

LAW, FINANCE, AND GROWTH DURING TRANSITION: A SURVEY

BY

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*Summary*

This paper surveys the literature on law, finance, and growth and assesses its relevance to transition economies. It describes the contribution, as well as the limitations of the legal view literature with regard to our understanding of the causality between financial development and economic growth. The legal view demonstrates that, through its impact on the financial system, an effective legal system indirectly promotes economic development. However, the particularities of the transition process – notably the existence of soft budget constraints – are such that the methodology and the results of the legal view cannot be applied to transition economies without provisos.

**Key words:** financial development, legal institutions, transition economies.

1 INTRODUCTION

Does financial development stimulate economic growth, or does causality run the other way, in the sense that the financial sector develops to meet the increasing demand for financial services in a growing economy? And what role does the legal system play in this finance-growth nexus? Such questions are particularly relevant for the formerly socialist countries in Central and Eastern Europe (CEE), as these are still in the process of shaping both their legal and financial systems. Therefore, this paper discusses the interlinkages between legal institutions, financial development, and economic growth with a focus on transition economies. It does so by surveying a more general strand of literature, termed the 'legal view', as well as the literature that specifically deals with the real effects of the legal and financial systems in transition countries.

The survey is organised as follows. Section 2 discusses the state of the art in the literature on law, finance, and growth. It first touches on the older literature in this field and then describes how the legal view has contributed to our understanding of the causality between finance and growth. The main shortcomings of

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this strand of literature are highlighted too. Subsequently, section 3 deals with the relevance of the legal view from the angle of the transition process. The concept of soft budget constraints (SBCs) is illustrated and SBC-theories are shown to provide an important link between law and finance in transition economies. Surveying the emerging empirical literature on law and finance during transition, it is argued that the idiosyncrasies of the transition process – such as widespread SBCs and its dynamic and international character – preclude the methodologies and results of the legal view from being applied to these countries without provisos. Section 4 concludes the survey.

## 2 THE LEGAL VIEW ON FINANCE AND GROWTH

### 2.1 *The Debate on Finance and Growth*

In the *Wealth of Nations* (1776, p. 394) Adam Smith noted that once the first banks had been established in Scotland, 'trade and industry (...) increased very considerably', and 'that banks have contributed a good deal to this increase, cannot be doubted'. In this view, financial development tends to boost economic activity. In the 20<sup>th</sup> century, however, a fierce debate arose in the economic literature on the exact relationship between financial development and economic growth. Many early contributors acknowledged the existence of positive relationships between finance and growth, but differed on the causality issue.<sup>1</sup> Reviewing this early literature, Levine (1997) identifies five functions through which financial markets and intermediaries, by reducing information and transaction costs, can potentially influence economic growth. First, with a well-functioning financial system, more savings are mobilised, since it becomes attainable for households with relatively small financial surpluses to invest them. Second, more and better information leads to a better allocation of these savings. Third, managers can be better monitored, so that a smaller proportion of allocated savings is wasted due to inefficiencies. Fourth, it becomes easier to trade, hedge, diversify, and combine risks. And fifth, transactions concerning goods and services are facilitated. In this perception, a well-functioning financial system leads to an increasing propensity to both save and invest, which stimulates capital accumulation, as well as to technological progress, as more – and more efficient – investment projects are being financed. In the end, this will boost per capita economic growth. Still, the extent to which increased savings actually lead to higher growth is a matter of debate. Early contributions stressing a positive causal relationship are Schumpeter (1912), Gortley and Shaw (1955), Hicks (1969), and Drake (1980). Patrick (1966) argues that in the early stages of economic development, finance indeed stimulates growth, but that in more developed economies finance tends to follow growth. Robinson (1979) is also of the opinion that finance follows growth. Finally, Goldsmith (1969) takes a more neutral stance by just pointing to the strong positive association between finance and growth.

long-run economic growth, as Levine (1997) argues, is questionable. In a neo-classical growth model, for instance, economic growth turns out to be independent of the savings rate in the long-run. In endogenous growth models, however, a higher savings rate does influence long-run growth.<sup>2</sup> All in all, economic theory provides several mechanisms through which a positive and causal link between financial development and economic growth may exist.

During the 1990s, empirical research provided new evidence on the positive association between finance and growth.<sup>3</sup> A first group of studies is based on Barro-type (1991) cross-country growth regressions, in which proxies for financial development include for instance bank credit to the private sector, stock market capitalisation, or stock market turnover. They aim to demonstrate that the link between finance and growth also holds when economic and political control variables are taken into account. Still, these kind of cross-country studies are characterised by some important weaknesses.

First, they implicitly treat countries as homogeneous entities, meaning that all unknown (non-systematic) country-specific effects are supposed to be fully captured in the regression's error term. However, if important country-specific characteristics are omitted, the explanatory power of such omitted variables may incorrectly be attributed to the ones which are included (such as financial development proxies). Also, the influence of financial development on economic growth may differ across country groups. In case of such parameter heterogeneity, cross-country estimates will be inconsistent. Durham (2002) shows, for instance, that the positive relation between stock market development and growth may mainly be driven by the inclusion of higher income countries in the cross-country samples.

Secondly, although many cross-country studies more or less explicitly hint at a causal relationship from finance to growth, they are vulnerable to endogeneity bias: wealthy nations may simply demand more financial services. Also, financial development and economic growth can be caused simultaneously by a third fac-

2 Even then, the development of the financial system might just as well lead to lower precautionary savings (Jappelli and Pagano (1994)) or a shift in savings away from new capital investments towards secondary capital markets (Bencivenga et al. (1995)), thereby *restricting* economic growth. Other contributions integrating some form of financial system with endogenous growth theory are Greenwood and Giovannini (1990), Bencivenga and Smith (1991), Saint-Paul (1992), King and Levine (1993a), Pagano (1993), Boyd and Smith (1996), Arnold and Walz (2000), Morales (2001), and Hung and Cothren (2002).

3 See Aje and Jovanovic (1993), King and Levine (1993a, 1993b), Demirgüç-Kunt and Levine (1996), Levine (1998), and Zervos (1998) at the country level; Rajan and Zingales (1998), Wurgler (2000), and Fisman and Love (2002) at the industry level; and Demirgüç-Kunt and Maksimovic (1998, 1999, 2002) at the firm level. The creation of an extensive World Bank database in 1999, as described in Beck et al. (2001), led to additional empirical evidence in Demirgüç-Kunt and Levine (1999), Beck et al. (2000), Beck and Levine (2000), Levine et al. (2000), and Leahy et al. (2001). In 2001 the most important results were published in book form (Demirgüç-Kunt and Levine (2001)), whereas the main policy implications were described in Worldbank (2001).

for, such as the propensity of households to save. In addition, even if financial development were to precede economic growth, it could merely be a leading indicator instead of a causal factor (Rajan and Zingales (1998)). Partly as a result of this critique some authors began to use time-series data as well as pooled cross-section and time-series – i.e. panel – data (Islam (1995)).

A first advantage of panel data is that both the time-series and the cross-sectional variation in the variables can be exploited. A second potential advantage is that country-specific characteristics can be taken into account by using country-fixed effects. In this way, all time-invariant country-specific information is swept away and only variables that show within-country variance over time influence the estimates.<sup>4</sup> However, including country-fixed effects is not undisputed (Wachtel (2003)). It may lead to measurement errors and insignificant results in case of explanatory variables with little within-country variation, though much between-country variation (Temple (1999), Barro (2000)). Benhabib and Spiegel (2000) use panel data to estimate the effect of financial development on economic growth, both with fixed effects and without fixed effects. They find that indicators of financial development are positively correlated with total factor productivity growth and, more robustly, rates of factor accumulation.<sup>5</sup> However, their results turn out to be very sensitive to the inclusion of fixed effects. The authors conjecture that this may reflect the fact that indicators of financial development are actually proxies for broader country characteristics (cf. footnote 9 for the advantage of GMM in this regard). A third advantage of (also) using time-series data concerns the causality issue. Time series studies and panel studies reveal that the direction of the causality between banking and stock market development on the one hand, and economic growth on the other, may differ between countries. In some countries and during some periods, two-way or reversed causalities may have been more likely than a (pure) causality from finance to growth.<sup>6</sup> Another strand of literature tries to shed more light on the causality issue by using instrumental variables (IV) techniques to extract the exogenous component of financial development. These contributions make up the so-called legal view or 'law and finance' literature, which stresses the importance of (exogenous) le-

4 This still leaves the possibility of a bias in the financial development estimates due to omitted country-specific, though time-variant variables.

5 In a later paper, Lopez and Spiegel (2002) – using new econometric panel data techniques – conclude that financial development influences long-term growth only through factor accumulation.

6 Demetriades and Hussein (1996), Jayaratne and Strahan (1996), Arestis and Demetriades (1997), Neusser and Kugler (1998), Rousseau and Wachtel (1998), Fase (2000), Arestis et al. (2001), Kassimatis and Spyrou (2001), Al-Yousif (2002), Beck and Levine (2002b), Calderon and Liu (2003), and Rousseau (2003) all use time series and / or panel methodologies and provide some more conclusive inferences on the – country specific – direction of the (Granger) causality between finance and growth.

gal systems and institutions for financial, and ultimately economic, development. Let us now turn to this legal view.<sup>7</sup>

## 2.2 The Legal View

According to the legal view, the effectiveness of the legal system determines the amount and quality of financial services provided by both banks and markets (important contributions are La Porta et al. (1997, 1998, 1999a, 1999b, 2000a, 2000b, 2002b)). La Porta et al. (1998) describe the underlying framework of the legal view. The main thesis is that small outside providers of funds will only be willing to put their money in firms – whether as shareholders or as creditors – if they can be relatively sure that the firm management and/or controlling shareholders (the ‘insiders’) use the money in their best interest. Shares give their owners for instance the right to vote a director off the board, whereas loan contracts entitle creditors to repossess collateral if a company fails to make the promised payments. These rights should ensure that providers of equity and debt have the power to extract the returns on their investments from the managers (see Hart (1995)). The risk of expropriation of minority shareholders and creditors by controlling shareholders and managers is thus directly related to the agency problem as described by Jensen and Meckling (1976).

The effectiveness of property rights strongly depends on a country’s legal system. In some countries outside investors have better legal protection from ‘bad’ managers – and existing laws are better enforced – than in others. An important distinction in this regard is the one between the common law system, present in England and many of its former colonies, and the civil law system, operative in France and several countries that were conquered by Napoleon. In general, the former system protects outside investors better than the latter.<sup>8</sup> Since such legal protection determines investors’ readiness to finance firms, corporate finance may depend critically on legal rules and their enforcement. Indeed, Claessens et al. (2000b, 2002a) find for instance that better legal protection of (minority) shareholders is associated with a lower concentration of ownership and control as well as with a higher valuation of listed firms. The recognition in the late 1990’s that a country’s legal institutions may influence its financial system, also led to new empirical ‘finance-growth’ research, seeking to find out whether legal institutions do not only influence financial, but also real economic development. As these

7 Ahmed (1998) shows that using IV-techniques in cross-sectional studies cannot resolve the issue of causality in case the simultaneity problem arises purely from time-aggregation. Consequently, some recent studies combine IV-techniques with panel data, using lagged values of the explanatory variables as ‘internal’ instrumental variables (Beck et al. (2000), Levine et al. (2000), Beck and Levine (2002b)). Since this literature uses internal rather than legal instruments, it can identify simultaneity bias, but it cannot link the quality of the legal system to financial and economic growth.

8 Johnson et al. (2000) and La Porta et al. (2000b) give some judicial and historical explanations as to why these legal systems differ as regards investor protection.

studies – and the methodologies used in them – are quite typical of the empirical interpretation of the legal view, I will discuss the original study by Levine (1998, 1999) at somewhat greater length.

Levine focuses on the relationship between the legal environment, banks, and economic growth. Using pure cross-section data, he first demonstrates the existence of a statistically meaningful relationship between legal system indicators and banking development (proxied as bank credit to the private sector divided by GDP, averaged over 1976-1993). He finds that differences in creditor rights and their enforcement show significant correlations with banking sector development, also when controlling for the initial level of economic development. The second part of the analysis shows that the part of banking development explained by exogenous legal characteristics is positively and robustly associated with long-run economic development. Here, the basic regression is (Levine, 1998, p. 605):

$$(1) \quad G_t^i = \alpha + \beta * BANK_t^i + \gamma * X_t^i + \varepsilon_t^i$$

where  $G_t^i$ , the dependent variable, is either real per capita GDP growth, per capita capital stock growth, or productivity growth.  $BANK_t^i$  equals credit to the private sector divided by GDP,  $X_t^i$  represents a matrix of conditioning variables that control for other factors explaining economic growth,  $\varepsilon_t^i$  is the error term, and subscript  $i$  denotes the country. This basic framework is already used by King and Levine (1993b). However, note that the legal view stresses that it is the *exogenous* part of banking development that will influence economic growth. Therefore, the innovation in the Levine (1998) paper is to use the legal determinants of banking development as IV for  $BANK_t^i$ , using a Generalised Method of Moments (GMM) technique.<sup>9</sup> The results confirm that there is a strong and positive association between the legally determined part of banking development and long-run economic growth, capital stock growth, and productivity growth. Insofar as legal characteristics can be thought of as exogenous – countries having typically obtained their legal system through occupation or colonisation (La Porta et al. (1998)) – the relationship between legally determined banking development and economic growth can indeed be regarded as a causal one (however, see footnote 7).

Elaborating on this methodology, Levine et al. (2000) demonstrate that countries' legal origins tend to determine their types of laws, regulations, enforcement mechanisms, and ultimately financial and economic development. In a subsequent article, Beck et al. (2000) go deeper into this relationship by examining the

<sup>9</sup> In the presence of heteroscedasticity, GMM estimation is more efficient than two-stage least squares estimation. GMM estimation also allows testing for the validity of the instruments (Ferreira da Silva (2002)). Finally, country-specific effects can be eliminated by first-differencing (Arellano and Bond (1991)) or by using lagged differences of explanatory variables as instruments to control for such effects (Arellano and Bover (1995)).

(causal) link between financial development and the *sources* of growth. The authors conclude that financial intermediaries exert a large, positive influence on total factor productivity growth, which feeds through to overall GDP growth. Wurgler (2000) finds that the legal protection of minority investors is positively correlated with the efficiency of a country's capital allocation. These conclusions are in line with work as early as that of Schumpeter (1912), who stressed the role of banks in improving the allocation of savings (as opposed to the *rate* of savings), thereby stimulating total factor productivity growth.<sup>10</sup>

A second important finding of the legal view literature is that there is no empirical support for either the market-based or the bank-based view, the opposite sides in the debate about the relative merits of bank-based versus market-based financial systems.<sup>11</sup> Indeed, this debate becomes insignificant within a legal view framework, showing that it is the legal rights of both debt and equity providers that promote economic growth. Empirical studies in this field typically find that when explaining economic growth – whether at the country level, the industry level, or the firm level – financial *structure* in itself does not have significant explanatory power when included at the same time with proxies for the overall state of financial development.<sup>12</sup> Banks and markets provide complementary financial services that both contribute to economic growth. It is the legal system that plays a leading role in determining the level and the quality of such growth-promoting financial services.

### 2.3 *The Contribution of the Legal View: An Appraisal*

Combining the legal view with traditional regressions on finance and growth – using exogenous legal characteristics as instrumental variables – has contributed to our understanding of the causality between financial development and economic growth. Some degree of consensus has emerged that there is often a positive and causal relationship between the development of the financial system and economic growth, although in many countries and during some periods a bidirectional causal causality cannot be ruled out.<sup>13</sup>

Notwithstanding these results, some important questions remain. At present two problems stand out. First, the narrow focus of the legal view on the legal system

10 These results thus contradict those of Benhabib and Spiegel (2000) and Lopez and Spiegel (2002) who find that finance leads to growth (mainly) through factor accumulation.  
 11 Arguments which are frequently used in this debate can be found in Allen (1993), Allen and Gale (2000), Stultz (2001), and Levine (2002).  
 12 See for instance Levine (2000), Ndkumana (2001), Beck and Levine (2002), and Demirgüç-Kunt and Maksimovic (2002).  
 13 Favara (2003) provides a note of discord. Using a one-step GMM estimator, he finds that the relationship between finance and growth is at best weak and argues that results such as those of Levine et al. (2000) are inaccurate since they are based on two-step GMM estimators, which have downward biased standard errors in finite samples.

as the single, or at least most important determinant of financial development can be questioned. Apart from legal institutions, corruption, geography (natural endowments), and supervision may also play important roles in stimulating (or inhibiting) financial development.<sup>14</sup> Recently, Acemoglu et al. (2001) and Easterly and Levine (2002) have stressed the importance of initial natural endowments of colonies, such as the absence of deadly diseases, as determinants of colonisation strategies and the associated institutions. The resulting historical divergence in institutional structures proves to be persistent and to influence present-day differences in economic development. In this context, Beck et al. (2002) show that such natural resource endowments robustly influenced current levels of financial development, also when taking into account differences in legal origins.

In a similar vein, informal institutions, such as trust and social capital in a broader sense, may influence finance and growth. Informal institutions may very well be substitutes for (or determinants of) more formal legal rights.<sup>15</sup> Allen et al. (2002) point for instance to China, a rapidly growing economy with neither a developed legal system nor a sophisticated financial system. They conjecture (p. 2) that this '(...) *counterexample to the findings of the existing literature on law, finance, and growth* is based on the existence of alternative – though informal – governance mechanisms, such as those based on reputation and relationships. Effective informal mechanisms appear to have been of special importance for the flourishing Chinese informal sector, where they substituted for formal, legal institutions and strengthened alternative financing channels such as self-financing. Furthermore, Rajan and Zingales (2001) point to the fact that the level of financial development in developed countries has shown considerable volatility during the last hundred years. Such national fluctuations in financial development are hard to explain by an exogenous determinant as the legal system. The authors argue that shifting political coalitions, based on a dominant interest group in favour of, or opposed to, financial development, influence the expansion or contraction of a country's financial system. Roe (2002) also contends that an effective legal system is an important, though not a sufficient condition for financial development. He argues that managerial agency costs are not only caused by majority shareholders or malevolent managers who want to divert value to themselves illegally – sometimes called 'tunnelling' (Johnson et al. (2000)) – but also by simple mismanagement. And although the legal system is important in pro-

14 Empirical papers linking (non-legal) institutional quality to financial development are rare, an exception being Garbaldi et al. (2002). There is a broader empirical literature on the direct relationship between (non-legal) institutions and economic growth, e.g. Knack and Keefer (1995) and Mauro

(1995). See also the citations supra note 30.

15 Institutions can be defined as the 'rules of the game' in an economy – both formal and informal – that influence microeconomic incentives (North (1990)). See on the link between informal institutions and financial development Guiso et al. (2000), Semenov (2000), Stulz and Williamson (2001), and Garretsen et al. (2003). On the link between informal institutions and investment and/or growth: Knack and Keefer (1997), Beugelsdijk and van Schaik (2001), and Zak and Knack (2001).



fecting minority shareholders from the former cause, corporate laws do not provide protection from the latter. The common message of all of these contributions is that even though the legal system is a determinant of financial development, other factors may play (more) significant roles too.

A second major weakness of the legal view relates to its lack of understanding as to *how* exactly legal institutions influence financial and economic development. Until now, the legal view literature has mainly consisted of broad cross-country empirical investigations at a high aggregation level, without much theoretical, microeconomic underpinning.<sup>16</sup> As an example, Beck et al. (2002), using firm-level survey data, show that the growth of (small) firms is affected by financial and legal constraints and by corruption. Yet, the legal constraints as perceived by the firms themselves turn out not to be correlated with intuitive descriptors of an efficient legal system. As a result, the exact ways in which legal constraints influence the performance of firms remains for the greater part unclear (see also Demirgüç-Kunt and Maksimovic (1999) pp. 333-334). A first empirical contribution to clarify the mechanisms through which legal origin influences financial development is given by Beck et al. (2003). The authors assess the relevance of two channels through which the legal system may affect financial development: the political channel and the adaptability channel. The former poses that legal systems differ in the priority they give to private property rights relative to the rights of the state. The latter implies that legal systems differ in their ability to react to changes in the socio-economic environment. Using cross-country regressions, Beck et al. (2003) find that it is this last channel that matters most. Legal systems that are better able to adapt swiftly to changes in the contracting needs of an economy, will stimulate financial development more. In sum, the legal view literature has more or less convincingly made the case that there is often a positive and causal relationship between financial and economic development, which depends on the quality of the legal environment. However, the exact ways in which this empirical regularity is shaped at the microlevel is less clear. Also, the relative importance of legal versus other determinants of financial development is still largely unexplored.

### 3 A LEGAL VIEW ON TRANSITION?

The main shortcomings in our knowledge of the law-finance-growth nexus become even more pressing in light of the CEB transition process. In this region, the institutional and legal environment has been – and still is – in a process of

<sup>16</sup> An important exception is Shleifer and Wolfenzon (2002) who present a market equilibrium model of countries with different levels of outside shareholder protection. The model is consistent with a number of empirical regularities that are at the core of the legal view literature. It shows for instance that more firms go public in countries with better investor protection and that these firms channel the funds they raise to projects with higher productivity.

change, implying that the legal system can only to a very limited extent be regarded as a stable and exogenous determinant of the financial system. Secondly, especially in the case of transition economies, clarifying the channels through which (changes in) the legal system affect financial development and economic growth will have important policy implications. As a result, much research into this region has tried to unravel the channels through which deficient legal institutions corrupt microeconomic incentive structures, resulting in lower quality financial intermediation. Here, soft budget constraints have received most attention.

### 3.1 Law and Finance during Transition: The Role of Soft Budget Constraints

The concept of soft budget constraints (SBCs) provides for an important channel through which deficient legal institutions may inhibit the development of a well-functioning financial system. The term SBC was first used by Kornai (1980), when describing the bailing out of loss-making firms by socialist governments, but I use the following definition:

*'A firm has a soft budget constraint if it has negative expected net present value but receives financing; or if a financial decision of a creditor or the government following default allows the firm to continue in operation although its assets would yield a greater return in an alternative use;'* (Mitchell (2000)).<sup>17</sup>

Berglöf and Roland (1998), elaborating on Dewatripont and Maskin (1995), provide a simple, yet elucidating formalisation of SBCs. The main point relevant to this paper is that they clarify how a deficient legal framework, through acting upon collateral values, may hinder the development of a high quality banking system. In their model, SBCs represent a dynamic commitment problem in which it is ex post optimal for a creditor to bail out a borrower (instead of liquidating it) because the funds that are already invested must be regarded as sunk costs. When creditors have a lack of credible commitment to liquidate, this will lead to moral hazard behaviour on the borrowers' side. The firm expects to be refinanced and therefore has a soft budget constraint.

To see this, suppose that in a two-period game, privatised and profit maximising banks in a transition economy lend to firms. There are firms with 'good' projects and firms with 'bad' projects, respectively in proportion  $\alpha$  and  $(1-\alpha)$ . Ex ante a bank has no information about the quality of the projects and lends all firms the start-up costs of 1 monetary unit. At the end of period 1, the good projects will yield a return to the bank of  $R^g$  and deliver private benefits of  $B^g > 0$  to the firm's management. Poor projects can yield the same returns ( $R^g$

17 Maskin and Xu (2001) provide an excellent survey on SBC-theories.

and  $B^g$ ), but only if the firm management exerts high effort (effort being a binary choice between 'high' and 'low').<sup>18</sup> If the management exerts low effort, the yield will be zero. In that case, the bank will have to make a decision between liquidating the project, thereby receiving the liquidation value  $L$  (firm management receives nothing), or refinancing the loan with an additional monetary unit. The bank will then get a gross return equal to  $R^p$  (instead of  $R^g$ ) at the end of period 2, while the firm gets a private benefit of  $B^p$  (instead of  $B^g$ ). Now, when will firms have a SBC and thus exert low effort? This will be the case if:

$$(2) \quad R^{p-1} > L \text{ and } B^p > B^g$$

If the first condition is met, it is *ex post* optimal for a bank to refinance rather than liquidate the project (this refinancing of poor projects is *ex post* inefficient when  $R^p + B^p > 2$ ). Although the project is (also) inefficient *ex ante*, it should be remembered that the initial costs of investment are already sunk when the bank has to make a decision about whether or not to refinance. Firms know this and will therefore exert low effort when their private benefits in case of refinancing exceed the benefits in case they had exerted high effort in period 1 ( $B^p > B^g$ ). If the bank were able to credibly commit itself to liquidating poor projects, firms would always exert high effort. Berglöf and Roland (1997), using a similar model, show that SBCs and credit crunches can coexist when banks tend to refinance old projects and at the same time withhold finance from new firms. This will be the case where the proportion of good new projects is relatively low, and the difference in returns between good projects and the refinancing of poor projects is small. Banks will then favour the 'sure' investment of refinancing existing loans above the funding of risky new projects. In this way, a situation can arise in which *ex ante* inefficient projects keep receiving loans while at the same time new 'good' projects face a credit crunch.

In the above SBC-model the liquidation value  $L$  is of crucial importance. Commitment problems for banks in transition countries will remain severe where collateral values (and therefore  $L$ ) are extremely small. In principle, banks could increase  $L$  by simply demanding more collateral when deciding whether to finance a particular project or not. Yet, even when collateral is available,  $L$  might be low because legally claiming it is costly and time-consuming, e.g. due to legal deficiencies such as inadequate investor protection. Banks may for instance have a subordinated position as a creditor. Moreover, in many transition countries legal enforcement by judges, specifically in the case of liquidation procedures, is extremely weak. In those cases, the net present value of the option to liquidate a bad project may turn out to be lower than the option to refinance. As a result, firms – often inefficient and state-owned – keep profiting from SBCs. At the same time, the credit supply to new and *ex ante* profitable firms may be cut off, further

deteriorating the allocative efficiency of banks' activities. If  $L$  were higher, say due to improved liquidation procedures, banks could more credibly threaten to liquidate bad projects. Firms' management would then start to work harder or would stop seeking loans for bad projects altogether.

A deficient legal system will thus, by stimulating SBCs, have an ambiguous effect on quantitative banking development: credit to inefficient projects may increase, while at the same time credit to new and efficient projects may come under pressure. Scarce savings will be allocated inefficiently, so that finance cannot (fully) contribute to growth. In fact, SBC-theories provide a theoretical underpinning for a relationship between law and finance which is particularly relevant for transition economies (but may be of interest to a broader set of countries). Note that in the presence of SBCs, banks may actually grant large amounts of bank credit, leading to – at first sight – a 'highly developed' banking system. In a transition context, inadequate legal systems can thus, *ceteris paribus*, stimulate (some) banks to become *larger*.<sup>19</sup> However, as a large proportion of the balance sheets of these banks consists of bad loans, the contribution of finance to growth will nonetheless be limited: *qualitatively* the banking system is still underdeveloped.<sup>20</sup>

How will this affect the traditional legal view literature and the IV-techniques which are frequently used in it? The essence here is that a large-scale presence of SBCs will make rough, quantitative measures of financial development, such as 'total bank credit to GDP', very imperfect proxies for qualitative financial development. Since it is – almost by definition – only qualitative financial development that contributes to economic growth, the link between traditional quantitative measures of financial development and economic growth will become less strong or even absent. At the same time, the existence of SBCs causes improvements in the legal system to have an ambiguous effect on quantitative banking development. On the one hand, better legal institutions will stimulate banks to grant more credit as they now feel better protected by law. On the other hand, the improved legal system will increase collateral values, thus giving banks a stronger incentive not to renege but to liquidate bad projects. Legal variables will then become much weaker instruments for financial development in IV-estimations, as the correlation between legal development and quantitative financial development may largely disappear.

Whereas in broad cross-country studies rather crude quantitative measures of financial development may proxy reasonably well for qualitative financial development, this will thus not be the case in a transition context. In order to transpose the legal view to transition countries, one would thus have to measure true

19 In the regular legal view literature insufficient legal protection would conversely lead to smaller banking systems.

20 Cf. Jayaramne and Strahan (1996) who show for the US that it is the quality of bank lending that is beneficial for economic growth, rather than the amount of financial intermediation.