

Summary Report

“The Role of Liquidity in the Financial Markets of Transition Economies”

This report is a brief, nontechnical summary of the project “The Role of Liquidity in the Financial Markets of Transition Economies,” undertaken by five researchers from Central European University, financed by a grant from CERGE–EI Foundation under a program of the Global Development Network.

The **main outcomes** of the project are two scientific papers, namely

- “*Internal Capital Markets: The Insurance Contagion Trade-off*” by Loránd Ambrus-Lakatos and Ulrich Hege, and
- “*Portfolio Choice with Illiquid Assets*” by Miklós Koren and Ádám Szeidl,

both already submitted to international refereed journals, the European Economic Review respectively the Review of Financial Studies, the second also forthcoming as a CEPR Discussion Paper. Both of them have been presented at a number of workshops and conferences.

Other outcomes of this research are two working papers,

- “*Information, Liquidity and Contagion*” by Miklós Koren and Ádám Szeidl, and
- “*Bond Spreads, Exchange Rate Movements and Risks*” by Péter Benczúr.

These papers circulate as working papers, both of them have been presented at international conferences.

In what follows we provide an extended, nontechnical summary of the main papers, and also review the other two papers.

The paper “**Internal Capital Markets**” is a corporate finance paper. Its main purpose is to investigate how spillovers in lack of liquidity within internal capital markets affect value creation in a conglomerate. The topic is of obvious interest concerning transition economies. State owned as well as freshly privatized conglomerates abound in the former socialist countries. Also, due to underdeveloped financial markets, outside financing is probably a lot more difficult to raise than in developed countries, making internal capital markets particularly important.

The main idea of this paper is that when liquidity is scarce, cross-financing in internal capital markets drains resources from the high performing subsidiaries to the low performing ones in order to avoid default of the latter and thereby of the whole conglomerate. That is, lack of liquidity spills over from one subsidiary to the other, forcing previously financially healthy firms to abandon high net present value investment projects. This mechanism can be considered as the flip side of popular stories that stress the risk-sharing nature of internal capital markets. The paper investigates the trade-off between these two effects.

As discussed in the paper, the empirical relevance of the liquidity smoothing effect has been verified in a number of recent studies about several emerging markets. On the theoretical side, the paper finds that the contagion effect is expected to dominate when firms are volatile, and insurance when firms are stable. Because lack of outside financing makes the problems more severe, one conclusion is that in transition economies conglomerates probably distort value creation via the liquidity smoothing effect, unless the firms involved are very stable.

The paper also finds that the value of conglomerates fall when financial conditions deteriorate, say during a credit crunch or a full fetched financial crisis. Again, because transition economies are much more prone to such crises than developed countries, conglomerates seem like an unfavorable corporate structure for these economies. In particular, conglomerates facilitate a liquidity based contagion of financial crisis in the internal capital market

of the firm. This contagious effect can easily lead to an economy-wide credit crunch, and potentially banking crisis, considerable slowing aggregate economic activity. Hence more conglomerates make a transition economy more vulnerable to financial crises.

The main *policy conclusion* that emerges from this paper is that in transition economies conglomerates are probably a bad thing. They lead to value distortion due to inefficient allocation of available funds, and they are also more sensitive to financial crises. Other things equal, the main policy implication is to slice into pieces and privatize the remaining state-owned ex-socialist conglomerates.

The paper “**Portfolio Choice with Illiquid Assets**” is an asset pricing paper. Its main purpose is to investigate the portfolio choice of rational investors when available assets differ in their degrees of liquidity. The issue of illiquid assets and asset markets is particularly relevant for transition countries. This is because financial markets in these economies are generally underdeveloped, small and illiquid, and also because markets and the market mechanism in general do not have long traditions in post socialist economies, hence more likely to have “sand in the grains.”

The main issue investigated in this paper is how portfolio demand for illiquid and liquid assets vary when market conditions change. Given that the most liquid asset is cash, the paper also provides micro-foundations for the aggregate money-demand function. The paper builds a theoretical model of market liquidity and portfolio choice, and also provides calibration and simulation results. The main numerical finding is that for a set of benchmark parameter values the portfolio share of cash is between 2 and 6%. These investment recommendations by practitioners.

On the qualitative side, the paper finds a number of interesting effects that also have policy implications. First, the share of cash in the portfolio is increasing in the uncertainty of the environment, as captured by the volatility of consumption growth. Because over time transition economies are getting less volatile, agents will hold less and less cash. In order to avoid inflationary pressure, the money supply should accommodate this.

Second, as the amount of illiquidity decreases in the economy, agents

will again hold less cash, because it becomes easier for them to liquidate their less liquid wealth, should the need arise. This effect again points towards decreasing money demand over the course of development of transition economies.

Third, the demand for cash is, quite surprisingly, increasing in the liquidity yield premium commanded by the illiquid assets. That is, if illiquid assets yield a higher return, consumers will tilt their portfolio away from them, towards cash. The reason for this is a higher yield in effect makes consumers richer, and so they wish to spend more money; but that requires holding more cash. Now presumably as markets become less imperfect, the liquidity yield premium is going to fall. This third effect implies, then, that agents tilt their portfolio away from cash.

To sum it up, the paper has identified three channels, all pointing in the way of less demand for cash over the course of financial development in transition economies. Clearly, to avoid inflationary pressures, the monetary authority should accommodate these by decreasing the money supply accordingly. Moreover, as demonstrated by the calibration and simulation results, the model developed in the paper is capable of quantifying the change in money demand, thereby providing a potentially useful applied tool for central bankers.

The paper “**Information, Liquidity and Contagion**” is a paper in international finance. The subject of this study is to investigate how fundamentally unjustified financial crises may arise due to shortages in liquidity. The topic is clearly important for transition economies.

The paper shows that liquidity based financial crises may arise in equilibrium when international investors are imperfectly informed about the fundamental quality of a particular financial market or exchange rate. The paper also demonstrates that should a crisis take place, a bailout by non-participating investors need not occur. Additionally, by means of a numerical example the paper shows that even very good quality assets may be hit by a liquidity based crisis and not bailed out.

The importance of this model in terms of *policy implications* is twofold. First, decreasing the informational asymmetry makes non-fundamental crises

less frequent. This fact underlines the importance of transparent economic policies, legal system and regulation. Second, the channel of the non-fundamental crisis is lack of liquidity. Hence appropriate provision of liquidity, and parallelly the development of domestic financial markets will be significantly decrease the vulnerability of the economy to such crises.

The model is capable of being extended to liquidity based financial contagion, much along the lines of the model in the paper “Internal Capital Markets.” This is a direction for future research.

“**Bond Spreads, Exchange Rate Movements and Risks**” is an empirical study in international finance. The paper looks at the uncovered interest parity condition and the forward premium puzzle from a bond market perspective. Interest parity is rewritten as a bond pricing equation, with domestic interest rates being determined by foreign rates, exchange rate risk, and further fundamental risk factors (default risk and “liquidity” in general).

This enables a detailed look into the working and the failure of interest parity: whether it is due to the transmission coefficient, the exchange rate risk coefficient or extra risk terms. Moreover, this flexible framework also establishes a practical link between domestic interest rates and exchange rate movements, giving policymakers some guideline about the influence of interest rate decisions on exchange rate behavior.

Using quarterly data on 3-month interest rates and exchange rates of developed and also developing countries, relative to the US dollar, we find strong evidence for a less than one in one transmission. In fact, most of our results show an insignificant coefficient of the US interest rate. The coefficient of the exchange rate risk is positive in all cases. For developed countries, especially with floating exchange rate regimes, however, it is significantly below one; while for developing countries, the 95% confidence interval often contains one, and it is never far away.

For the developing sample, the inflation differential seems to be an important extra determinant, with a coefficient of 0.1. There is some evidence that a dummy for a large exchange rate depreciation in the previous period, and the instability of the exchange rate regime (captured by the number

of past regime changes) also plays a role. For developed countries with non-floating exchange rate arrangements, there is no clear sign of any fundamental effect, while the inflation differential also appears influential for developed floaters.

The main *policy conclusion* is an empirical understanding of the way interest rate decisions influence exchange rate behavior in developing economies.

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