



Financial environment and economic growth in selected Asian countries

M.M.G. Fase^{a,*}, R.C.N. Abma^b

^a*Department of Economics, Faculty of Economics and Econometrics, University of Amsterdam,
Roetersstraat 11, 1018 WB Amsterdam, The Netherlands*

^b*University of Amsterdam and Kasbank, Amsterdam, The Netherlands*

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Abstract

This paper examines the empirical relationship between financial development and economic growth in nine emerging economies in South-East Asia. The sample period varies across countries but covers at least 25 years.

The main finding is that financial development matters for economic growth and that causality runs from financial structure to economic development. This result indicates that in developing countries a policy of financial reform is likely to improve economic growth.

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1. Introduction

This paper examines the importance of financial institutions and intermediation for economic growth, focusing on emerging countries in the political and geographical area known as the Far East, which is South-East Asia. Economic growth is a nation's increase of welfare over time, commonly measured by Gross National Product (GNP). As a matter of fact, the process of economic growth is uneven and unbalanced while it occurs over an extended period of time. Often, economic growth is measured by the rise in per capita income, but this is a poor reflection of the rise of the wealth of a nation. This encompasses the infrastructure of roads and cities, the maturity of all sorts of institutions and the organization of markets which, together with the associated banking system all may be

* Corresponding author. Fax: +31-205254254.
E-mail address: mmg.fase@wxs.nl (M.M.G. Fase).

summarized as the stage of economic development. An important institution is money and therefore the stage of financial development is empirically reflected in the financial structure of a particular country or region. Economic historians and others—[Gerschenkron \(1962\)](#), [Goldsmith \(1969\)](#), [Gurley and Shaw \(1955\)](#), and [Rostow \(1962\)](#)—have studied this process from a broad and often historical perspective. They found empirical evidence for a link between economic growth and the stage of institutional development, financial or otherwise, of particular countries or regions. More recently, economists like [Barro \(1997\)](#), [Fischer \(1993\)](#), [King and Levine \(1993\)](#) and many others have attempted to deepen this analysis empirically by singling out specific indicators to explain rising per capita incomes across countries. This paper is in this spirit and focuses on the role of financial intermediation for economic growth and development. As early as in 1911 [Schumpeter \(1911\)](#) pointed out the role of banks and loans in fostering economic development with the innovative entrepreneurship as the critical element. This approach has evoked criticism. For example [Robinson \(1953\)](#) has questioned this one-way causality, arguing that money and finance follow rather than lead entrepreneurial efforts and economic growth.

This paper attempts to answer the empirical question of whether an increase in monetary sophistication and financial intermediation is associated with long-run economic growth in the emerging economies of South-East Asia. The reason of our focus on these countries is that recently they have shown a remarkable increase in income and wealth and therefore offer a superb opportunity to test the Schumpeterian hypothesis empirically. This is the main focus of this article.

This article is set up as follows. First, we discuss elements of growth theory in view of the role of financial intermediation. Second, we review the scanty empirical literature on financial intermediation and economic growth. Third, we present our own empirical analysis for nine Asian emerging economies. In the final section we draw the conclusions of our empirical exercise and offer a brief reflection on our findings.

2. Economic growth and financial intermediation: review of theoretical literature

The main function of financial intermediaries is to facilitate the transmission of savings from surplus households to deficit households. Very often, the former are the consumers who save money, and the latter are the entrepreneurial and government sectors which borrow money, with the financial or banking sector channeling this process appropriately. The banking sector's main role in this process of intermediation is to reduce the asymmetry of information for lenders and borrowers and to bring about allocation of funds to the most productive opportunities, thus increasing economic efficiency and social welfare.

Conventional growth models seldom point out an immediate relationship between financial intermediation and growth of economic output. The canonical neo-classical growth theory (e.g., [Burmeister & Dobell, 1970](#); [Meade, 1961](#); [Solow, 1956](#)) establishes the condition for long-run economic growth with the rate of growth of the labour force and technical progress the main determinants. In this view the role of savings is of some importance for the level short-term growth path of output. Thus, in the neo-classical exogenous growth theory financial intermediation only influences growth via the analytically rather obscure channel of savings. In endogenous growth theory, however, financial

intermediation plays a more specific role through the financing of Research and Development as well as investment in human capital (see e.g., Barro & Sala-I-Martin, 1995; Romer, 1986) and the existence of externalities implied. An example to illustrate this offers Pagano's (1993) growth model. This author assumes a linear production function with constant returns to scale, but without diminishing marginal returns to capital to embody the assumed externalities. In this set up financial intermediation comes in to foster efficiency on the capital market and the effective use of savings. As a result, a larger part of the savings (and the savings rate) enters the steady state growth rate. Of course, other more advanced models within a dynamic time-consistent constrained maximization framework have been developed in the literature (see Barro & Sala-I-Martin, 1995), but again the main trust is that financial intermediation increases the part of savings ultimately used for capital investment and therefore the intertemporal rate of substitution. So, some endogenous growth theories provide an analytical underpinning for the role of financial intermediation, as do the old exogenous growth models of Harrod–Domer. The empirical implementation has been mainly anecdotal. Therefore, the important question is whether the pure theory of economic growth is designed for empirical validation. We do believe that this is not the case and that the empirics of financial intermediation and economic growth is a field of its own. This is particularly true for the Asian countries as has been stressed forcefully by Stiglitz (2002) in his provoking and on several counts convincing criticism on the general conditionality approach of the IMF which often ignores the specific political and institutional circumstances in the countries dealt with. As known, the structural conditions of the Asian economics are fundamentally different from the assumptions of the pure theory of economic growth. Recognition of this important fact must be made for the advancement of growth theory and, more importantly, for its empirical relevance in the Asian countries considered in this article. We believe this view is complementary to the further development of growth theory. Therefore, this article focuses on the statistical design for empirical validation, which is explored here fully for the selected Asian countries.

3. Empirics in the literature

Two important empirical questions come to the fore. The first concerns Robinson's (1953) consideration of causality or reverse causality between financial and economic development. The second is the empirical validity of Schumpeter's (1911) strong belief that bank credit—and therefore financial intermediation—is the main source and encouragement for innovative entrepreneurs to foster economic development. No doubt, research on the direct impact of Research and Development is important, but nowadays this is mainly financed through internal sources. This, however, does not mean that on a more general level financial development in particular countries or regions does not have a great indirect impact on output growth.

Goldsmith (1969) defines the financial structure as a mix of financial instruments, markets and other institutions that operate in an economy. Goldsmith considers the relation between economic growth and the financial system measured by several characteristics. He proposes an indicator consisting of the ratio of the assets of financial intermediaries and Gross National Product (GNP). Under the assumption that the size of a financial system is

positively correlated with the supply and quality of financial services, Goldsmith analyses financial development empirically. He used annual data from 35 countries from 1860 to 1963. The countries he considers have a comparable infrastructure and therefore, are more or less homogeneous. Goldsmith was successful in documenting the development of national financial systems, especially the development of financial intermediaries to explain growth. His results support the view that economic growth and the level of financial development are correlated. He found this positive correlation between financial and economic development for a great number of countries. However, he could not ascertain the causal direction of this relationship, which was, as we noted above, Robinson's critique.

A first attempt to resolve the causality problem empirically was made by [King and Levine \(1993\)](#). They studied 77 countries over the period 1960–1989, accounting for other factors than the financial structure alone, which may influence economic growth. The authors used four measures for the level of financial development to examine whether this is positively correlated with economic growth. The first measure exists of liquid liabilities of the financial system. The second measure describes the importance of the banks for the allocation of credit. The third and fourth measure represent, in two different ways, the amount of loans to private companies. These four measures made it possible to analyse more accurately the relationship between financial development, according to each of the four measures, and economic growth, which they found strong and positive. King and Levine also made a causal analysis between financial development and economic growth. Their results suggest that initially, the level of financial development predicts economic growth, indicating a causal relationship from financial development to economic growth in the early stages of economic development. This result was also found by [Fase \(2001\)](#) for The Netherlands in the 20th century.

[Jayaratne and Strahan \(1996\)](#) found that for the U.S. the regulation in financial markets influenced post-war economic growth directly. They examined the impact of less rigid bank branch regulation in the United States on regional economic growth in individual states. They found a positive effect on per capita growth through improvement in the quality of bank loans. Jayaratne and Strahan emphasize in their examination that the states do not deregulate state banks to encourage future growth. Nevertheless, they found weak evidence that bank loans increased after the banking reform. However, according to their analysis, there were no signals that capital investment increased after the regulatory measures. This result implies that the improvement in the quality of bank loans is the main channel through which economic growth is influenced, indicating causality from financial development to economic growth.

[Demirgüç-Kunt and Levine \(1996a, 1996b\)](#) offer empirical evidence for the importance of stock market development for output growth. Stock market development is measured by the ratio of market capitalization and GNP. They find that in different countries the extent of stock market development highly correlates with the development of banks, non-bank financial institutions, pension funds and insurance companies. Japan, the United States, and the United Kingdom have the most developed stock markets. Colombia, Venezuela, Nigeria, and Zimbabwe have the less developed stock markets and, according to these authors, the growth rates of the countries considered reflect this differences significantly.

Levine and Zervos (1998) studied the empirical relationship between measures of stock market liquidity, size, volatility and integration with world capital markets on the one hand, and economic growth, saving rates, improvements in productivity and capital accumulation, on the other hand, for 47 developing and developed countries in the sample period 1976–1993. Their analysis suggests an important empirical relationship between stock markets and economic growth. They conclude that in the countries considered, stock market liquidity and bank development were positively and significantly correlated with economic growth, capital accumulation and productivity increases. Stock market size, volatility and integration with world capital markets, however, were not significantly correlated with economic growth and productivity increases.

Rajan and Zingales (1998) emphasize in their study that the initial level of financial development is a leading indicator, rather than a causal factor, for financial markets to anticipate faster economic growth. One way to solve the causality problem is to find an indicator or instrumental variable which is independent of economic growth. Rajan and Zingales assume as a benchmark that financial markets in the United States are frictionless. This benchmark country further explains for every branch of industry the demand for external finance. Consequently, they analyse the branches of industry over a great number of countries and test if the branches depending on external finance grew relatively faster in countries where from the beginning of the test period the financial systems were better developed. They found that industries which heavily depend on external finance grow faster in countries with well-developed intermediaries and stock markets than in countries with less developed financial systems. They emphasize that financial development lowers the costs of external financing and therefore fosters economic growth. This suggests that causality runs from financial development to economic growth.

Beck, Demirgüç-Kunt and Levine (2000) also studied the relationship between financial structure and economic growth. Their focus is on the degree the financial system is market or banking oriented and what the relation is to economic growth. Two methodologies of these authors are interesting and worth to review here. The first is their cross-country approach that determines if economies grow faster in market or banking oriented systems. They find no clues that either market or banking oriented systems have more or less influence on economic growth. What comes forward is that the level of financial development and the surroundings in which financial intermediaries and markets operate influence economic growth. The second methodology is a branch of industry approach to analyse whether different branches, which heavily depend on external finance, grow faster in market or bank based financial systems. They conclude that economies that heavily depend on external finance grow faster.

The final article in this overview is Fase (2001). This article searches for an answer on the question whether an increase in financial development can be associated with long-term economic growth in The Netherlands between 1900 and 2000. One conclusion of this analysis is that financial intermediaries, and thus the level of financial development, have a positive influence on economic growth in The Netherlands during the first decenniums of the 20th century. However, in the post-World War Two period financial intermediation has, according to Fase, less influence on economic growth. Causality tests show that in The Netherlands during the first decenniums of the 20th century causality ran from financial intermediation to economic growth. After World War II this causality vanished completely.

An important conclusion from this analysis is that before World War II financial intermediation plays an important role for economic growth, but disappears after this war. Fase assumes that this may reflect the growing maturity and internationalization of the Dutch economy since the second world war. This finding is our principal motivation to examine the relationship between financial development and growth in the Far East, because the growth to maturity is a significant feature of the Asian emerging countries in recent decades. Therefore, we use the same error correction model as in Fase to establish the relationship between financial intermediation and economic growth, both in the short- and long-run.

4. Growth and financial development in emerging economies

The aim of our analysis is to establish the relationship between financial development and economic growth empirically in the emerging countries in Asia. To measure financial development we consider balance sheet totals of the banking sector, assuming that these reflect approximately the level of financial intermediation. Evidence seems to suggest (see Fase, 2001) that the development of the financial system has greater impact on growth in a developing country than in mature economics. Therefore, we focus on the emerging countries in Asia with a per capita income level of at most US \$1000 over a decade. This results in a sample of nine countries with an average Gross Domestic Product of US \$450 per head in the years 1978–1999. The selected countries are set out in Table 1.

The number of years per country in our sample of annual figures varies between 49 and 25 and is dictated by the availability of data. Obviously, the common sample period for all countries considered is 25 years, but for the individual countries the sample period is often much larger.

Economic theory does neither yield a specification of an estimable equation nor a well defined causality pattern for economic growth and the stage of financial development. However, theory does suggest a few explanatory variables in particular with capital investment and financial development which is our maintained hypothesis. The focus is on GDP growth. Regressing growth rates requires detrending and difference stationary or $I(0)$. Moreover, we concentrate on long-run economic behaviour, allowing for short-run

Table 1
Selected Asian countries and sample period

	Initial year
Bangladesh	1974
India	1959
Malaysia	1955
Pakistan	1960
Philippines	1948
Singapore	1963
South Korea	1953
Sri Lanka	1950
Thailand	1951
Common sample period (stacked)	1974–1999

Table 2
Augmented Dickey–Fuller unit-root test for growth rates

Variable	Bangladesh	India	Malaysia	Pakistan	Philippines	Singapore	South Korea	Sri Lanka	Thailand	Stacked
$\Delta \ln(\text{GDP})$	-7.39*	-3.79*	-4.75*	-3.16**	-3.84*	-3.29**	-3.62*	2.91***	-4.05*	-3.36**
$\Delta \ln(\text{GDP})/\text{GDP}_{-1}$	-6.75*	-3.88*	-4.71*	-3.20**	-3.93*	-3.30**	-4.06*	-2.91***	-3.99*	-3.42**
$\Delta \ln(\text{Investment})$	-3.74**	-7.13*	-3.72*	-2.91***	-4.91*	-2.96**	-3.91*	-4.07*	-5.67*	-2.72**
$\Delta \ln(\text{Financial assets})$	-1.71	-3.26**	-3.41**	-4.69*	-3.40**	-2.63***	-3.90*	-3.41**	-2.57***	5.01*

Note: *, ** and *** indicate rejection of the unit-root hypothesis at critical values of 10%, 5%, and 1%, respectively.

disequilibria. To account for this, the error correction model provides the appropriate econometric specification. However, detrending or differencing assumes the absence of unit roots, i.e., testing for cointegration. This hypothesis is tested with the augmented Dickey–Fuller procedure. The relevant test statistics for the countries considered as well as for the country-wise aggregated data, are set out in Table 2.

The test statistics shown in Table 2 indicate that in almost all cases the unit-root hypothesis is rejected, which means that for the growth rates of GDP, capital investment and aggregated financial assets stationary is warranted.

Table 3
Causality tests for the selected countries

	1 lag	2 lags
Null hypothesis	<i>P</i> -value	<i>P</i> -value
Bangladesh		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.21456	0.8962
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.03356	0.00062
India		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.56104	0.95190
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.00034	0.00676
Malaysia		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.11441	0.33686
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.81030	0.82477
Pakistan		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.30562	0.35255
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.35703	0.16233
Philippines		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.90327	0.94745
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.02109	0.08580
Singapore		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.00408	0.04252
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.22603	0.17653
South Korea		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.01480	0.02393
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.26243	0.97926
Sri Lanka		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.43028	0.54847
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.17866	0.35149
Thailand		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.00472	0.34382
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.26777	0.01654
Stacked		
$\Delta \ln(\text{GDP})$ not Granger caused by $\Delta \ln(\text{Fin})$	0.03060	0.13643
$\Delta \ln(\text{Fin})$ not Granger caused by $\Delta \ln(\text{GDP})$	0.23380	0.03721

Note: *P*-values denote probability levels of the *F*-statistic smaller than 0.05, indicating rejection of the null hypothesis.

Table 4
 Estimation results for the nine selected Asian countries

Bangladesh

$$\Delta \ln(\text{GDP}) = 1.84 - 0.33[\ln(\text{GDP}_{-1}) - 0.17 \Delta \ln(\text{GDP}_{-1}) - 0.24 \Delta \ln(\text{GDP}_{-2}) - 0.13 \Delta \ln(\text{Fin}_{-1})]$$

$$R^2 = 0.77, \text{DW} = 1.42$$

India

$$\Delta \ln(\text{GDP}) = 0.41 - 0.16[\ln(\text{GDP}_{-1}) - 0.93] - 0.30 \Delta \ln(\text{GDP}_{-1}) + 0.66 \Delta \ln(\text{Fin}_{-2}) - 0.41 \Delta \ln(\text{Fin}_{-3})$$

$$R^2 = 0.29, \text{DW} = 2.01$$

Malaysia

$$\Delta \ln(\text{GDP}) = 0.80 - 0.21[\ln(\text{GDP}_{-1}) - 0.66 \ln(\text{Fin}_{-1})] + 0.34 \Delta \ln(\text{GDP}_{-1}) + 0.22 \Delta \ln(\text{GDP}_{-3}) - 0.13 \Delta \ln(\text{Fin}_{-1})$$

$$R^2 = 0.01, \text{DW} = 1.95$$

Pakistan

$$\Delta \ln(\text{GDP}) = 0.29 - 0.95[\ln(\text{GDP}_{-1}) - 0.95 \ln(\text{Fin}_{-1})] + 0.63 \Delta \ln(\text{GDP}_{-1}) + 0.15 \Delta \ln(\text{Fin}_{-2}) - 0.01 \Delta \ln(\text{Fin}_{-3})$$

$$R^2 = 0.41, \text{DW} = 2.10$$

Philippines

$$\Delta \ln(\text{GDP}) = 0.38 - 0.14[\ln(\text{GDP}_{-1}) - 0.88 \ln(\text{Fin}_{-1})] + 0.28 \Delta \ln(\text{GDP}_{-3}) + 0.17 \Delta \ln(\text{Fin}_{-1}) - 0.22 \Delta \ln(\text{Fin}_{-3})$$

$$R^2 = 0.31, \text{DW} = 1.85$$

Singapore

$$\Delta \ln(\text{GDP}) = 0.74 - 0.37[\ln(\text{GDP}_{-1}) - 0.77 \ln(\text{Fin}_{-1})] + 0.71 \Delta \ln(\text{GDP}_{-1}) - 0.08 \Delta \ln(\text{GDP}_{-2}) - 0.06 \Delta \ln(\text{Fin}_{-2})$$

$$R^2 = 0.49, \text{DW} = 1.91$$

South Korea

$$\Delta \ln(\text{GDP}) = 0.77 - 0.18[\ln(\text{GDP}_{-1}) - 0.79 \ln(\text{Fin}_{-1})] + 0.63 \Delta \ln(\text{GDP}_{-1}) + 0.17 \Delta \ln(\text{GDP}_{-2}) - 0.24 \Delta \ln(\text{Fin}_{-3})$$

$$R^2 = 0.49, \text{DW} = 2.33$$

Sri Lanka

$$\Delta \ln(\text{GDP}) = 0.23 - 0.11[\ln(\text{GDP}_{-1}) - 0.94 \ln(\text{Fin}_{-1})] + 0.28 \Delta \ln(\text{GDP}_{-1}) + 0.11 \Delta \ln(\text{Fin}_{-2})$$

$$R^2 = 0.41, \text{DW} = 2.00$$

Thailand

$$\Delta \ln(\text{GDP}) = -0.80 + 0.27[\ln(\text{GDP}_{-1}) - 0.74 \ln(\text{Fin}_{-1})] - 0.60 \Delta \ln(\text{GDP}_{-2}) + 0.48 \Delta \ln(\text{Fin}_{-1}) - 0.35 \Delta \ln(\text{Fin}_{-2})$$

$$R^2 = 0.31, \text{DW} = 1.65$$

Stacked

$$\Delta \ln(\text{GDP}) = 3.62 - 0.98[\ln(\text{GDP}_{-1}) - 0.82 \ln(\text{Fin}_{-1})] + 1.16 \Delta \ln(\text{GDP}_{-1}) - 0.75 \Delta \ln(\text{Fin}_{-1})$$

$$R^2 = 0.39, \text{DW} = 1.60$$

To investigate Robinson's conjecture of financial assets following real activity or growth, we have also tested for causality in the Granger–Sims sense. The causality tests for each country considered and for the aggregate over countries are reported in Table 3.

The results given in Table 3 show that in the majority of cases Robinson's conjecture should be rejected, meaning that very often causality runs from financial development to economic growth rather than the other way. In view of this finding, regressing economic growth on financial development makes sense and the error correction model seems to be appropriate for this. For each country the estimation is done with annual data for the sample period set out in Table 1. The estimates are reported in Table 4. Between parentheses *t*-values are given. Apart from India and Sri Lanka, the coefficient of financial development within the error correction part is statistically significant, indicating that in the equilibrium relationship for the studied emerging countries, financial intermediation matters for growth, while in most cases the error correction term—the term in square brackets—is also statistically significant. The low Durbin–Watson statistic for Bangladesh and Sri Lanka may imply some misspecification, i.e., that important other explanatory variables are ignored. Lack of data, however, prevented further exploration of this matter. The estimation results could not be improved by adding capital investment as an additional explanatory variable, while additional causality tests on investment seem to support the hypothesis that financial development leads to economic growth in the selected Asian countries. The estimates show that across countries, the results do not differ substantially. To obtain an overall picture we have also estimated a stacked regression by grouping the nine country equations with the error correction framework. The price for this is a loss of observations to the number of the common sample period. The estimation result is given at the bottom of Table 4. The estimates are significant, but again the low Durbin–Watson statistic may indicate some misspecification.

5. Conclusion

Since the days of Adam Smith the question of what determines the long-term economic growth rate and the prosperity of nations has been at the core of economics. In this tradition, however, the impact of financial institutions on the rate of growth has been relatively ignored until recently. In the view of recent econometric research on the determinants of economic growth, this paper attempts to remedy this matter for emerging economies. Therefore, in this paper we have examined empirically the relationship between financial development and economic growth for nine emerging countries in Asia, using data from sample periods of varying length, and an error correction framework as econometric methodology.

Our main finding is that financial development matters for economic growth and that causality runs from the level of financial intermediation and sophistication to growth. This result indicates that improvement of the financial structure in developing economics may benefit economic development, supporting the old Schumpeterian hypothesis, also maintained by several economic historians, that the financial infrastructure is of great importance for economic welfare. The results obtained for the nine single countries are strengthened by the analysis of pooled data across the countries, suggesting a more or

less homogeneous pattern of behaviour of economic growth. The findings indicate that a policy of financial reform in the selected countries is likely to improve economic growth. Experience of Western developed countries suggests, however, that this relation may not hold when the Asian countries reach a mature stage of economic development.

References

- Barro, R. J. (1997). *Determinants of economic growth*. London: MIT Press.
- Barro R. J., & Sala-I-Martin, X. (1995). *Economic growth*. New York: McGraw-Hill.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2000). *Financial structure and economic development: firm, industry and country evidence*. World Bank Policy Research Paper.
- Burmeister, E., & Dobell, A. R. (1970). *Mathematical theories of economic growth*. London: Macmillan.
- Demirgüç-Kunt, A., & Levine, R. (1996a). Stock markets corporate finance and economic growth. *World Bank Economic Review*, 10(2), 223–240.
- Demirgüç-Kunt, A., & Levine, R. (1996b). Stock market development and financial intermediaries: stylized facts. *World Bank Economic Review*, 10(2), 291–322.
- Fase, M. M. G. (2001). Financial intermediation and long-run economic growth in The Netherlands between 1900 and 2000. In T. Klok, T. van Schaik, & S. Smulders (Eds.), *Economoloques* (pp. 85–98). Tilburg: Tilburg University.
- Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, 32(3), 485–512.
- Gerschenkron, A. (1962). *Economic backwardness in historical perspective*. Cambridge, MA: Harvard University Press.
- Goldsmith, R. W. (1969). *Financial structure and development*. New Haven: Yale University Press.
- Gurley, J. G., & Shaw, E. S. (1955). Financial aspects of economic development. *American Economic Review*, 45(3), 515–538.
- Jayaratne, J., & Strahan, P. E. (1996). Finance growth nexus: evidence from bank branch regulation. *Quarterly Journal of Economics*, 111(3), 639–670.
- King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics*, 108(3), 277–291.
- Levine, R., & Zervos, S. (1998). *Stock markets, banks and economic growth*. World Bank Policy Research Working Paper.
- Meade, J. E. (1961). *A neo-classical theory of economic growth*. London: Allen & Unwin.
- Pagano, M. (1993). Financial markets and growth: an overview. *European Economic Review*, 37(3), 613–622.
- Rajan, R. G., & Zingales, L. (1998). Financial dependence and growth. *American Economic Review*, 88(2), 559–586.
- Robinson, J. (1953). The generalisation of the general theory. In *The rate of interest and other essays* (pp. 69–142). London: Macmillan.
- Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, 94(5), 1002–1037.
- Rostow, W. W. (1962). *The stages of economic growth*. Cambridge: Cambridge University Press.
- Schumpeter, J. A. (1911). *Theorie der Wirtschaftlichen Entwicklung*. Leipzig: Duncker & Humblot.
- Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70(1), 65–94.
- Stiglitz, J. E. (2002). *Globalization and its discontents*. New York: Norton.