

HUNGARY'S TRANSITION TO A CAPITAL-MARKET-BASED FINANCIAL SYSTEM: PROBLEMS AND SOLUTIONS

Aneesh Varma



Introduction

Until the early 1990s Hungary had a bank-based financial system, like some of its close European allies such as Germany. However, after the dissolution of the COMECON¹ the new economic and political freedom allowed it to change to a capital-market-based financial system. In this financial system, as found in the United States (U.S.) and United Kingdom (U.K.), institutional investors² have greater corporate control. Consequently stock price maximization becomes one of the primary objectives.

¹The Council for Mutual Economic Assistance, 1949–91, was an economic organization of communist states and Eastern Bloc equivalent to (but more inclusive than) the European Economic Community. The military counterpart to the COMECON (or Comecon) was the Warsaw Pact. (Wikipedia.org [a])

²Institutional investors include pension funds, mutual funds, endowments, and insurance companies.

(Damodaran, p. 31) The system is structured to provide guidelines for corporate decisions, such as return on capital, to be followed in the best interest of stakeholders.

Countries like Germany, France, and Japan are considered to have bank-centered financial systems. In these countries bank finance is crucial for raising funds for projects, and the creditors are major shareholders. In most cases, the bank's executives will have close personal relationships with the company's management and will be involved in board meetings. In Japan, for example, firms can take on large loans from mutual-aid networks known as *keiretsu*. These industrial groupings with a large bank at the center help in the exchange of information, trading relationships, cooperative projects and, most importantly, favorable contracts. They can also form a safety net in case of distress, allowing firms to take the risk of highly leveraging themselves. (Shapiro,

p. 341) Lending banks are also able to buy shares in companies, which is not permitted in capital market systems.

This article examines the changes and trends in the Hungarian financial system since the move to a capital-market financial system. First it evaluates the problems in the transition of the financial system. Although some of these problems arose because of Hungary's communist past, focus is directed toward those that resulted from weak foresight by Hungarian capital-market players. The article then provides some recommendations to overcome these problems. Special attention is given to Hungary's recent accession to the European Union, which gives it access to close to 500 million more people and over \$12 trillion in output. Hungary's efforts in the next few years to reform its financial system could dictate whether this accession remains a challenge or becomes a great opportunity.

Current Shortcomings in the Transition

Hungary's transition to a capital-market financial system has experienced shortcomings, three of which will be addressed in this section: a relatively small stock market capitalization, limited prospects for venture capital and private equity, and inadequate transparency in the financial system.

Stock Market Capitalization

The total value of all the shares outstanding in a stock market is an important metric by which stock markets are often compared globally. Known as stock market capitalization, it influences the ability of local corporations to raise money in the stock market. It also affects liquidity, transaction costs, and the general interest of the average household investor in the stock market.

As early as 2000 Hungary had a stock market capitalization valued at 35.7 percent of GDP, the highest among Central and East European (CEE) countries. (European Bank for Reconstruction and Development 2000, p. 13) However, this number is still far less than those of developed capital markets such as the U.S.,

where the stock-market-capitalization-to-GDP ratio has been over 100 percent in recent years. (Wikipedia.org [b]) Concurrently the liquidity at the Budapest Stock Exchange (BSE) has also been a matter of concern, with the turnover velocity³ declining on the BSE in recent years (Figure 1). Well developed exchanges like those in London and New York exhibit turnover velocities in the range of 100–170 percent. Claessens, Klingebiel, and Schmukler (p. 12) found that the drop in liquidity in emerging capital markets could be due to larger companies listing and raising capital abroad on more liquid exchanges. This has been witnessed in Hungary, too, which unfortunately leads the CEE countries in the number of their firms having initial public offerings (IPOs) and trading ADRs⁴ in U.S. and Europe. (Bonin and Watchel, p. 32) Levine (p. 408) states that liquid capital markets provide confidence that investors can withdraw their savings quickly and cheaply when they need to. Higher liquidity can reduce spreads and transaction costs. The growth in the number of investors also marks the start of mutual funds which manage the investors' money. In the case of Hungary, within a span of just a few years mutual funds have grown to over \$3 billion⁵ in assets by 2002, accounting for five percent of Hungarian GDP. This constitutes a rapid growth from the one percent level in the mid-1990s. This is still a very small amount compared to that in the U.S., where as of April 2006 mutual funds controlled over \$9 trillion, almost 75 percent of the U.S. GDP. (Investment Company Institute)

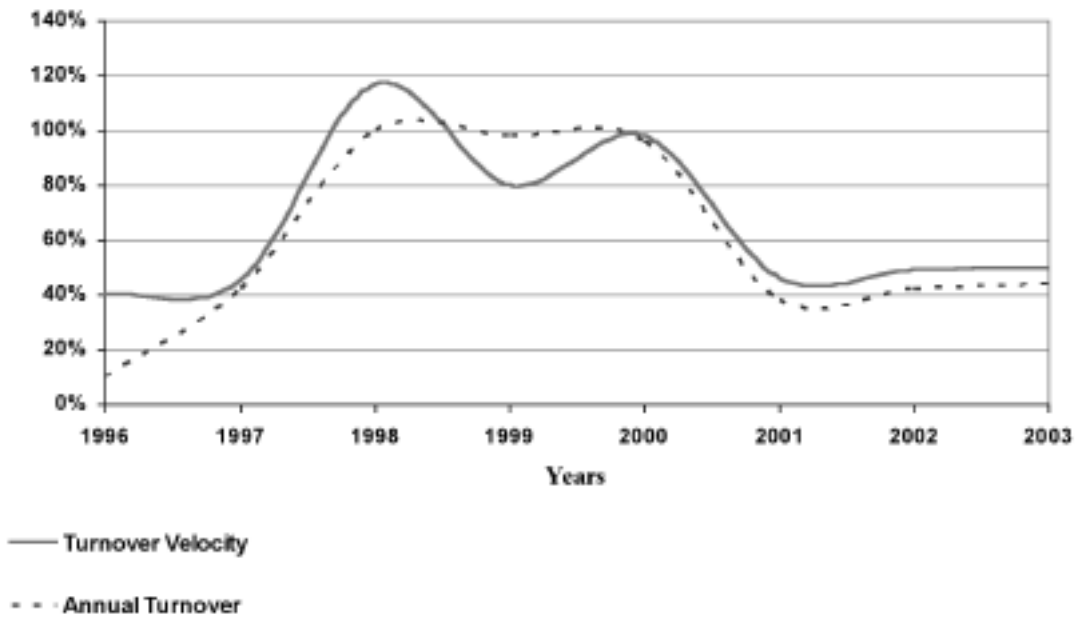
The other reason for the limited stock market capitalization in Hungary is the underdeveloped counterpart of the mutual funds industry — the issuance of financial securities by investment banks. In terms of equity

³Turnover velocity is defined as the average of annualized turnover of shares per month divided by market value at the end of each month.

⁴An initial public offering (IPO) occurs when the shares of a company are first made available to the stock market, signifying the company has gone public. American depository receipts (ADRs) are negotiable certificates issued by a U.S. bank representing a specified number of shares (or one share) in a foreign stock that is traded on a U.S. exchange.

⁵All dollar values in this article are quoted in U.S. dollars, unless stated otherwise.

Figure 1
Trading Activity on the Budapest Stock Exchange



Source: Budapest Stock Exchange, 2003.

issuances, the first seven years of 1990 saw just over \$1 billion raised for Hungarian firms. Between 1997 and 2000, Hungarian firms were able to extract over \$6 billion from the equity markets by listing on the BSE. (Securities Database Corporation) However, when the data are adjusted to account for just IPOs, we see that there have been none on the BSE since 2000, which globally have been years with a high volume of IPOs (Figure 2). Comparing Hungary to some other emerging markets such as India, China, and Israel, we still see a higher number of IPOs in these economies, especially in the biotechnology and information technology sectors. (PricewaterhouseCoopers, 2006)

The years 2003 to 2006 have been very opportune times for European exchanges to host IPOs. According to the “European Liquidity Report” put out by VentureOne, in 2005 the total number of European IPOs outnumbered the total in the U.S. A PricewaterhouseCoopers (PwC) study in 2006 stated that the heavy regulation in the U.S. after the Sarbanes-Oxley Act of 2002 was causing firms to prefer European exchanges, such as

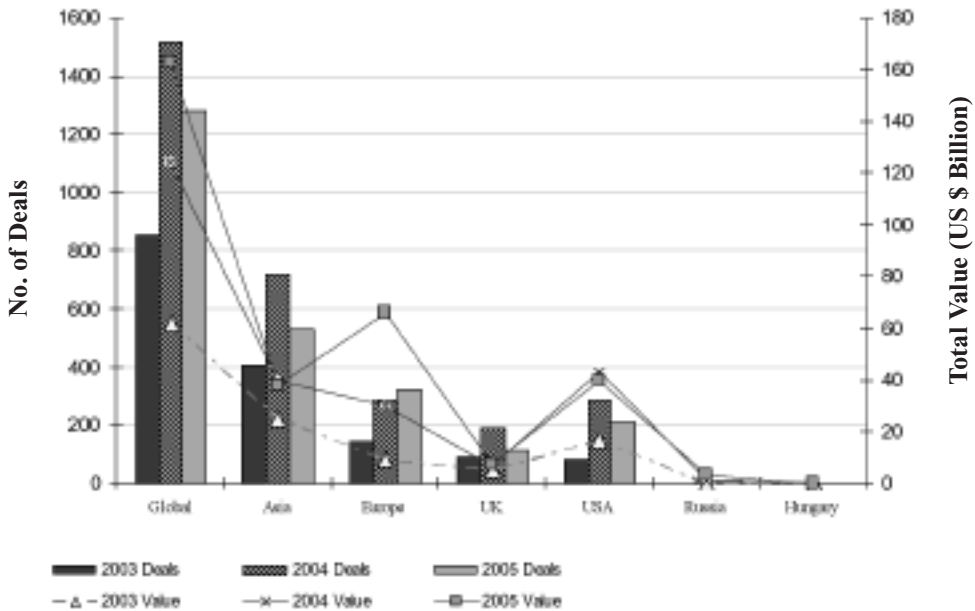
AIM, Euronext, and the Deutsche Borse. In 2005 U.S. exchanges drew only 23 international IPOs whereas Europe attracted 123, of which 13 were U.S.-based firms. (PricewaterhouseCoopers, 2006) Hungary, in contrast, has not been able to garner any momentum in this area. Such stagnation could affect the injection of new money into the Hungarian stock market, hurting overall capital market growth in the country.

Venture Capital and Private Equity Prospects

Hungary needs both venture capital (VC) firms and private equity (PE) firms, which are an important step in promoting innovation and research into newer technologies. Several successful global firms have had venture capital roots, like Google and Cisco Systems, which were started through Sequoia Capital. In Hungary these firms have been operating with limited success, but accession to the EU has sparked interest from global players. In recent times, such firms have been large contributors to capital market activity in developed markets

Figure 2

Initial Public Offerings in Different Markets (Calendar Years 2003 through 2005)



Sources: Ernst and Young (2005); PricewaterhouseCoopers (2004, 2005, 2006); Thomson Financial (2006); Securities Database Corporation (2006).

like the U.S. and the U.K., where nearly a quarter of all merger and acquisition (M&A) activity is due to PE funds buying and selling firms. (Thomson Financial)

Hungary’s main concern in relation to the VC activity is the relatively small size of potential target companies. Kevin Smith (p. 111), a specialist in Hungarian financial markets, writes that VC firms seek investments over \$15 million to be effective (refer to “critical size” in Figure 3). In 2004 only two of the 41 VC buyouts met the threshold of \$15 million. Furthermore, decisions to sponsor ideas by VC firms are made in Western European boardrooms, where the outlook on innovation in Hungary remains pessimistic. (Lenart)

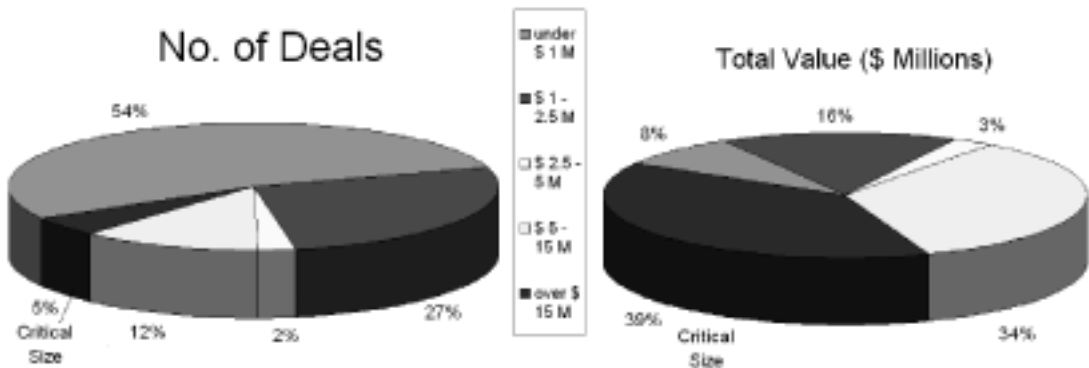
Hungary also needs to cultivate an environment for encouraging institutional pools of capital to be invested in VC and PE firms. These are huge pools of capital that are in search of alternative forms of investments. According to McKinsey Global Institute (MGI), over the last 20 years the average return on investment on PE projects in Europe (19.4 percent) has gen-

erally outpaced those in the U.S. (12 percent). However, Europe still struggles to find pools of capital interested in investing in PE and VC funds, raising only \$40 billion in 2003, whereas the U.S. raised three times this amount. (MGI, p. 6) In the specific case of Hungary, in 2004 only one pension fund invested in a VC fund. (Hungary Venture Capital and Private Equity Association) Globally, larger PE and VC funds are being raised every year owing to the strength of institutional investors such as pension funds, endowments, and insurance pools. Hungary’s VC and PE industries will remain underdeveloped if they are unable to tap into these huge institutional pools of capital.

Trust and Transparency

The next section will cover three main problem areas that also hamper Hungarian capital-market growth: accounting standards in the financial system, corporate governance standards of internal management, and shareholder rights of the external investor.

Figure 3
Venture Capital Activity in Hungary, 2004



Sources: Hungary Venture Capital and Private Equity Association, "Statistical Survey 2005."

Accounting Standards

The success of capital markets relies on transparency and disclosure of financial statements by companies to the public investors. Scandals such as Enron and Worldcom even in developed capital markets like that of the U.S. hurt investor sentiment. In the U.S., the Securities and Exchange Commission (SEC) has strict rules about the public listing of companies and disclosure policies of internal finances. Effective January 1, 2000, Hungary adopted Act C on Accounting, which brings it closer to International Accounting Standards (IAS). Since most of Western Europe follows IAS as well, this provides a common platform for international investors. Most of the registered firms on the Budapest Stock Exchange also provide US GAAP financial statements to encourage foreign direct investment (FDI) by international investors. If Hungarian firms list on U.S. exchanges, they will also have to follow the guidelines of the Sarbanes-Oxley Act of 2002 for foreign filers.

However, problems still persist that need to be resolved, especially with the EU accession. Deloitte and Touche find that the valuation framework for financial instruments is the main concern with Hungarian Accounting Law (HAL) as compared to IAS. This has a major effect on goodwill and acquisition valuation in

M&A, which are major activities in a successful capital market. Further reforms are needed to align HAL with IAS to allow for favorable treatment of M&A.

Corporate Governance and Transparency

Good corporate governance provides a set of mechanisms designed to curtail the fundamental agency problem between management and shareholders. (Becht, Bolton and Roell) It is therefore important to have transparency and well-structured internal controls upon which shareholders can rely. Hungary is generally perceived to have better transparency in corporate governance compared to those of its CEE peers in transition. (Smith, p. 112) However, its shortcomings are common to most of the CEE countries as well. Berglof and Pajuste (p. 286) find that one of the main problems is excessive intervention in management by controlling shareholders, while minority investors are generally ignored. Minority protection is important since it promotes new capital sources and interest in stock markets. Berglof and Pajuste further argue that, given the limitation of civil law, regulation alone will not help, thus giving rise to the need for stronger corporate governance.

Macey (p. 19) encourages stronger corporate governance through three main channels:

the capacity to restrict management's ability to obtain private benefits from control; the ease of access to financial markets for capital; and the ease with which inefficient management is replaced. These form the basis of investor protection granted by the firm, as opposed to those granted by the state through laws. Here too Hungary has done well, and better than its CEE peers. In fact, the European Bank for Reconstruction and Development (EBRD) gave Hungary a relatively high score on its annual securities market indicator, stating that Hungary had "some protection of minority shareholders, relatively liquid and well functioning security markets and effective regulations." (EBRD 2005, p. 39)

Hungarian firms are therefore adopting well-defined forms of corporate governance and are on the right track. Though it will take a couple of years before they can reach standards similar to those in the U.S. and U.K., they should also step back and learn from the mistakes of these countries. According to Bogle, scandals such as Enron and Worldcom have hinted at a movement of corporate governance policy from "owner's capitalism to manager's capitalism." (Bogle, p. 245) Other notable experts such as La Porta et al., Boytsun, and Senator Paul Sarbanes have resonated Bogle's claim that newer "mutations" of corporate governance are often intended to protect boards of directors rather than shareholders. Hungary should take lessons here and watch out for "informal rules" that help the managerial hubris. (Berglof and Claessens) Transparency in the rules of corporate governance is paramount to the shareholders, and Hungarian investors should insist on it.

Shareholder Rights

Protecting even the smallest investor is important, especially if households are to be encouraged to consider the stock market as an investment for their savings as opposed to bank accounts. Boytsun notes that almost all transition economies have civil-law systems where minority shareholders are likely to be less protected. However, under common law, courts can use their interpretative power to penalize opportunistic behavior of corporations and

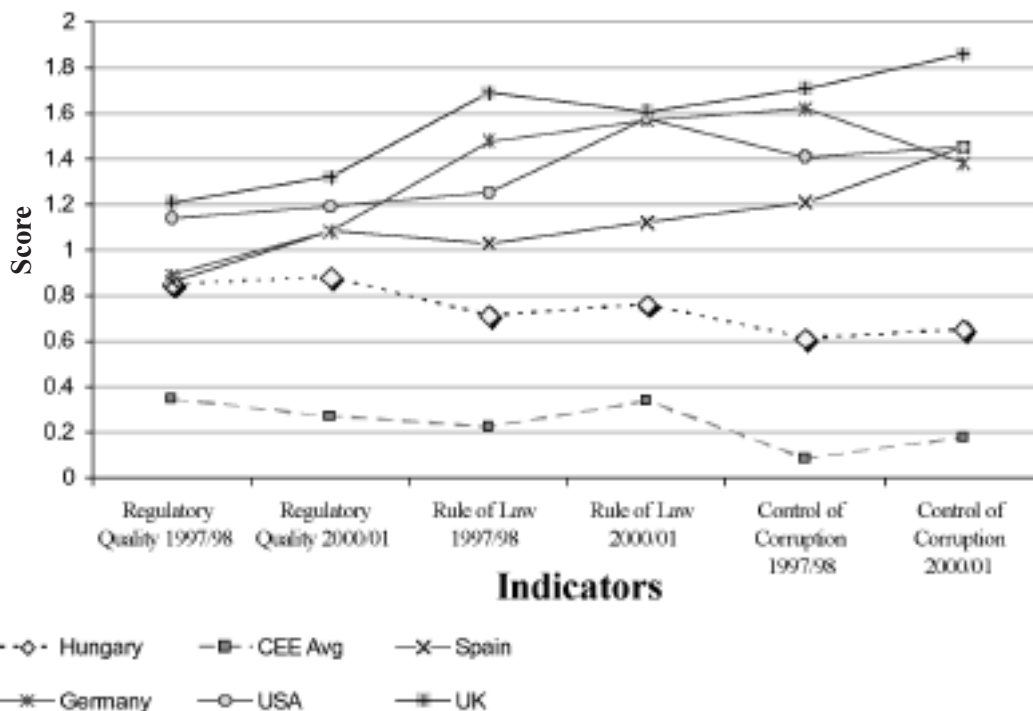
therefore secure greater shareholder rights. (Ergungor, p. 2872) Hungary has a civil law system, where laws can be amended only by acts of Parliament and ministerial decrees. In such environments where creditor rights are more important than shareholder rights, capital markets often are the victims and fail to reach their potential. (Demirguc-Kunt and Levine)

Similarly, foreign investors in Hungarian capital markets often analyze international indices of legal framework, which provide a standardized view across different international capital markets. In this regard Berglof and Pajuste (p. 282) note that among CEE countries Hungary and Poland have set up strict regulatory mechanisms aimed at protecting investors from management and majority-shareholder fraud. The European Bank for Reconstruction and Development Transition Report (2000, p. 39) corroborates that Hungary leads its 11 CEE peers and Russia with respect to extensiveness of law on books (written precedents) and enforcement of this law. However, a more comprehensive index of corporate governance metrics is provided by Kaufmann et al., who aggregated all such indicators and formed three categories of indicators that encompass the main sections of corporate governance (refer to x-axis, Figure 4).

Though the figure shows that Hungary leads its CEE peers according to these corporate governance indicators, it is still far behind the U.S., the U.K., and even Germany. Hungary therefore must continue to assert its image as an efficient and trustworthy capital market in Western European boardrooms. Canning and Hare (1996) provide evidence that in the early 1990s it was the mass privatization which caused the initial stock market growth. However, in the coming years Hungary has to grow firms internally and bring them to the capital markets.

Hungary currently stands at an important crossroad. Having left behind its communist legacies, it now needs to restructure its industrial specialization. It is this author's opinion that the time is right for Hungary to start specializing in high-value-added industry with a specific focus on such sectors as biotechnology, nanotechnology and communications. The financial system is an important catalyst for this

Figure 4
Comparison of Corporate Governance across Various Aggregated Indicators
(1997/98 and 2000/01)



Source: Kaufmann et al. (2002).

reform. Hungary’s recent accession to the EU provides a stimulus for change.

Guidelines and Recommendations for a Successful Transition

Capital markets consist of three main players: lenders, borrowers, and facilitators. To have a well-developed capital market, Hungary needs to address the needs of firms that want to use capital markets instead of bank loans to raise funds. Firms seek liquid markets with low transaction costs, high accounting standards, and good shareholder protection. (Pagano et al.) This section will analyze these requirements and the need for related financial institutions to support a well-developed capital market.

An Integrated Pan-European Stock Exchange?

Since its inception on June 21, 1990, the BSE has done a lot to improve its capacity and

services offered. At the end of 1990 only six equities and no government securities were being traded on the BSE. (Nivorozhkin) However, looking at recent trends, Koke and Schroder state that among all CEE stock exchanges the BSE is probably the most developed for handling high trading volume. Furthermore, as part of an effort to create a more integrated exchange, the BSE started commodity trading in November 2005. The next step is for it to make better use of technology, as is the demand of modern global business. Even established successful exchanges are moving to online and virtual exchanges as seen in the announced merger of the NYSE with an online exchange (Archipelago) in 2005. This will in general reduce transaction costs and open the market to more investors, both of which can improve liquidity. Another solution that is gaining popularity is to bring CEE exchanges together in a common trading platform. (Hasan and Malkamaki) The creation of a pan-CEE trading exchange will allow these

smaller capital markets to combine to form the critical mass required for threshold liquidity and activity. Zsolt Horvath (p.118), who has served as the general manager for the BSE since 2002, has stated that efforts are underway to bring about greater “strategic cooperation” among neighboring exchanges to allow for joint action. At present the Euronext Exchange integrates the Belgium, France, Netherlands, Portugal, and U.K. exchanges to allow for a pan-Western European exchange. Its success in becoming, at \$2.9 trillion, the fifth most capitalized exchange in 2005 (Euronext.com) serves as a model for the possibility of a pan-CEE exchange.

Shareholder Rights and Protection

Hungary has done well by empowering the Hungarian Financial Services Supervisory Authority (PSZAF) through passing laws which give it more tools to exert influence on stock market operations. In 2001 Act CXX on Capital Markets set up the basic regulatory framework. Hungary’s accession to the EU has been beneficial, as new amendments to the Act in July 2005 have brought it closer to the EU’s Prospectus Directive (2003/71/EC) and Market Abuse Directive (2003/6/EC). Disclosure of financial statements and annual reports has become synchronized and available online on PSZAF’s website, giving easier access to even the household investor. More importantly, these amendments have broadened the definition of insider trading and market manipulation, which again helps the smaller investor. Future areas of improvement should be to give the PSZAF additional tools such as the ability to conduct internal investigations to enforce these acts.

Credit Rating Mechanism

In a capital-market system, public debt of corporations is benchmarked to the risk-free debt (usually government debt, such as U.S. Treasury rates), and a risk premium is added to account for the additional financial risk depending on the firm’s credit standing. Firms like Standard and Poors (S&P) and Moody’s provide such ratings. At present in Hungary, no orga-

nized rating system is in place. Only certain established and consequently less risky Hungarian firms are covered by S&P. Most of the riskier firms usually receive a grade from the Ministry of Finance, which is known to be arbitrary in its grading. Corruption can easily help companies move their ratings higher. Though Hungary is less corrupt and more transparent than most of its CEE peers, improvements are needed. In the last five years, Hungary has slipped in the corruption perception index, indicating rising corruption (Transparency.org, 2006). The solution is to move the responsibility for debt ratings to an independent body.

Financial Institution Reform

Another very crucial element of the venture capital and private equity industries is to have well-rooted financial intermediary institutions. Investment banks that provide M&A advisory services are crucial in the process of buying and selling firms. General M&A activity in Hungary has been picking up too, with a 20 percent annual increase in 2005 to \$4.6 billion (PricewaterhouseCoopers, 2006). Another positive aspect in this regard is that, although Hungary accounts for only five percent of M&A activity in the CEE markets, one-third of its activity originates from the prominent Western European markets of Austria, Germany, and the U.K. Such transactions as the \$2.1 billion sale of Budapest Airport to the British firm BBA in 2005 were influential in giving the Hungarian capital markets a taste of “mega-deals.” (PricewaterhouseCoopers, 2006) These transactions also help other sectors envision larger and more frequent deals, especially in IT, manufacturing, finance, and chemicals — Hungarian industries where consolidation is much needed at this stage. (McKinsey Global Institute, 2005) This also means that Hungary is a great market for investment banks to provide advisory services.

Hungarian investment banks, however, have had a very tumultuous time since the banking reforms of 1987, when regulation of the money supply began through open-market operations, minimum reserve requirements, and discount window rates (affecting interest

rates). (Burant) The Act on Securities in 1990 had limited the underwriting capacity to only a select number of security dealers, at a time when most banks had huge non-performing loans on their balance sheets. Although the Act on Credit Institutions in 1997 allowed the new larger commercial banks to begin underwriting activities, these banks are still not able to be effective players in the capital-market environment. (Majnoni et al.) Even though most international investment banks such as JPMorgan have now entered Hungary, they only have skeleton establishments, with major decisions being made in the regional offices in Austria or Germany. There is a need for the PSZAF to encourage the growth of the securities industry by providing a favorable and stable interest rate environment which is crucial to the work of financial houses.

Furthermore, there is a similar need for institutional asset managers to start acquiring assets from pension funds, trusts, and university endowments. Until 2004 the government did not allow these huge pools of capital to be invested into alternative investments such as venture capital and private equity (VC/PE) funds or even hedge funds. (Smith, p. 112) European pension funds and large endowments have begun to favor such alternative investments. In fact, they invested about \$4.4 billion during 2005 in European VC/PE funds, up 160 percent from 2004. (VentureOne) With its accession to the EU, this is a very opportune time for Hungary to encourage European funds to invest in Hungary and start up its own VC/PE funds to invest elsewhere in Europe.

Consideration should also be given to the establishment of quasi-governmental agencies to deal with structuring and securitizing capital pools. Since Hungary cannot create such a large pool on its own, a pan-CEE agency would serve those countries which have similar interest rate environments and credit risks. The absence of these capital-pool-based securities (and their derivatives) can lead to an incomplete market and therefore ineffective strategies for the market players. Filer et al. contend that it is also essential to develop a mortgage market. (See the article by Adam Kornfield in this issue.) Such debt-based instruments as mortgages, along with auto loans, student loans, and cred-

it card debt, are important for creating a stable and dependable interest rate framework. Filer et al. also state that it is important to develop quasi-governmental agencies (such as Fannie Mae in the U.S.) which first insure mortgages and then resell them as bundled securities in secondary markets. This allows commercial banks and primary creditors to move risky debt off their balance sheets. In effect, these agencies could lower the interest rates charged to primary borrowers and help create market niches for investors with different risk preferences. Also mortgage-backed and asset-backed securities issued by these agencies are bought by asset management firms, thus creating much-needed liquidity to the market.

Conclusions

Hungary is a country with a rich heritage and a fascinating culture. However, the Hungarian economy is still in transition. Through most of the latter half of the twentieth century, Hungary labored under a strong communist backdrop. The most prominent sectors were heavy industries, mining, and natural resource extraction. Banks provided firms in these industries with term loans and had the power to influence their *modus operandi*. But in the new global competitive economy, Hungary has moved out of that era. To gather recognition on the international stage, Hungary has to encourage its high-value-added industries like nanotechnology, biotechnology, and specialized medicine.

Innovation and technological breakthroughs are trademarks of a capital-market system. Evidence in this article shows that capital markets can indeed aid Hungary's attempt to move into high-value-added industries. Though there has been a recent trend to adopt the capital-market system, Hungary still has many important issues to address to complete a successful transition. The government is an important player in capital markets. Its role in the transition should be limited, however, to setting up quasi-governmental agencies and enacting wide-ranging fiscal and monetary policy changes. Additional fundamental changes have to be brought about through the work of firms and investors, who are also major seg-

ments of capital markets. Firms with stronger shareholder rights have had higher value, higher profits, higher sales growth, and fewer corporate acquisitions. These are very important for the development of the high-value-added industries mentioned.

Very few economies have as of yet completed their transition from a bank-based to a capital-market system. Hungary can develop a very successful strategy for its own transition by carefully analyzing other transitioning economies as case studies to gain an understanding of the different entities that are involved in capital markets. The government cannot be the sole facilitator of the required environment. The government can set up agen-

cies, control corruption, curb budget deficits, and target inflation; but at best it is just like any other participant in the capital markets. Firms and investors, who form the other main components of capital markets, need to work collaboratively to bring about some of the changes described in this article.

Hungary's transition towards a capital-market-based financial system has been promising. Among its peer group in the CEE, it has led the way in reforms and in the use of capital markets. However, its recent accession to the EU gives it the unique opportunity to be an example for other central European nations to emulate.

REFERENCES

- Becht, Marco, Patrick Bolton, and Ailsa Roell. "Corporate Governance and Control," in *Handbook of the Economics of Finance*. George M. Constantinides, Milton Harris, and Rene M. Stulz, eds. North Holland, 2003.
- Berglof, Erik and Stijn Claessens. "Corporate Governance and Enforcement." Policy Research Working Paper 3409, Washington D.C.: World Bank, 2004.
- Berglof, Erik and Anete Pajuste. "Emerging Owners, Eclipsing Markets? Corporate Governance in Central and Eastern Europe," in *Corporate Governance and Capital Flows in a Global Economy*. Peter K. Cornelius and Bruce Kogut, eds. New York: Oxford University Press, 2003.
- Bogle, John C. *The Battle for the Soul of Capitalism*. 1st ed. New Haven: Yale University Press, 2005.
- Bonin, John P. and Paul Wachtel. "Financial Sector Development in Transition Economies: Lessons from the First Decade." *Financial Markets, Institutions and Instruments*, Vol. 12, No. 1, 2003, pp. 1–66.
- Boytun, Andriy. "Determinants of Corporate Governance in Transition Economies." University of Antwerp EIASM Working Paper, 2005.
- Budapest Stock Exchange (BSE); Annual Report Archives. Online. www.bse.hu/onlinesz/10003264.html?uio=4LONG6DOUDS22006007C23CR21Z24S349C8BOS305guest. Accessed March 10, 2006.
- Burant, Steven R. *Hungary: A Country Study*. 2nd ed. Washington, D.C.: Federal Research Division (Library of Congress), 1990.
- Canning, Anna and Paul Hare. "Political Economy of Privatization in Hungary: A Progress Report." Center for Economic Reform and Transformation. Heriot-Watt University, September 1996.
- Claessens, Stijn, Daniela Klingebiel, and Sergio Schmukler. "Explaining the Migration of Stocks from Exchanges in Emerging Economies to International Centers." *CEPR Discussion Paper No. 3301*, 2002.
- Damodaran, Ashwath. *Corporate Finance: Theory and Practice*. 2nd ed. New York: John Wiley and Sons, 2001.
- Deloitte and Touche. "Business Taxation," in *Doing Business with Hungary*. Jonathan Reuvid, ed. London: Kogan Page Limited, 2003.
- Demirguc-Kunt, Asli and Ross Levine. "Bank-Based and Market-Based Financial Systems: Cross-Country Comparisons." Policy Research Working Paper 2143, World Bank, 1999.
- Ergungor, Ozgur E. "Market-vs. Bank-Based Financial Systems: Do Rights and Regulations Really Matter?" *Journal of Banking and Finance*, Vol. 28, No. 2, 2004, pp. 2869–87.
- Ernst and Young Global IPO Survey 2005 — "Report." Online. www.ey.com/global/content.nsf/International/Strategic_Growth_Markets_-_IPO. Accessed March 23, 2006.
- Euronext.com. "Euronext Activities." Online. www.euronext.com/editorial/wide/0,5371,1732_997839,00.html. Accessed August 15, 2006.
- European Bank for Reconstruction and Development (EBRD) 2000 "Transition Report." Online. www.ebrd.com/pubs/general/4872.htm. Accessed January 22, 2006.
- European Bank for Reconstruction and Development (EBRD) 2005 "Transition Report." Online. www.ebrd.com/pubs/index.htm. Accessed January 22, 2006.

REFERENCES (CONTINUED)

- Filer, Randall, K., Thorvaldur Gylfason, Stepan Jurajda, and Janet Mitchell. "Markets and Growth in the Post-Communist World." Global Development Network Thematic Paper CERGE-EI, Washington, D.C., 2001.
- Hasan, Iftekhar and Markku Malkamaki. "Are Expansions Cost Effective for Stock Exchanges? A Global Perspective." *Journal of Banking and Finance*, Vol. 25, No.12, December 2001, pp. 2339–66.
- Horvath, Zsolt. "Budapest Stock Exchange," in *Doing Business with Hungary*. Jonathan Reuvid, ed. London: Kogan Page Limited, 2003.
- Hungary Venture Capital and Private Equity Association (HVCA). "Statistical Survey 2005." Online. www2.hvca.hu/english/ Accessed February 3, 2006.
- Investment Company Institute (ICI) "Recent Mutual Fund Trends." Online. www.icifactbook.org/06_fb_sec2.html. Accessed May 12, 2006.
- Kaufmann, Daniel, Aart Kraay, and Pablo Zoido-Labaton. "Governance Matters II: Updated Indicators for 2000/01." World Bank Policy Research Working Paper, Washington, D.C., World Bank, 2002.
- Koke, Jens and Michael Schroder. "The Prospects of Capital Markets in Central and Eastern Europe." Croatian National Bank, 2003.
- La Porta, Rafael, Florencia Lopez-De-Silanes, Andrei Shleifer, and Robert Vishny. "Investor Protection and Corporate Valuation." *Journal of Finance*, Vol. 57, No. 3, 2002, pp. 1147–70.
- Lenart, Lucia. "Venture Capital — A Great Chance for Small Enterprises." Online. www.neovox.cortland.edu/oldsite/wire/wire_22/wire_22.html. Accessed January 4, 2006.
- Levine, Ross. "Bank-Based or Market-Based Financial Systems: Which Is Better?" *Journal of Financial Intermediation*, Vol. 11, No. 4, 2000, pp. 398–428.
- Macey, Jonathan R. "Measuring the Effectiveness of Different Corporate Governance Systems: Towards a More Scientific Approach." *Journal of Applied Corporate Finance*, Vol. 10, No. 4, 1998, pp. 16–25.
- Majnoni, Goivanni, Rashmi Shankar, and Eva Varhegyi. "The Dynamics of Foreign Bank Ownership: Evidence from Hungary." The World Bank — Financial Sector Operations and Policy Department, 2003.
- McKinsey Global Institute (MGI). The McKinsey Quarterly — Corporate Finance: "Private Equity's New Challenge." August 2004.
- Nivorozhkin, Eugene. "Firms' Financing Choices in EU Accession Countries." EFMA 2004 Basel Meetings Paper, 2004.
- Pagano, Marco, Otto Randl, Ailsa Roell, and Josef Zechner. "What Makes Stock Exchanges Succeed? Evidence from cross-listing decisions." *European Economic Review*, Vol. 45, No. 4, 2001, pp. 770–82.
- PricewaterhouseCoopers IPO Watch Europe — "Report" (2004). Online. www.pwcglobal.com/extweb/pwcpublications.nsf/docid/A691FB9A0C5158358025703D0054874F. Accessed March 23, 2006.
- PricewaterhouseCoopers IPO Watch Europe — "Report" (2005). Online. www.pwcglobal.com/extweb/pwcpublications.nsf/docid/A691FB9A0C5158358025703D0054874F. Accessed March 23, 2006.
- PricewaterhouseCoopers IPO Watch Europe — "Report" (2006). Online. www.pwc.com/extweb/pwcpublications.nsf/docid/9EAF9B5AAB38CF64802570F10051B41D. Accessed March 23, 2006.
- Sarbanes, Paul. "The Crisis in Corporate America: The Legislative Response." Lecture presented October 22, 2002. Online. www.salisbury.edu/pace/programs/sarbanes/pslecture1.html. Accessed February 25, 2006.
- Securities Database Corporation (SDC). Online. Accessed February 10, 2006. [Access made available through Lehigh University Financial Services Lab]
- Shapiro, Alan C. *Foundations of Multinational Financial Management*. 4th ed. Hoboken: John Wiley and Sons, 2002.
- Smith, Kevin. "Financial Services Sector," in *Doing Business with Hungary*. Jonathan Reuvid, ed. London: Kogan Page Limited, 2003.
- Thomson Financial. "League Tables." Online. www.thomson.com/financial/investbank/fi_investbank_league_table.jsp. Accessed April 5, 2006.
- Transparency.org. "Corruption Perceptions Index — 2005." Online. www.transparency.org/policy_research/surveys_indices/cpi/2005. Accessed February 15, 2006.
- VentureOne "European Liquidity Report." *VentureOne.com*. DowJones Online. www.ventureone.com/ii/2Q05EuropeLiquidityPR.pdf. Accessed March 23, 2006.
- Wikipedia.org (a). "Comecon." Online. www.en.wikipedia.org/wiki/Comecon. Accessed March 10, 2000.
- Wikipedia.org (b). "Market Capitalization." Online. www.en.wikipedia.org/wiki/Market_capitalization. Accessed August 15, 2006.