specific pricing mechanism which operates in those markets? The answer is Yes, provided monetary policy is invariably able to ensure that an interest rate level is maintained which, for a given set of prices in the financial markets, provides the incentive needed to cause a volume of investment to be undertaken which is sufficient to render a satisfactory course of economic development possible. Only if this is not (or no longer) the case does it become the task of the state to take "an ever greater responsibility for directly organising investment"²⁹ - a policy recommendation which may be valid in a situation of severe financial crisis like the one in the 1930s.

The preceding discussion makes it clear that Keynes placed the role of financial markets in the process of economic development firmly in a monetary, macroeconomic context. However, this aspect of his thought was largely ignored in the post-war discussion of macroeconomic theory. The reason for this is that Keynesianism

- was applied by its proponents primarily to the real economy ("income-expenditure-model"), with the ineffectiveness of monetary policy, which had been derived for a

²⁷ Keynes, J.M. (1964), pp. 154f. See also his classic comparison of the process of price determination on the stock market with a competition "in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole;" (Keynes, J.M. (1964), p. 156.) This creates a situation in which each competitor's list will be topped not by the face which it personally feels to be the prettiest. Rather, each member of the "jury" will choose the particular face which, in its view, has the best chance of being regarded by each of the other members as the one which is most likely to be chosen as the prettiest by everyone else on the jury.

²⁸ Keynes, J.M. (1964), p. 151.

²⁹ Keynes, J.M. (1964), p. 164.

specific case - namely, that of the financial crisis ("liquidity trap")- being generalised, which in turn meant that the part of the General Theory dealing with the theory of money and the theory of finance was, for all practical purposes, ignored;³⁰ and that it

- was attacked by the exponents of the neo-classical-monetarist counterrevolution because of its central tenet that the interest rate is determined by the interplay of the supply of and demand for money, and not by the interplay of investment and savings, and in essence reduced to the assumption of price rigidities on labour and product markets.

It is well-known that the latter criticism, as embodied in neo-classical equilibrium theory and the postulated dichotomy of markets, became the basis for the generally accepted theoretical position. The price level was once again seen as something that is determined by the money market; output (taking into account the production function) and employment were once again regarded as variables determined in the labour market; and saving and investment were once again equilibrated by interest rate movements on financial markets. In this theoretical setting, the irrelevance of finance was once again a given, making the connection between financial markets and economic development a rather uninteresting subject of inquiry for economic theory.³¹

As a result, few if any attempts were made to design a detailed model of the relationship between financial markets and the level of economic activity - i.e. to determine whether the "financial structure"³², about which Keynes said practically nothing, was relevant or irrelevant - on the basis of Keynesian theory. With one important exception - that of James Tobin³³ - mainstream economists in effect ignored this area of inquiry, leaving it to be explored by the so-called post-Keynesians³⁴ and "macroeconomic outsiders" such as

³⁰ Leijonhufvud had already criticised this misinterpretation of Keynes in the late 1960s (Leijonhufvud, A. (1968)). This dominance of the real economy in the thinking of those who interpreted and applied Keynes's ideas was reflected in an excessive emphasis on fiscal policy - a tendency which was further reinforced by the so-called fiscalism vs. monetarism debate. On these points, see also Winkler, A. (1992). Seen in this light, Gertler's criticism of the neo-classical synthesis (1988, p. 560), which he faults for having ignored an essential part of Keynes's message, is justified.

³¹ The following passage from Laurence Weiss (1988) exemplifies the thinking behind this point of view: "..., if there is a subject called macroeconomics, and I emphasize "if", then it must have something to say about the financial system. Macroeconomics, as we all learned it, has something to say about savings and investment and the difficulty of getting these two to agree. As an undergraduate, I remember being told with great weightiness that one of Keynes's insights was that savings and investments were undertaken by different people with very different motivations and that somehow this was a very difficult co-ordination problem. It was never really explained, however, why this co-ordination problem was any different from the co-ordination problem of getting buyers and sellers of bread to agree on the quantity." Weiss, L. (1988), p. 594.

³² See Goldsmith, R. (1969).

³³ See, in particular, Tobin, J. (1982), pp. 171 - 204, Tobin, J. (1980).

³⁴ The post-Keynesian approach is perhaps best exemplified by the work of Hyman P. Minsky and Jan Kregel.

Goldsmith or Gurley and Shaw.³⁵ However, given the conceptual distance that separated their work from the prevailing macro theory, their efforts to gain acceptance for the link between financial markets and economic development as a subject of research had little chance of success.

Moreover, in view of their still-fresh memories of what had happened in the wake of the financial crises of the late 1920s and early 1930s, the proponents of both Keynesianism and monetarism in any case agreed that the activities on financial markets should be severely restricted through corresponding regulations in order to ensure that financial turbulences would not again undermine the efforts of macro policy to fulfil its tasks of securing full employment and price stability.³⁶ This view was supported by the empirical evidence, given that, at least in the Western industrial countries, the financial markets proved to be extremely stable up until the mid-1970s, with the data showing at the same time that, by historical standards, the values for key macroeconomic indicators were excellent. Although the quantitative significance of financial relationships emphasised by Gurley and Shaw was undeniable, as were both the diversity and the complexity of the observable forms of finance and institutions providing finance, the time was not yet ripe for an examination (or re-examination) of the subject of financial markets and economic development.

³⁵ See Gurley, J.G. and E.S. Shaw (1955), Gurley, J.G. and E.S. Shaw (1956), Gurley, J.G. and E.S. Shaw (1960).

³⁶ See, for example, Milton Friedman's plan to introduce a 100% minimum reserve requirement in order to make it impossible for commercial banks to impede the implementation of a stability-oriented money supply policy, as set forth in Friedman, M. (1948). Shaw sums up the approaches to financial-sector issues taken by the two competing macroeconomic theories, neo-classical monetarism and Keynesianism, as follows: "The doctrines ... are not the stuff, to put it mildly, from which financial liberalisation evolves." Shaw, E.S. (1973), p. 105.

5. McKinnon and Shaw: New Development Finance

Accordingly, the modern theoretical explanation of the relationship between financial-market development and economic development begins with McKinnon and Shaw.³⁷ This breakthrough was possible because, particularly in developing countries, macroeconomic management was associated to an increasing degree with higher inflation rates and declining economic growth. This led to a re-evaluation of the regulatory regimes which had governed the activities of the financial markets in both the industrial and the developing countries since the beginning of the post-war period. They were no longer seen as a protective shield for a macro policy geared to promoting economic growth, full employment and price stability, but rather as an instrument for the repression of financial markets which impeded the formation of real capital. In particular the practice of setting ceilings for nominal interest rates became the focus of criticism because, in a high-inflation environment, such ceilings imply strongly negative real interest rates, a decline in demand for financial assets, and thus disintermediation. This in turn means that liquid funds are no longer invested in the formal financial system, which is reflected, on the one hand, in stagnant, or even declining, values for the indicators used to measure the level of activity on the financial markets, and, on the other, in decreasing savings and hence a decline in investment and economic growth.

In addition, McKinnon and Shaw provide a theoretical framework within which growth effects of financial-system development can be derived. Their point of departure is a critique of monetary growth theory³⁸ which postulates that a rise in real balances (M/P), i.e. an increasing level of monetisation in an economy, is accompanied by a declining rate of economic growth. The reason for arriving at this conclusion is that real balances represent an asset, the acquisition of which serves, at both the micro and the macro level, as a substitute for the acquisition of real capital. Every economic agent will, when making its investment or saving decision, compare the return on real capital, which is determined by marginal productivity, with the return on real balances, which consists of the nominal interest rate, which for cash is set equal to zero, a non-pecuniary marginal return due to the "convenience" associated with holding money, and the rate of inflation or, as the case may be, deflation.

If the return on real balances rises, economic agents will increase their demand for money. This implies that

- real income increases by the amount of the increase in real balances; this in turn means that for a given savings rate ($s = S/Y$) the rate of accumulation of real capital increases (income effect).

³⁷ See Shaw, E.S. (1973), McKinnon, R.I. (1973).

³⁸ See McKinnon, R.I. (1973), Chapter 5; Shaw, E.E. (1973), Chapter II, especially pp. 34ff. For an overview of the evolution of monetary growth theory in the 1960s, see, for example, Stein, J.L. (1970).

- some savings are not used to accumulate real capital, because they are utilised to build up real balances (substitution effect).

Because with a savings rate of $s < 1$ the substitution effect must always be greater than the income effect, the net effect of an increase in demand for real balances is to reduce the level of investment and thus of the equilibrium growth rate. Accordingly, the theory provides a rationale for an inflationary macro policy and a repressive policy towards the financial markets because any reduction in the return on real balances will have positive effects on investment and growth.³⁹

McKinnon emphasises that the validity of this policy recommendation depends crucially on the assumption that there is a uniform market for real capital in the economy. On this market, economic agents can invest surplus income at a uniform interest rate of r or, as the case may be, borrow funds at the uniform interest rate of r if they wish for their expenditures to exceed their income. Its existence enables every economic agent to accumulate savings and undertake investments exhibiting a uniform marginal productivity of r . However, such a market cannot be assumed to exist in underdeveloped economies, which is why McKinnon calls them "fragmented economies."⁴⁰ It can be shown that in a fragmented economy the substitution relationship between real capital and real balances which is postulated in monetary neo-classical growth theory is for all practical purposes replaced by a relationship of complementarity between the two types of assets.⁴¹ Accordingly, an increasing degree of monetisation is accompanied not by lower, but by higher growth rates. In this respect, two different stages in the development of an economy can be distinguished: first, that of monetisation, which is followed by the development of financial markets.

³⁹ "No wonder ... development enthusiasts in Latin America and elsewhere have felt little academic restraint against pursuing inflationary policies as a response to capital scarcity." McKinnon, R.I. (1973), p. 52. It should be noted, however, that this theoretical outcome and the policy recommendation derived from it were also criticised in the literature on growth theory; see Johnson, H.G. (1969) and Moroney, J.R. (1972).

⁴⁰ Shaw uses the term "lagging economies"; see Shaw, E.S. (1973), p. 48.

⁴¹ On this point Shaw is more clear-cut. Proceeding from the insight that, at the level of the economy as a whole, it is not possible for either money or other financial assets to serve as a substitute for the acquisition of real capital, he states: "money is not wealth and ... there is no substitution effect. Money is debt, and growth in the real stock involves intermediation by the monetary system between savers and investors." Shaw, E.S. (1973), p. 93.

a) *Barter vs. Monetary economy*

In the extreme case of a fragmented economy there is no capital market at all. Accordingly, every economic agent which plans to buy a capital good whose value exceeds the value of its savings is compelled to make use of the opportunities to save that are available to it. In a barter economy there is only one such option available - namely, storage of the goods produced by the agent. However, if a farmer can only save by accumulating the goods he produces, e.g. by storing rice, "part of which is eaten by mice",⁴² the return on this form of saving will not be r . Rather, it will be negative. This means that it may take a very long time for the farmer to finance the purchase of the capital good which will increase his productivity, i.e. a point where he has accumulated a sufficient quantity of rice to be able to exchange it for a machine.⁴³

If an alternative savings option is available in the form of money and the policy recommendations implied by monetary growth theory are followed, the same negative outcome will be achieved. For if the real return on monetary saving is negative due to high inflation and ceilings on nominal interest rates, the farmer will either decide not to hold money at all or be constrained in his ability to finance a planned investment via the internal accumulation of capital to much the same extent as he would be in a barter economy. However, if the interest rate on monetary assets is positive in real terms, this will promote the formation of productive real capital because it improves the quality of internal financing options, thus accelerating the future acquisition of productive real capital.⁴⁴ Thus, the relationship between monetary asset accumulation and real capital formation is one of complementarity and not one of substitution, and increasing monetisation promotes rather than hinders the accumulation of real capital and the process of economic development.

b) *The origins of financial markets*

The positive effects of monetisation are reinforced if stocks of monetary assets are accumulated not only in the form of cash but also, for example, in the form of bank deposits. If the bank uses the liquid funds placed at its disposal to extend credits to other economic agents, which are then in a position to carry out their planned productive investments sooner. Accordingly, in addition to the positive growth effects due to an improved quality of internal finance, the positive growth effects of financial markets which were enumerated above (see Section 3), and whose existence is acknowledged by all theories, can be achieved.

⁴² McKinnon, R.I. (1973), p. 13.

⁴³ Note how important it is to discard the assumption of homogenous goods: in order for the example to be valid it must be true that the individual "saver-investor, being limited to self-finance, wants to purchase physical capital of a type that is different from his own output." McKinnon, R.I. (1973), p. 57.

⁴⁴ "Average cash balance holdings, therefore, are positively related to the propensity to invest (save) under the formal constraint that all investments are "self-financed" -" McKinnon, R.I. (1973), p. 58.

A comparison with the Keynesian approach shows that the proponents of the New Development Finance approach also emphasise the monetary character of financial markets, which indeed appears to play a constitutive role in the organisation of capital markets. For this reason, all measures which would undermine the monetisation of an economy, i.e. measures leading to negative real interest rates as well as an inflationary macro policy, are rejected. It should be noted, though, that this emphasis on the monetary character of financial markets does not cause the neo-classical notion of the dichotomy of markets to be regarded as problematic. Financial markets continue to be seen as an embodiment of the neo-classical capital market where savings (supply of real capital) and investments (demand for real capital) come together and can be equated with the supply of and demand for credit.⁴⁵ Moreover, because there is no apparent reason to regard the interpersonal resource transfer on financial markets as problematic, the implications for economic policy are clear: the financial markets should be liberalised, above all to increase the accumulation of savings via positive real interest rates, and by so doing to increase investment. When implementing liberalisation measures, macroeconomic conditions and/or the institutional characteristics and potential of financial markets (in the narrow sense) and financial institutions need not be taken into account: "We suggested keeping positive and more uniformly high real rates of interest within comparable categories of bank deposits and loans by eliminating undue reserve requirements, interest ceilings, and credit subsidies on the one hand, while stabilising the price level through appropriate macroeconomic measures on the other. Then, savers and investors would better "see" the true scarcity price of capital, and thus reduce the great dispersion in the profitability of investing in different sectors of the economy."⁴⁶

This policy recommendation was implemented in many developing countries, especially in Latin America (but not, it is important to note, in East Asia), not least because it had also come to be seen as the appropriate course of action by the international financial organisations.⁴⁷ The consequences are well-known: attempts to bring about macroeconomic stabilisation and financial-sector liberalisation correlated with extremely high real interest rates. Financial crises once again became an important economic phenomenon, and often

⁴⁵ The following statement by Shaw is typical of using the terms "savings", "lending" and "deposits" - and "investment", "borrowing" and "credit" - as synonyms: "Because *savings* are scarce, *credit* is rationed loan by loan." (author's italics) Shaw, E.S. (1973), p. 12. Only rarely is a clear distinction drawn between the formation of real and monetary assets, as, for example, Shaw does when he discusses the problematic effects of subsidised interest rates exclusively in terms of monetary savings; see p. 133. As a consequence, the results of empirical tests, which are usually unable to demonstrate the existence of a correlation between the savings rate and monetary asset formation, are seen as contradicting not only McKinnon's complementarity hypothesis but also the basic message of the New Development Finance literature. See, for example, Fry, M. J. (1978), p. 473.

⁴⁶ McKinnon, R.I. (1989), p. 99.

⁴⁷ "During the 1970s and 1980s, the financial liberalisation school received much attention and the policy implications of its models were appreciated in political circles and in the IMF and the World Bank." Hermes, N. (1994) p. 7.

they had a dramatic impact on output, employment and inflation in the respective countries.⁴⁸

6. The theory of finance which is grounded in the economics of information

In light of the failure of the policy of financial market liberalisation to achieve its intended goals, economists analysing the links between financial market development and economic development began to give consideration to a theoretical approach which characterises the interpersonal resource transfer on financial markets as problematic. In the economics of information transactions between economic agents are analysed under the usual neo-classical assumptions, but with one exception: instead of the assumption of complete, uniformly distributed information, the assumption that information is asymmetrically distributed among agents is introduced. The focus here is on the uncertainty regarding the quality of the product to be transferred which characterises one side of the market and which implies that the market cannot organise the resource transfer by relying exclusively on the price as an instrument for balancing the interests of the parties to transactions.⁴⁹

The uncertainty as to the quality of the product to be traded in financing relationships is an outgrowth of their intertemporal character, which entails the risk that the behaviour of the borrower (agent), during or after the implementation of an externally financed investment, will not be congruent with the interests of the lender (principal), giving rise to moral hazard and adverse selection problems. This means that the interpersonal resource transfer which is effected on financial markets might have not only positive, but also negative consequences for economic development. Thus, it may even be advantageous to limit the scope for such transactions, or to forgo them altogether.⁵⁰

This introduces a qualification which must be borne in mind when discussing the potentially positive effects of financial markets on economic development: transactions on financial markets promote economic development if, and only if, mechanisms are employed which mitigate or resolve the incentive- and information-related problems that characterise such transactions. However, unlike Keynes, who likewise formulated a qualification (see Section 4), the proponents of the theory of finance grounded in the economics of information do not (initially) derive the rationale for this limitation from the monetary character of financial markets and its macroeconomic implications. Nonetheless, their view is at odds with the

⁴⁸ See Diaz-Alejandro, C. (1985).

⁴⁹ For a classic discussion of this point, see Akerlof's analysis: Akerlof, G.A. (1970); for a brief overview of the topic, see also Stiglitz, J.E. (1987) and Schmidt, R.H. (1990), p. 19ff.

⁵⁰ This might actually be a market result; see Stiglitz, J.E. and A. Weiss (1981).

neo-classical view that financing relationships, their design and institutionalisation, may be irrelevant, as is implied by the Modigliani-Miller theorem.

Accordingly, research in the framework of the new theory of finance is aimed at identifying the specific forms of finance and/or the specific types of financial institution which can render it possible to overcome information and incentive problems. The starting point in this analytical undertaking is the type of finance in which, by definition, neither moral hazard nor adverse selection problems can occur because lender and borrower are identical: internal financing.⁵¹ Accordingly, any external financing relationship will be characterised by some mechanism which imitates the situation which prevails in the internal financing "relationship". The mechanisms involved here are screening, self-selection, and monitoring, which – by putting (potential) borrowers in a situation where they must relinquish something which forms part of their "inner life", either information (e.g. balance sheet ratios, business plans, data on market position, socio-economic position) and/or assets (collateral, participation using own funds) - mitigate moral hazard and adverse selection problems.⁵²

However, the use of these mechanism gives rise to costs. Thus, it comes as no surprise that most corporate investment is internally financed, with external financing playing a comparatively minor role.⁵³ Moreover, the new theory of finance succeeds in explaining the dominance of financial intermediaries, and of banks in particular, over financial markets in the narrow sense, when it comes to shaping external financing relationships. Three different approaches to formal modelling are employed in this endeavour.⁵⁴ The first approach focuses exclusively on the notion of intermediation, specifying the advantages of financial

⁵¹ This does not mean that, from the standpoint of the economics of information, internal finance is a completely unproblematic form of finance. Particularly in cases where the owners of a firm (principal) and its managers (agent) may be represented by different persons, a high proportion of self-financing in total financing can create a situation in which managers use the available funds for relatively unproductive investments, which hinders growth and development. See Jensen, M.C. (1986).

⁵² See Gertler, M. and A. Rose (1994), p. 25. Thus, the objective of these mechanisms can be described as that of creating between lender and borrower "a strongly interdependent utility function." Merton, R.C. and Z. Bodie (1995), p. 9. By far the most important, and most frequently used, option is the provision of a suitable form of loan security; see Terberger, E. (1987). An analysis of various financing forms which focuses on this aspect is provided in Schmidt, R.H. (1981).

⁵³ See Mayer, C. (1989), Corbett, J. and T. Jenkinson (1996). In terms of equation (1), Section 2, this implies that the enterprise sector, the sector which contributes the most to real capital formation, and thus to economic development overall, often does not use the financial markets at all when financing its investments. Accordingly, the notion that investment by firms is financed primarily with external capital provided by private households - which is suggested not least by the lack of clarity as regards the meaning of the terms "savings", "lending", "investment" and "borrowing" - is, at least in the western economies, incorrect, and historically this is also a misconception (see Edwards, J. and S. Ogilvie (1995). However, while the significance of internal financing is also great in developing countries, self-financing is not as dominant in such nations as in the western industrial countries; see Singh, A. and J. Hamid (1992). In the "miracle economies" of East Asia as well, the internal finance ratio was often less than 50%; see World Bank (1993), pp. 224f.

⁵⁴ Fairly non-technical surveys of the new microeconomic banking theory literature are provided by Van Damme, E. (1994) and Rühle, I. (1997), who gives a comprehensive overview.

intermediaries over financial markets in the narrow sense in terms of their ability to overcome information and incentive problems that arise between lenders (or, as the case may be, depositors) and borrowers (economic units borrowing from banks or, as the case may be, banks).⁵⁵ However, it is not claimed that banks render investments possible which are more productive than those facilitated by financial markets in the narrow sense. But this is precisely what is postulated by the second approach, which identifies the ability of financial intermediaries to render possible long-term investments, which are presumably comparatively productive ones, despite the fact that the group of borrowers is heterogeneous (some are "good", others are "bad"), as the decisive advantage of financial intermediaries.⁵⁶ Here the focus is not the intermediation function, but rather on the selection and monitoring functions performed by banks. The third approach differs from the other two in so far as attention centres not on financial institutions but on forms of financing. It demonstrates that external equity financing via markets is subject to specific information and incentive problems which make this form of financing rather unattractive.⁵⁷

Thus, the new theory of finance succeeds in ordering and analysing the insights yielded by the empirically-oriented work of Gurley, Shaw and Goldsmith, and in accounting for the diversity and complexity of forms of financing, financial institutions and financial markets in the narrow sense in a rigorous theoretical framework. It leads to the following conclusion: Financial markets foster growth and development by carrying out an intertemporal, interpersonal resource transfer, if they are characterised by institutions and by the use of financial instruments which are able and designed to overcome information- and incentive-related problems which are associated with this resource transfer.

The little word "if" is crucial here. Indeed, given that various structural weaknesses of financial markets are regularly identified and diagnosed, especially in the aftermath of financial crises, the question of whether financial markets actually overcome these problems must be regarded as moot. This question must be answered before new growth models which focus on the growth-enhancing attributes of financial markets⁵⁸ can be used by economic policymakers as the basis for a strategy which assigns to the financial markets an important, active role in the process of economic development.

As was already mentioned in the introduction, the answer to this question given by the empirical data is often negative, and of late it has been an increasingly unambiguous No. Particularly during the last fifteen to twenty years, there has been a pronounced increase in

⁵⁵ See Diamond, D. (1984) and Diamond, D. and P. Dybvig (1983).

⁵⁶ See Von Thadden, E.-L. (1995) and Dewatripont, M. and E. Maskin (1995).

⁵⁷ See Myers, S.C. and N.S. Majluf (1984), as well as Greenwald, B., Stiglitz, J.E. and A. Weiss (1984).

⁵⁸ See, for example, Bencivenga, V.R. and B.D. Smith (1991), King, R.G. and R. Levine (1993).

the number of bank failures and financial crises in both the industrial and the developing countries.⁵⁹ The reasons are well known: macroeconomic and terms-of-trade shocks as well as "poor banking" contributed to the rise in the number of bank failures. Viewed from the perspective of the new theory of finance, this means that

- a) the legal, socio-economic and regulatory parameters which shape the environment in which financing takes place do not provide sufficient opportunities and/or incentives to lenders - that is to say, to depositors as lenders to banks and to banks as providers of finance to firms - to minimise moral hazard and/or adverse selection behaviour on the part of borrowers;⁶⁰
- b) key elements of the macroeconomic environment created by implementation of a restrictive monetary policy intended to stabilise the inflation rate and/or the exchange rate, e.g. extremely high real interest rates,⁶¹ in effect invite the actors in the financial markets to forgo use of the mechanisms for the mitigation of asymmetric information problems that have been identified.⁶² On the other hand, drops in income and prices may make it impossible for economic agents to create efficient financing relationships because many borrowers are no longer creditworthy as a result of "drastic redistributions of wealth."⁶³

Based on this diagnosis, one can formulate a clear policy recommendation: Until such time as all of the legal, socio-economic and regulatory parameters - and the macroeconomic prerequisites - have been created which must be given if information- and incentive-related problems are to be taken into account in the process of organising the intertemporal, interpersonal resource transfer, a policy of financial market liberalisation of the type which

⁵⁹ See Sundararajan, V. and T.J.T. Balino (1991), Caprio, G. and D. Klingebiel (1996), Caprio, G. (1997)

⁶⁰ For a discussion of the significance of legal parameters for the organisation of the interpersonal resource transfer on financial markets, see Sirri, E.R. and P. Tufano (1995), p. 82ff.; La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and R.W. Vishny (1997); the importance of socio-economic factors like the concentration of wealth, income and the ownership of non-financial and financial firms as well as the presence, and effective functioning, of corporate governance in financial and non-financial firms are stressed by Caprio, G. (1997) and Winkler, A. (1997); an in-depth analysis of the regulatory framework of banking and financial markets based on the economics of information has been provided by Dewatripont, M. and J. Tirole (1996).

⁶¹ The World Bank assumes that with real interest rates running at between 10% and 15% p.a., only optimistic speculators or borrowers with intent to defraud will still exhibit a demand for credit. See World Bank (1989), World Development Report 1989 (German edition), p. 104.

⁶² See McKinnon, R.I. (1989). Conversely, the presence of financial markets which forgo the mechanisms that can be employed to mitigate information- and incentive-related problems limits the ability of macroeconomic stabilisation policy to achieve its objective. On this point, see Udell, G.F. and P. Wachtel (1995).

⁶³ Calomiris, C. W. (1993), p. 73. The negative impacts of deflation on the design of financing relationships, and thus on the level of economic activity were first emphasised by Fisher well over 60 years ago; see Fisher, I. (1933).

was advocated as a logical consequence of the NDF approach would be inappropriate. Rather, what is needed is a policy of "financial control"⁶⁴ which

- clearly gives precedence to macroeconomic policy over financial sector reforms aimed at liberalisation because in an unstable macroeconomic environment the danger of moral hazard behaviour on the part of borrowers is too great. The goal is to create the prerequisites for price stability, in particular via a restrictive fiscal policy, so that monetary policy can maintain real interest rates at positive levels which, however, are both low and stable, thus at least permitting internal financing to be carried out efficiently (see Section 5).
- in essence limits the range of financing options open to firms to internal financing and external financing via the non-bank capital market by limiting the range of investment options open to banks more or less exclusively to the purchase of government debt instruments or the placement of funds in accounts at the central bank (the narrow bank proposal). Again, the idea is to allow on the one hand the collection of deposits from the private sector, which is regarded (see section 5) as an important part of a growth-promoting strategy because it offers investors a relatively efficient means of self-financing larger, and thus more productive, investments via the internal accumulation of financial assets; on the other hand, such an approach is intended to prevent banks whose corporate governance structure is inadequate from engaging in types of asset-side business in which the possibility of moral hazard and adverse selection cannot be ruled out.

The idea behind this restrictive policy is not only to protect the financial markets from self-inflicted damage by ensuring that an "over-borrowing syndrome"⁶⁵ does not set in, but also, at the same time, to increase the chances that the information- and incentive-related problems which are inherent in financial-market transactions can be overcome in the future. By limiting firms' financing options more or less exclusively to internal financing during an initial period, a "thick core of creditworthy borrowers"⁶⁶ is created because, over time, the firms which operate successfully in the product markets accumulate a net wealth position which can be used as collateral for future external financing (borrowing), thus making it possible for an effective demand for external finance to arise. On the supply side, it is assumed that within the nonbank capital market new institutions will arise which exhibit a suitable corporate governance structure. Because they grant loans or undertake equity capital participations using own resources, it is highly probable that they will employ the above-

⁶⁴ See McKinnon, R.I. (1992).

⁶⁵ See McKinnon, R.I. and H. Pill (1994)

⁶⁶ Gertler, M. and A. Rose (1994), p. 45.

mentioned mechanisms to alleviate information and incentive problems. The most successful of them will then accumulate experience and a considerable amount of net wealth which will enable them - after a few years - to apply for a banking licence, thereby endogenously contributing to a more stable financial environment.

This is why the net wealth position of (potential) borrowers becomes the focus of efforts in the realm of economic policy. It is seen as the decisive measure of their creditworthiness because it guarantees the identity of interests between lender and borrower when the financing relationship is initiated and over the life of this relationship.⁶⁷ The same idea forms the basis of the concept of "financial restraint,"⁶⁸ an approach to financial-sector policy which is presented as an alternative to both financial liberalisation and financial repression: regulation of the financial markets, and especially restrictions on competition effected by regulating entry into the banking market and controlling the deposit rate, should be designed and implemented in such a way as to contribute to an increase in the net wealth of the licensed banks. This is intended to reduce the danger of moral-hazard and adverse-selection behaviour on the part of the banks vis-à-vis their depositors, which also means that, in dealing with their borrowers, the banks for their part will make use of the appropriate mechanisms to overcome information- and incentive-related problems. In contrast to an interventionist financial-sector policy which, for various reasons - and not least because insufficient information is available on the banks and their activities - cannot safeguard the stability of the banking system, the concept of "financial restraint" thus relies on the use of intelligent regulations to create incentives for bank owners and managers to act on their own to create stable financial institutions, and, by extension, to strengthen the financial markets. Moreover, in contrast to a policy of financial repression, an inflationary macro policy is rejected, with the maintenance of interest rates at levels which, while low, are still positive in real terms, being recommended as the appropriate goal for monetary policy.

This highlights the fact that, by taking into account issues raised by the economics of information, the proponents of the New Development Finance approach have modified their policy recommendation in both of the areas in which it relied most heavily on the neo-classical view of financial markets and economic development. For one thing, the idea of financial market regulation is no longer rejected as a matter of principle. Indeed, such regulation is now accepted as beneficial provided it is designed to address the information- and incentive-related problems which are an inherent part of every financing relationship,

⁶⁷ "the behaviour of borrower net worth is at the core of the link between finance and economic activity. This includes being a factor that determines the extent of [incentive compatible - *added by author*] intermediation. ... The borrower's accumulated net worth depends both on past earnings and on anticipated future prospects." Gertler, M. and A. Rose (1994), p. 28 and 30. See also Leland, H.E. and D.H. Pyle (1977)

⁶⁸ See Hellmann, T., Murdock, K. and J.E. Stiglitz (1997). Fundamentally similar ideas are advanced by Caprio, G. and L.H. Summers (1993) and Demsetz, R.S.; Saidenberg, M.R. and P.E. Strahan (1996).

and especially of that between depositor and bank. For another, the activities on financial markets are again placed in a macroeconomic, monetary context, although, the neo-classical dichotomy of the markets is retained, at least in the formal models.⁶⁹ This is reflected in the recommendation that financial-sector policy be tailored to each country's specific macroeconomic situation and to the particular institutional configuration and "landscape" found in its financial sector, with attention being focused above all on the role of monetary policy and the central bank.⁷⁰ And thus, in what could almost be regarded as a return to the Keynesian tradition, the possibility that interest rates may be determined by monetary policy is implicitly acknowledged, as is the possibility that, in a financial crisis, monetary policy may no longer be able to influence the development of the real economy to any appreciable extent.⁷¹

7. Conclusion: Financial markets and economic development - the Asian example

The approach to understanding the link between financial markets and economic development which is grounded in the economics of information represents the most recent attempt to describe the complex interplay of factors in the real economy and the financial economy and its significance for the process of economic development. And although the basic concept involved here - namely, that of the problematic nature of transactions under asymmetric information - has in the meantime become part of the standard tool kit of economic theory, this cannot be said of the "order of liberalisation" which is recommended by McKinnon as a development strategy and whose core element is a policy of financial control, nor it is true of the financial-sector strategy favoured by Hellmann, Stiglitz and Murdock, i.e. financial restraint.⁷² Indeed, given the basic tenets of neo-classical theory, these strategies have rather radical implications. After all, in essence McKinnon and Hellmann/Murdock/Stiglitz are saying that, at least temporarily, a prohibition of financial intermediation in the classic sense - that of banks mobilising savings mainly from private households in order to channel them to productive enterprises - and/or measures to restrict competition and control prices are necessary in order to foster financial markets capable of

⁶⁹ Generally speaking, little has been done so far to develop the conceptual links between the new theory of finance and monetary theory, although there have been repeated calls for the kind of research efforts needed to establish these links (see Gertler, M. (1988), p. 582 und Schmidt, R.H. (1990), pp. 31ff.), and although indications of the nature of such links have been given in isolated remarks and discussions through statements to the effect that money is a good whose value is "a matter of common knowledge" (Calomiris, C.W. (1993), p. 67), i.e. that money is a good whose quality is known to everybody with certainty. A formal model which makes use of this idea is specified by Williamson, S. and R. Wright (1994).

⁷⁰ See Goodhart, C.A.E. (1987).

⁷¹ See McKinnon, R.I. (1992), Calomiris, C. W. (1993), pp. 73f. and Greenwald, B.C. and J. Stiglitz (1988), pp. 154f.

⁷² Fry speaks of the "Stiglitz controversy"; see Fry, M.J. (1997), p. 759ff.

promoting economic development.⁷³ While the above policy recommendations would not appear to be particularly problematic from a Keynesian point of view⁷⁴ (the only point on which they would clearly be at odds with a Keynesian economic policy is their firm rejection of an expansive fiscal policy), one must, however, ask here whether, and to what extent, an approach which is grounded more in microeconomics can yield the insights needed to devise an effective response to what is a macroeconomic, monetary problem.

It should be noted, though, that financial control and financial restraint are seen by their advocates as being more than just the result of a process of theoretical analysis. In fact, they are considered to be first and foremost the product of an empirical analysis of the consequences of incorporating the financial markets into the development strategy of the East Asian "miracle countries", which was considered a successful approach prior to the current financial crisis.⁷⁵ After all, while the Asian financial markets had clearly experienced their share of crises and crisis-like situations, the magnitude of these shocks, and the extent of the economic damage they caused, was limited, especially in comparison with other developing countries.⁷⁶ This made the positive correlation between the various indicators of financial development and real per capita income, or, more specifically, its rate of growth, seem all the more striking (see, for example, the data in Table 1).

The most recent turbulences on East Asian financial markets underscore, however, that in Asia as in the rest of the world, the links between financial-market development and general economic development are such that the financial markets do not always have a benign influence on the course of economic development. Indeed, the negative effects on output and growth which are anticipated as a result of the current financial crisis have caused estimates of real GDP growth rates to be revised downward by a substantial margin, with the correction amounting to as much as 5 percentage points for some countries.⁷⁷ Moreover, the crisis is considered to be in large measure an outgrowth of the fragility and basic structural

⁷³ With regard to the transition economies of Eastern Europe, for which McKinnon had recommended this policy of financial control, critical assessments of this approach are to be found in Cornelli, F., Portes, R. and M.E. Schaffer (1996), p. 10, and Caprio, G. and R. Levine (1994).

⁷⁴ See, for example, Tobin, J. (1987a), and Tobin, J. (1987b), which demonstrate that, with regard to financial markets, the policy implications of Keynesian economics and the economics of information are quite similar.

⁷⁵ "These ideas are influenced by a stylised analysis of the policies pursued by a number of high-performing East Asian economies, and in particular, by the Japanese post-war experience (...)." Hellman, T.; Murdock, K. and J. Stiglitz (1997), p. 163. "Japan, after 1949, exemplified a poor country embarking on rapid real economic growth while keeping suitable financial constraints in place., Japanese financial policy and the similarly successful experience of Taiwan a decade or so later are reviewed in order to establish historical benchmarks of countries that did get their order of liberalisation more or less "right"." McKinnon, R. I. (1992a), p. 10.

⁷⁶ See World Bank (1993), pp. 214f. and 249ff.

⁷⁷ See IMF (1997), p. 58.

weaknesses of the financial markets in the East Asian countries.⁷⁸ While a detailed analysis of its causes would be beyond the scope of this theoretical survey, it seems appropriate to devote the final portion of the discussion to a consideration of whether the East Asian financial crisis represents a failure of the policy of financial control or, as the case may be, financial restraint (if it does, then the validity of the underlying theoretical positions would be called into question), or whether governments in the region deviated from this policy in the years prior to the crisis, and by so doing created an environment which was conducive to the type of financial crisis which eventually materialised.

Table 1: Ratio of M2 to GDP and average log per capita growth rates of GDP* in selected East Asian economies, 1960 - 1990

Country		1960	1965	1970	1975	1980	1985	1990
Japan	M2/GDP	0.6	0.78	0.74	0.85	0.86	0.97	1.18
	GDP growth p.c.	n.a.	10.29	9.85	2.90	3.58	2.95	3.90
Indonesia	M2/GDP	n.a.	0.13	0.10	0.16	0.17	0.25	0.43
	GDP growth p.c.	n.a.	-1.15	3.12	4.23	4.97	2.95	4.21
Korea	M2/GDP	0.11	0.12	0.33	0.31	0.34	0.39	0.40
	GDP growth p.c.	n.a.	3.47	7.65	6.96	5.87	6.72	8.66
Malaysia	M2/GDP	0.24	0.28	0.35	0.46	0.53	0.68	0.67
	GDP growth p.c.	n.a.	3.54	3.21	4.42	5.90	2.31	3.95
Singapore	M2/GDP	n.a.	0.56	0.66	0.61	0.66	0.70	0.96
	GDP growth p.c.	n.a.	2.08	9.93	7.16	6.79	3.43	5.67

* 1961 - 1965, 1966 - 1970, 1971 - 1975, 1976 - 1980, 1981 - 1985, 1986 - 1990

Source: Galetovic, A. (1994), p. 9; World Bank National Accounts Statistics; own calculations

If one begins with the macroeconomic factors, then a brief examination of the data is sufficient to show that in some countries - in particular, Indonesia, Korea, Malaysia and Thailand - the crucial change in the 1990s was the abandonment of the policy of financial control with respect to the external balance, while with regard to the domestic economy this policy continued to be pursued, as is shown by the figures for the general government balance (see Table 2).

⁷⁸ See, for example, Diehl, M. and R. Schweickert (1998), especially pp. 29ff, as well as IMF (1997), in particular pp. 3 - 40.

Table 2: Current Account (CA) and General Government Balance (GGB) (in percent of GDP) in selected East Asian economies, 1983 - 1997

Country		1983 - 1989	1990	1991	1992	1993	1994	1995	1996	1997
Japan	CA	3.0	1.5	2.0	3.0	3.1	2.8	2.2	1.4	2.2
	GGB	-0.4	2.9	2.9	1.5	-1.6	-2.3	-3.7	-4.1	-2.9
Indonesia	CA	-3.5	-2.8	-3.4	-2.2	-1.5	-1.7	-3.3	-3.3	-2.9
	GGB	-1.3	1.3	0.0	-1.2	-0.7	0.0	0.8	1.4	2.0
Korea	CA	2.5	-0.9	-3.0	-1.5	0.1	-1.2	-2.0	-4.9	-2.9
	GGB	-0.3	-0.6	-1.6	-2.6	-1.0	1.0	0.0	0.0	0.0
Malaysia	CA	-0.7	-2.1	-8.8	-3.8	-4.8	-7.8	-10.0	-4.9	-5.8
	GGB	-4.0	-2.2	0.1	-3.5	-2.6	2.5	3.8	4.2	1.6
Singapore	CA	1.8	8.3	11.2	11.3	7.4	17.1	16.9	15.0	14.0
	GGB	4.8	11.4	10.3	11.3	14.3	13.7	12.0	8.4	8.3
Taiwan	CA	12.9	6.7	6.7	3.8	3.0	2.6	1.9	5.2	4.1
	GGB	1.3	0.8	0.5	0.3	0.6	0.2	0.4	0.2	0.2
Thailand	CA	-3.2	-8.3	-7.7	-5.6	-5.0	-5.6	-8.0	-7.9	-3.9
	GGB	-3.0	4.4	4.2	2.6	2.1	2.0	2.6	1.6	-0.4

Source: IMF (1997), pp. 85 - 88

In certain countries (above all in Indonesia and Malaysia, but also in Korea, although not to quite the same extent), the net inflow of foreign capital, which gives rise to a corresponding current account deficit, was accompanied by a relatively large increase in bank lending to the private sector, which did not, however, lead to a significant rise in the inflation rate.⁷⁹ Thus, in macroeconomic terms the overall situation can be summed up as follows: with the internal equilibrium under strain, most of the countries experienced an increasingly large external disequilibrium.

⁷⁹ See IMF (1997), pp. 85ff.

As regards the source of the increasing external imbalances, most observers agree that they were largely attributable to the surge in capital inflows. Two reasons are mentioned: For one thing, since the beginning of the 1990s the scope of liberalisation in the financial markets appears to have expanded, making it easier for foreign investors to shift capital into the emerging markets of East Asia, where growth prospects and the chances of obtaining a good return on investments were estimated to be relatively good.⁸⁰ For another, as these countries' current account deficits widened, the share of GDP accounted for by consumption did not rise - as it had, for example, in Mexico during the crisis of 1994/95. Indeed, in the economies in question, where the savings rate was in any case comparatively high, the investment rate continued to rise. Thus, there is considerable evidence that, at least with regard to the external sector, countries were deviating more and more from a policy of financial control, with this approach eventually being abandoned altogether and causing the "over-borrowing syndrome" from which Mexico had suffered to appear in East Asia, albeit under a different set of domestic economic conditions than had obtained in Mexico. Accordingly, the financial crisis of 1997 cannot be cited as an unambiguous proof of the inadvisability of implementing the policies of financial control and financial restraint. On the contrary, it could be argued that a premature liberalisation of the capital account and the financial markets in general was a major factor in bringing the crisis about.⁸¹

However, two questions remain. First, if a different macroeconomic policy had only been pursued, would this have not enabled the countries in question to avoid "overborrowing", thus demonstrating that the liberalisation policy in the financial markets can at most be regarded as only an indirect cause of the crisis? Of course, a different macroeconomic policy might have made a difference. But with financial liberalisation, the room for manoeuvre in macro policy was in any case rather limited. With fixed nominal exchange rates and a domestic economy which was tending toward overheating, monetary policy was not in a position to take measures to lower domestic interest rates, and thus curb the inflow of capital. Like their counterparts in other parts of the world, Asian macro policymakers are unable to "master the impossible trinity: open financial markets, fixed exchange rates, and monetary independence (...)"⁸² By the same token, it remains doubtful whether an early reduction in the nominal exchange rate would have been feasible and/or would have decreased the inflow of capital, just as doubts are in order as to whether adoption of a policy

⁸⁰ "..., sometimes a country's difficulties originate in part from external disturbances, including irrational optimism or unwarranted pessimism in global financial markets." IMF (1997), p. 66. See also Diehl, M. and R. Schweikert (1998), p. 6.

⁸¹ The IMF states in its Interim Assessment that "the financial difficulties in Asia are likely to stimulate renewed interest in the question of whether capital controls (on inflows, outflows, or both) may help to moderate the build-up of external imbalances and reduce the risk of financial crisis." IMF (1997), p. 67. Bearing in mind the discussion presented above in Section 4, the actual description of the crisis strikes a very Keynesian note, speaking as it does of "disruptive changes in investor sentiment" (p. 61).

⁸² Diehl, M. and R. Schweikert (1998), p. 3.

of flexible exchange rates would, in itself, have been sufficient to focus investor sentiments on the inherent risks of capital flows to the area.⁸³ An appropriate, and rather uncontroversial response, would probably have been to implement a substantially more restrictive fiscal policy.⁸⁴ However, it is generally acknowledged that it is quite difficult to restrain spending when tax revenues are plentiful. Thus, the Asian example demonstrates once again that, in principle, successful macroeconomic management is a question of ensuring that monetary policy can do its job properly. However, if financial markets are open and there are interest rate differentials between the various countries participating in these markets due to the fact that they are in different positions with regard to the business cycle, the ability of monetary policy to function properly is severely restricted. And this is precisely the situation in which some East Asian economies found themselves beginning in the early 1990s.

Second, assuming that a policy of financial control and/or financial restraint was followed in East Asia, one must ask, Precisely when is a point reached where liberalisation of the financial markets can no longer be characterised as "premature"? After all, it seems to be universally agreed that the financial markets and financial infrastructure in the respective countries exhibit serious structural weaknesses, and thus that they at least contributed to the development of the crisis. Although this question brings us back to the fundamental issue which this survey seeks to address, it is difficult to answer in an unequivocal, straightforward manner. Of course, it could be argued that the challenge faced by the Asian financial markets as a result of the strong capital inflows was so great that, if confronted with the same challenge, even highly developed financial markets would have found it difficult "to allocate financial resources efficiently on the basis of market principles and withstand shifts in market sentiment."⁸⁵ An examination of the various financial crises that have occurred in western countries since the early 1980s, which in some cases have been attributable in no small measure to the effects of currency crises and the volatility of international capital flows, suggests that this answer cannot be entirely wrong.

Nonetheless, it cannot be regarded as a satisfactory answer because there seems to be little doubt that the rapid financial development, as documented by the various quantitative indicators, was not accompanied by an equally rapid process of qualitative development.

⁸³ Diehl and Schweikert think that this approach would have worked; see Diehl, M. and R. Schweikert (1998), p. 29.

⁸⁴ *ibid.*, p. 10 and p. 22.

⁸⁵ IMF (1997), p. 68. For example, this is the view taken by Patrick in his assessment of developments in the Japanese financial system: "The problems and difficulties the Japanese financial system and its banks face in the 1990s ... do not undermine the fundamental lessons of the Japanese case. What that experience demonstrates is that even strong systems and institutions, not only banks but their regulators, can fall prey to collective myopia, and that greed in periods of speculative mania can outweigh rational, conservative calculation of project viability, borrower creditworthiness, and collateral value." Patrick, H.P. (1994), p. 41.

When it comes to interpreting this phenomenon, there are basically two options. The first is to question whether it is even appropriate to characterise the financial sector policy pursued in East Asia as "financial restraint". After all, it can also be argued that this financial sector policy had a great deal in common with a policy of financial repression with heavy government intervention.⁸⁶ And as it turns out, the main difference between the East Asian system and the "classic" Latin American version of financial repression would seem to be the difference in the macroeconomic environments in which the two approaches to financial sector development were implemented. This would, in turn, lead one to conclude that the Asian example underscores the clear dominance of macroeconomic factors as determinants of economic development, whereas the design and development of the financial structure is of only secondary importance provided the macroeconomic fundamentals - the inflation rate, the government balance and the current account balance - are sound and the real interest rate is moderately positive. The second option is to admit that, at least as far as the type of financial control and financial restraint which Asian countries attempted to implement is concerned, this approach to financial sector development has (so far) shown itself to be incapable of fostering the qualitative development of financial markets, which of course raises the question of what kind of financial sector policy *would* be capable of accomplishing this task.

In summary, it is fair to say that, in so far as the direction of future theoretical research is concerned, two conclusions may be drawn from an examination of the connection between financial markets and economic development which have been observed in East Asia. First, the links between macroeconomic, monetary factors and the financial markets are even closer than is suggested by an assessment which combines the insights and approaches of NDF and the new theory of finance. Second, it is apparent that, despite the great strides that have been made in relevant areas of economic theory, it is still very difficult to say with any certainty "how and why specific financial markets arise and develop, and whether their development follows some sort of standard sequence."⁸⁷ Thus, it comes as no surprise that we find it even more difficult to determine whether economic policy is able to promote the development of financial markets, and if so, how. Therefore, shedding more light on this crucial area, e.g. through analysis of the historical process by which financial markets in the western industrialised countries developed,⁸⁸ may be regarded as a second urgent task for macroeconomic theory and the theory of finance which is suggested not only by the results of the theoretical survey presented here but also by recent developments in the East Asian financial markets.

⁸⁶ See, for example, the discussions of this point in Fry, M.J. (1995), pp. 45ff. and M. Diehl and R. Schweikert (1998), pp. 29ff.

⁸⁷ Pagano, M. (1993), p. 621.

⁸⁸ See, for example, Caprio, G. and D. Vittas (1997).

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