WP/08/103

IMF Working Paper

The Capital Markets of Emerging Europe: Institutions, Instruments and Investors

Silvia Iorgova and Li Lian Ong

INTERNATIONAL MONETARY FUND

 WP/08/103

IMF Working Paper

Monetary and Capital Markets Department

The Capital Markets of Emerging Europe: Institutions, Instruments and Investors

Prepared by Silvia Iorgova and Li Lian Ong[1]

Authorized for distribution by Ceyla Pazarbasioglu and Daniel Hardy

April 2008

Abstract

Emerging European countries have made large strides in developing their local capital markets since the early-1990s. However, the rate of development has been widely disparate across countries and market segments, underpinned by the varying degrees of progress made in key areas such as establishing pricing benchmarks, adopting, implementing and enforcing securities laws and regulations, encouraging the growth of an institutional investor base, and providing adequate trading infrastructure. This paper provides an overview of the trends in the region's local capital markets, and examines the main factors that have contributed to their growth and effectiveness to date. It also discusses selected policy responses necessary to further improve the breadth and depth of these markets.

JEL Classification Numbers: G15, G18, G22, G23, G28

Keywords: Benchmarks, bonds, corporate governance and transparency, derivatives, foreign exchange, institutional investors, market infrastructure, stock markets

Authors' E-Mail Address: siorgova@imf.org and long@imf.org

[1] The authors would like to thank Zsofi Arvai, Daniel Hardy, Inci Otker-Robe and Ceyla Pazarbasioglu for their invaluable advice; and colleagues from the Monetary and Capital Markets Department and European Department, as well as the official representatives of the Baltics, Slovenia, South-Eastern European countries and Turkey at the IMF and World Bank, for their very helpful comments. All remaining mistakes are the responsibility of the authors.

Contents **Page**

(continued)

Contents (concluded) **Page**

List of Boxes

List of Tables

List of Figures

I. INTRODUCTION

The financial system in emerging Europe has undergone significant changes since the start of transition in the early-1990s.[2] Similar to the advanced European economies, the financial system in the region has been largely dependent on the banking sector. The early penetration of foreign banks into many of these countries, following the privatization of state banks, gave the banking sector a leading role in funding the corporate sector. However, in recent years, countries have also actively sought to develop their local capital markets. The commitment by governments to sustain macroeconomic stability—including fiscal discipline and price stability—has provided the necessary environment for sound financial sector development in this region (Atje and Jovanovic, 1993; Levine and Zervos, 1996; Schipke, Beddies, George and Sheridan, 2004).

The pace of development and the degree of sophistication in different capital market segments in emerging Europe has varied widely across countries. Privatization methods and listing requirements determined the early pace of growth in stock markets, while in some countries, public financing needs and governments' commitment to establishing pricing benchmarks have provided the impetus for the growth of local bond markets. The adoption of securities laws and regulations, efforts to improve corporate governance and transparency, and the implementation of adequate trading infrastructure and payment and settlements systems have also been important determinants of local market development. The accession of several countries to the European Union (EU) since May 2004—and the potential for others to join in the future—has spurred foreign interest in the region's stock and bond markets. Increased foreign participation, coupled with capital account liberalization, have also provided a palpable boost to foreign exchange markets in the region and prompted the development of relatively fast growing, albeit still nascent, derivatives markets in some instances.

Notwithstanding the significant progress over the past 15 years, there are still key challenges to ensuring future growth. Liquidity in both equity and bond markets remains thin in many countries, and the number of large enterprises tends to be too limited to make issuances of debt or equity cost-efficient. For the most part, regulatory and legal mechanisms remain weak, affording little protection for investors, while pricing mechanisms are still underdeveloped, with benchmark yield curves "incomplete" and unreliable in many cases. In addition, EU accession is raising questions about the direction of development, consolidation and integration of emerging European capital markets. For instance, the necessity of

[2] For the purposes of this paper, the emerging European countries are defined as the South-Eastern European countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Romania, Serbia and Montenegro, Slovenia); the Baltic countries (Estonia, Latvia, Lithuania); the Visegrad countries (Czech Republic, Hungary, Poland, Slovak Republic); as well as Belarus, Moldova, Russia, Turkey, Ukraine. To date, countries from this group that have acceded to the European Union are Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia and Slovak Republic. Although the state union between Serbia and Montenegro effectively came to an end after Montenegro's formal declaration of independence on June 3, 2006 and Serbia's formal declaration of independence on June 5, 2006, we refer to Serbia and Montenegro as separate markets throughout the paper, given that the data for each market were reported separately even prior to the end of the union.

developing local market segments in a more closed country environment may not necessarily be relevant in the EU context, where "local markets" could actually refer to a regional market, and "international diversification" refers to countries outside the EU.

Arguably, it may make little sense for some of the smaller emerging European countries to develop their own local markets. The harmonization of financial market rules within the EU, and the adoption of the euro by new EU member states are important objectives that will impact significantly the policy options available to these countries.[3] Already, countries in emerging Europe face increased competition with other capital markets and are striving to attract and retain liquidity in an environment where the establishment of pan-European—and even pan-global—exchanges has become *du jour*. The smaller exchanges also require sufficient resources to invest in and develop the necessary infrastructure and technology at a time when issuance, trading and payment and settlement systems are moving towards convergence across the EU. In light of these regional developments, one persistent argument for pursuing the development of local capital markets is that they would provide smaller local companies with access to market financing.[4]

Capital market development has important benefits for countries in the region, as a more diversified financial system could reduce volatility and mitigate vulnerability to systemic risk.[5] The application of market mechanisms in the allocation and pricing of capital should improve efficiency and promote greater transparency in the financial system. However, the development of local capital markets needs to be effected in conjunction with improvements in the existing infrastructure, the implementation of credible laws and regulations, and the adoption of appropriate governance and supervisory structures. As the recent turmoil in global markets has demonstrated, financial innovation in the absence of sufficient disclosure and safeguards could cause instability in the financial system.

Our paper assesses the development of capital markets in emerging European countries in the context of the issues outlined above. Our main objective is to provide an overview of the factors and reforms that have contributed to the growth and effectiveness of emerging European markets, and to examine the policy responses necessary to improve further the breadth and depth of these markets, as well as their stability and credibility. However, given the diversity of the countries that fall into this group, and the unique circumstances and disparate levels of market development in each one of them, it is beyond the scope of this paper to make specific policy recommendations and discuss the appropriate sequencing of reforms for each individual country. Rather, our aim is to discuss the broad market development themes that continue to be applicable across these countries.

---

[3] See, for example, Wajid et al. (2007) for a discussion on the integration of the Nordic-Baltic financial sectors and the policy challenges at the local, regional and EU levels.

[4] See, for instance, Andritzky (2007) on the case of Slovenia.

[5] See Greenspan (1999).

We categorize the emerging European countries into several distinct groups, based on the level of development of their respective capital markets.[6] The three major countries in the Central and Eastern European region of Poland, Hungary and the Czech Republic (hereafter "CEE-3") have the most developed stock, bond and derivatives markets, in terms of size, liquidity and instruments, as well as the most liquid currency markets. The markets in Turkey and Russia have recorded significant growth in recent years, while others including Croatia, Estonia, the Slovak Republic and Slovenia have made some progress in developing their stock and government bond markets. Among the lesser developed markets, countries such as Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia (hereafter "Macedonia"), Serbia and Ukraine, are still in the early stages of developing broadly-based local capital markets, while Albania, Belarus and Moldova still do not have functioning capital markets.[7]

Overall, we conclude that while there has been significant progress in developing local capital markets throughout the region, some essential components still require improvement. Presently, the implementation and enforcement of laws on the books with regards to corporate governance and financial transparency are still lacking. The institutional investor base needs to mature further. The financial infrastructure necessary to facilitate the flow of information and the price discovery process in financial markets must also be upgraded, taking into account its compatibility with regional trading platforms and systems. With capital market development increasingly linked to EU markets and legislation, the convergence of regulations, infrastructure and instruments throughout most of the region is expected to continue.

The paper is organized as follows. Section II presents stylized facts on different capital market segments in emerging Europe, namely, the stock and bond markets, as well as a brief overview of the foreign exchange market and derivatives instruments. The specific enabling factors that have played a key role in developing the region's markets are subsequently discussed in Section III. This is followed by a discussion on future policy challenges in Section IV. Section V concludes with several policy recommendations and suggestions for future research.

II. STYLIZED FACTS: LOCAL MARKET TRENDS

There has been significant disparity in the degree of progress in developing various emerging market segments across countries in the region. Stock markets—most of which were originally created by the divestiture of large state-owned enterprises during the privatization process of the early- to late-1990s—have expanded significantly in many countries,

---

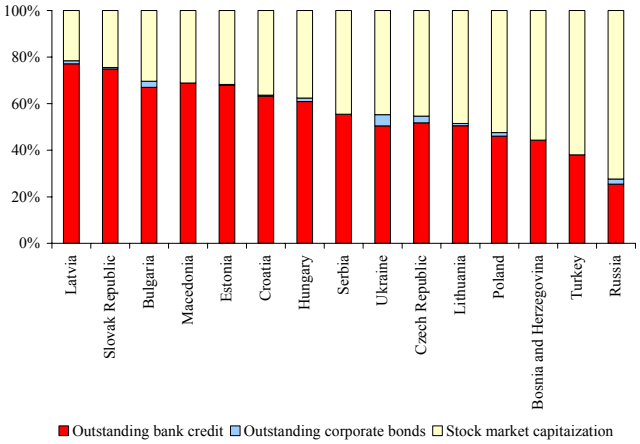
[6] Another possible grouping would be to distinguish between the new EU member states and the emerging European markets outside the EU. While EU membership clearly has important implications for market development, the discussion in this paper focuses on markets according to their stage of development. The impact of EU membership is discussed separately in this paper.

[7] A well-functioning capital market could broadly be defined as one that efficiently allocates financing among firms and affords clear delineation, efficacious exchange and effective enforcement of property rights.

especially in recent years as interest in the region burgeoned.[8] Government bond markets in some countries have also experienced substantial growth on the back of public financing needs and the commitment of the respective governments to establishing key components for local bond market development. However, available cross-country data for 2005 showed that corporate bond markets remained very small and continued to be dwarfed by both bank lending and stock markets as sources of private sector financing (Figure 1). In foreign exchange markets, there has been a rapid expansion of trading volumes in some currencies, largely attributable to capital account liberalization. In some instances, this has stemmed from the adoption of the EU *acquis communautaire*, and the shift, or anticipated shift, to the Exchange Rate Mechanism (ERM) II. Derivatives instruments, important for hedging risks in these markets, remain limited.

However, the rapid expansion of some capital market segments may conceal the actual level of market development. Idiosyncratic features, such as voluntary versus mandatory stock listings, the existence of local institutional investors and/or regulatory restrictions on investment allocations which may skew investment preferences toward a particular market segment (for example, stocks versus government bonds or local versus international investments), and the low level of free-float in some local stock markets are important considerations in evaluating the maturity of these markets. In addition, the importance of the banking sector as an investor in securities in most, if not all, countries in the region blurs the distinction between de facto bank financing and the role of institutional investors in developing local capital markets.

Figure 1. Emerging Europe: Private Sector Financing, End-2005
(In percent)



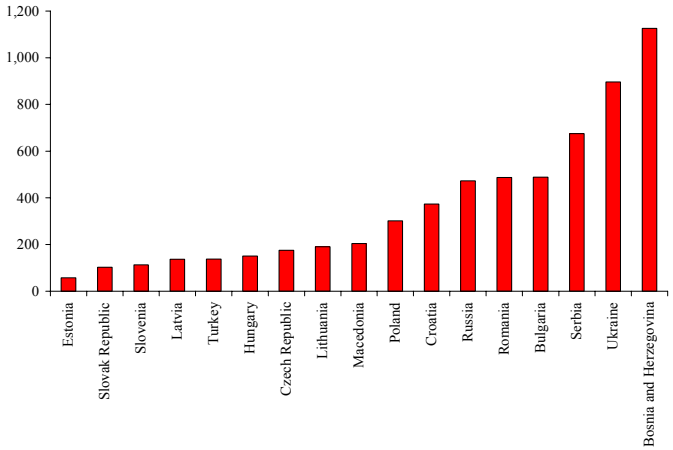
Sources: Bank for International Settlements; Emerging Markets Data Base; national authorities; various investment banks' publications; and authors' estimates.

[8] Stock exchanges were established at different points in the transition process: Bulgaria, Hungary, Poland, Russia and Slovenia opened their stock markets in 1990–91; the Czech Republic, Lithuania and the Slovak Republic followed in 1993; Latvia and Romania were next in 1995, followed by Estonia in 1996. Turkey's stock exchange was established much earlier than those of the transition countries, in early-1986.

Stock markets

Stock markets are the most developed market segment in emerging Europe. In recent years, prospects of EU membership and improved market integration appear to have significantly benefited the stock markets in the region.[9] Capitalization grew exponentially between 2003 and 2006, albeit from very low base in many instances (Figure 2). In most countries, the expansion has been underpinned by strong economic growth, a surge in international investor interest and improvements in the regulatory and institutional frameworks. In some cases, however, it has partly been attributable to non-developmental factors such as mandatory listing requirements and possible pricing "bubbles" from EU convergence plays.

Figure 2. Emerging Europe: Growth in Stock Market Capitalization, 2003–06
(In percent)



Sources: Emerging Markets Data Base and authors' estimates.

The most rapid expansion in stock market capitalization in recent periods has been recorded in Russia and in some countries in South-Eastern Europe. Stock markets in Bulgaria and Romania have benefited from their accession to the EU, while Bosnia and Herzegovina, and Croatia have expanded strongly from a low base, and have already surpassed the CEE-3 in size relative to GDP (Figure 3). That said, the sharp growth in market capitalization in the latter countries is partly attributable to regulatory features specific to their local stock markets, such as mandatory stock listings with corresponding thin liquidity and low free-float, rather than to any significant development of their respective markets per se. Elsewhere, in Slovenia, the doubling of stock market capitalization in 2006 was attributable to rising stock prices and primary market activity; trading remained thin during this period.[10] In Turkey, limited stock market participation is largely due to the low free-float, with controlling shareholders accounting for about 70 percent of market capitalization.

[9] Dvorak and Podpiera (2005) show that, following the announcement of EU enlargement, investors revalued firms in the accession countries according to their systematic risk, as these firms were then seen to offer greater risk diversification benefits for the global investor.

[10] See Andritzky (2007).

In contrast, growth in the CEE-3 stock markets has been less spectacular compared to many of their regional neighbors, reflecting the increasing maturity of these markets. The Czech Republic, Hungary and Poland were among the earliest to introduce the necessary macroeconomic and market reforms during the transition period, and have also benefited from early EU accession and continuing market integration. Excluding Russia and Turkey, they have, by far, the largest capitalization and the highest turnover, albeit not necessarily with the most number of listed companies.[11]

Despite the rapid growth of regional stock markets, they remain significantly smaller and less developed compared to their advanced European counterparts. With an average ratio of market capitalization to GDP of slightly over 47 percent, the relative sizes of these stock markets are still only about half of those in their advanced counterparts (Figure 3). As of end-2006, only Croatia, Bosnia and Herzegovina, and Russia had market capitalization as a percentage of GDP that was higher than the least capitalized advanced European stock market. Indeed, at 135 percent, the ratio of capitalization to GDP in Russia is second only to the United Kingdom in terms of its relative size. This is partly attributable to strong primary market activity, in stark contrast to Hungary, the Czech Republic and the Slovak Republic, which have had few initial public offerings (IPOs) and new issues.[12]

Overall, the growth in market capitalization has not translated into significantly improved liquidity in most countries. Among the emerging European markets, only the CEE-3, Russia and Turkey have been able to establish relatively liquid stock markets, and domestic equity has become the second largest source of funding for the corporate sector after bank lending.[13] Liquidity in the new EU countries, Romania and Bulgaria, while improving ahead of accession, has remained thin, similar to that of their Baltic counterparts (Figure 4). The low turnover in markets such as Bosnia and Herzegovina, Croatia and Slovenia, relative to the large increases in their market capitalization, supports the argument that the expansion in market size may largely be a function of listing requirements or primary market activity, especially given the limited role of the local institutional investor base in these countries to date.

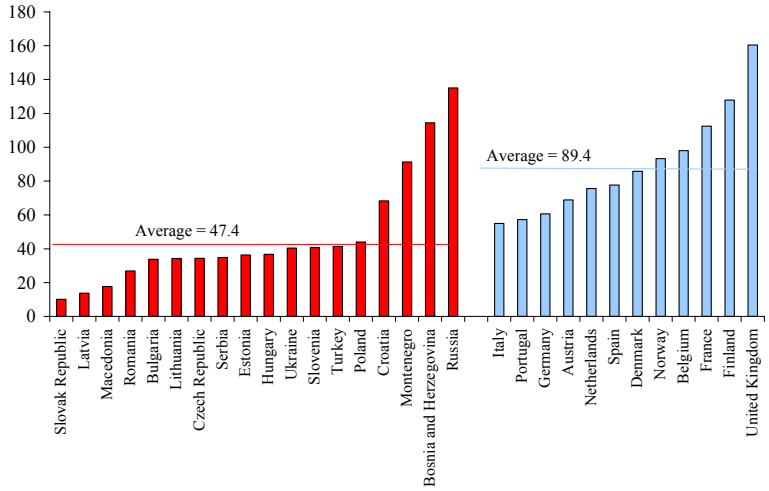
---

[11] See Appendix I, Table A.1.

[12] The spectrum of companies introducing listings in the Russian equity market also expanded to include non-commodities companies. The popularity of these IPOs has been underpinned by the country's rapid economic growth and investor demand for diverse Russian assets. In 2006, there were 15 IPO deals in Russia, amounting to $14.5 billion, up from a total of 10 IPOs totalling $1.5 billion for the 1996–2003 period. Poland had the largest number of IPOs in emerging Europe in 2006 with 38 new listings (of which six were foreign companies), raising $1.7 billion. This is a significant increase compared to the 35 new listings in 2005, with IPOs amounting to $1.3 billion.

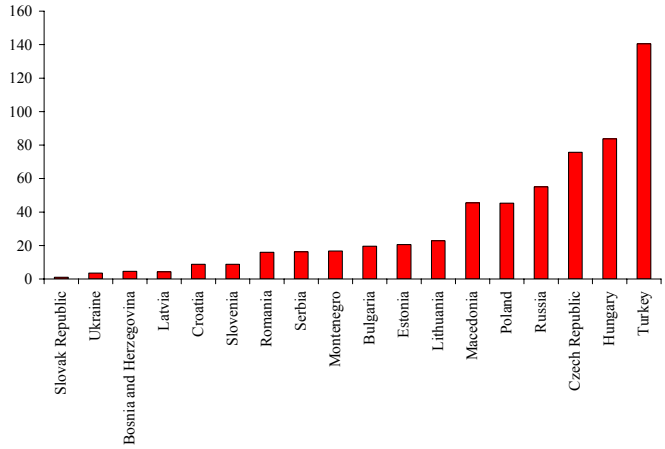
[13] Stock trading in Russia, which involved only 10–20 percent of listed names in the early 2000s, has expanded substantially and now includes more than 30 percent of listed companies.

Figure 3. Europe: Stock Market Capitalization, End-2006
(In percent of GDP)



Sources: Bloomberg LP; Emerging Markets Data Base; Federation of Euro-Asian Stock Exchanges; Montenegro Secretariat for Development; World Economic Outlook; and authors' estimates.

Figure 4. Emerging Europe: Stock Market Turnover, 2006
(In percent of total capitalization)



Sources: Emerging Markets Data Base; Federation of Euro-Asian Stock Exchanges; Montenegro Secretariat for Development; and authors' estimates.

The low liquidity in many emerging European stock markets has been a significant deterrent to potential investors. The problem has been exacerbated by the fact that many of the bigger local companies seek foreign listings on larger and more liquid stock markets in Europe or in the United States, normally effected via global depository receipts (GDRs) and American depository receipts (ADRs).[14] In addition, market breadth continues to be hampered by the concentration of capitalization in a handful of large companies, limiting the range of attractive investment opportunities and thus adversely affecting liquidity in the domestic equity markets (Table 1). Throughout the region, the liquidity problem has also been exacerbated by delistings related to foreign acquisitions and domestic mergers (Berglof and Bolton, 2002).

Table 1. Emerging Europe: Equity Market Concentration, End-2007
(In percent of total market capitalization held by the five largest companies)

Country	Percent
Czech Republic	88.6
Hungary	83.2
Slovakia	81.1
Romania	72.4
Poland	38.4
Turkey	32.0

Sources: Bratislava Stock Exchange; Bucharest Stock Exchange; Budapest Stock Exchange; Prague Stock Exchange; Warsaw Stock Exchange; and authors' estimates.
Note: Data for the Slovak Republic are as of June 2007; data for Turkey are as of September 2007.

Bond markets

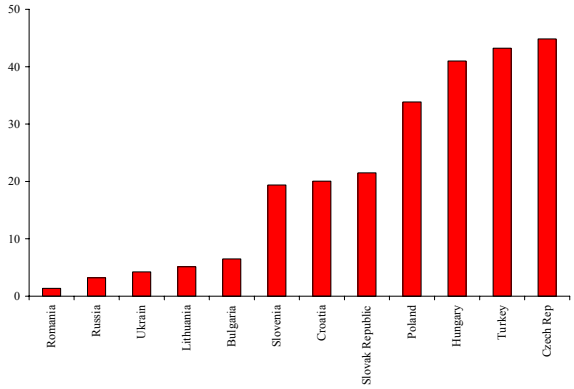
Emerging European bond markets have recorded sizeable growth in recent years, driven by government policies supporting the development of this market segment. The relative size of the government bond market in some of these countries is comparable to those in the advanced European countries (Figures 5 and 6). As of end-2006, the size of outstanding government bonds in the CEE-3 countries and Turkey stood at between 30–50 percent of GDP, similar to many of the developed markets. In stark contrast, bond markets in Bosnia and Herzegovina and in Estonia are still largely non-existent. By and large, bond markets in most of the region remain relatively underdeveloped, and in many cases, are not used as a source of finance, especially in the case of corporate bond markets (Szilagyi, Fetherston and Batten, 2004).

Government bond markets in the CEE-3 countries are among the most developed in the region. These countries have established comprehensive and relatively liquid government

[14] Holicka (2004) notes that the majority of emerging European cross-border listings are concentrated in London, mostly in the form of GDRs, with more than 70 percent of international trading of emerging European stocks taking place there.

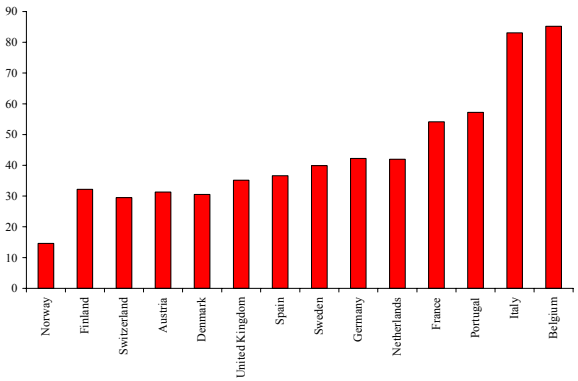
bond segments through the gradual increase of longer-term bond issuances (Szilagyi, Fetherston and Batten, 2004). In the Czech Republic, for instance, the government has sought to decrease the proportion of short-term financing through dedicated long-term government issuances, resulting in a sizable increase in average maturities (of up to 50 years). Similarly, Poland has adopted an active policy of lengthening and standardizing the maturity structure of public debt. Government issuances have also increased in Croatia, the Slovak Republic and Slovenia, but have been limited in Romania, Russia and Ukraine, constraining growth and liquidity in these markets. In the Baltic countries, the underdevelopment of the government bond market has largely been attributable to the relatively low levels of public debt.

Figure 5. Emerging Europe: Outstanding Government Bonds, End-2006
(In percent of GDP)



Sources: Bank for International Settlements; national authorities; various investment banks' publications; World Economic Outlook; and authors' estimates.

Figure 6. Developed Europe: Outstanding Government Bonds, End-2006
(In percent of GDP)



Sources: Bank for International Settlements; national authorities; various investment banks' publications; World Economic Outlook; and authors' estimates.

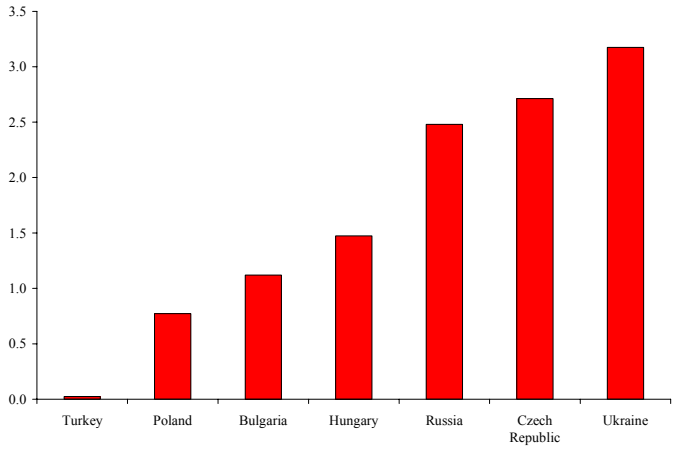
In contrast to the government bond segment, the development of corporate bond markets in emerging Europe has been slow. The relative underdevelopment of corporate bond markets in the region is consistent with the rest of Europe, where the low share of bonds in corporate financing reflects the continuing dominance of bank lending in domestic financing.[15] The high costs associated with corporate debt issuance, such as the costs of meeting regulatory requirements and direct issuance costs, have acted as a deterrent to market development. In Slovenia, corporate bond issues are less popular than bank loans because comparable transaction costs for the former are higher due to the volume limitations of a small market. In Poland, a number of regulatory and cost obstacles have made private placements the most cost-efficient way to issue corporate bonds. Furthermore, the ability of the largest corporates in countries such as Hungary and Poland to issue in the eurobond market, or to fund themselves through their more highly-rated foreign parents, has also contributed to the lagging development of local corporate bond markets.[16]

[15] See Schinasi and Smith (1998).

[16] See Roldos (2004a).

Overall, the corporate bond segment has yet to be developed in about half the countries in the region.[17] The Czech Republic, Russia and Ukraine have the largest corporate bond markets, while those in Bulgaria and Turkey are growing rapidly, but remain small (Figure 7).[18] Even in Ukraine—the most developed market in the region—outstanding corporate bonds do not exceed 3 percent of GDP. Overall, corporate bond markets constitute only a small portion of total private financing. Presently, the largest share of corporate bonds in total private financing in emerging Europe is found in the Czech Republic and Ukraine.[19] From a sectoral perspective, corporate issuance in the region tends to show a relatively high degree of concentration, with most new issuances coming from the real estate, energy and financial sectors.[20]

Figure 7. Emerging Europe: Outstanding Corporate Bonds, End-2006
(In percent of GDP)



Sources: Bank for International Settlements; Cbonds; RusRating; National Bank of Poland; IMF; and authors' estimates.
Note: Amounts do not include bonds issued by financial institutions.

Corporate bond markets in the region rely predominantly on private placements, with banks playing an important role, both as issuers and as investors. This method of issuance has

[17] See Appendix I, Table A.2.

[18] See Arvai and Herderschee (2007) for a detailed discussion on the development of the Bulgarian corporate bond market.

[19] An interesting feature of corporate bond issues in Russia and Ukraine is that they are typically embedded with options. A sizable number of issues in the domestic market include embedded put and reset options. Currently, approximately two thirds of all non-government bond issues in Russia and Ukraine incorporate put options, although the number of issues without put options has been increasing in Ukraine.

[20] In Russia, for example, the most actively traded corporate bonds are those of energy groups such as Gazprom and LUKOil, although the representation of telecommunications, retail and media companies in corporate bond primary issuances in Russia has grown. In Ukraine, the corporate bond market is dominated by the real estate sector, followed by the financial sector.

limited transparency and has thus had a detrimental effect on secondary market activity. In Poland, banks, as leading underwriters, tend to purchase corporate bonds and hold them until maturity (World Bank, 2006). The situation is similar in Hungary, where most of the issues in the market are held by financial institutions. In Bulgaria, banks are the largest corporate bond issuers; they also hold approximately 60 percent of outstanding corporate bond debt.[21] Given the slower pace of development of corporate bond markets, the average maturities in these markets tend to be shorter than those in the government segment.

Foreign exchange and derivatives markets

Foreign exchange trading in many emerging European currencies has expanded substantially as a result of capital account liberalization and investor interest in EU convergence plays. Foreign investors play a particularly important role in the process, as they often tap the high interest-rate differentials between domestic and external interest rates by entering into foreign exchange derivative transactions to fund local currency-denominated bond issues. By 2004, most of the foreign exchange trading in the region was being carried out between local banks and reporting dealers abroad, reflecting the importance of foreign investors in emerging European foreign exchange markets.

The turnover in the CEE-3 currencies have been the most liquid, after the Russian ruble.[22] In the case of the Czech Republic, which liberalized its capital account as early as 1995, "carry trades"—wherein investors borrow funds in the Czech krona at lower interest rates to purchase high-yielding assets in another regional currency—have contributed to the expansion of the foreign exchange market in more recent years. Growth in foreign exchange trading occurred in Hungary and in Poland following capital account liberalization in the early-2000s.

The use of derivatives instruments throughout the region is still limited, although they have grown markedly in the few markets where they are actively traded.[23] Foreign exchange and equity derivatives are presently the main products traded, while interest rate products are still very illiquid and underdeveloped outside of the CEE-3 markets. Similar to the cash market, rising interest in the region's foreign exchange derivatives is linked to the process of capital account liberalization and the increasing use by foreign investors to gain access to the local markets or to hedge existing positions. Both foreign exchange and interest rate derivatives of the CEE-3 countries have recorded the largest turnover among emerging European countries.[24] However, trading of derivatives on the over-the-counter (OTC) markets and on exchanges still remains, for the most part, illiquid by international standards (Box 1). In

[21] See Elana Trading (2005).

[22] See Appendix I, Table A.3.

[23] See Appendix I, Table A.4.

[24] See Appendix I, Figure A.1

many countries, large offshore markets, such as London, provide an additional source of liquidity for investors seeking to hedge their underlying exposures.

Box 1. Emerging Europe: Trading in Derivatives Markets

In emerging Europe, derivatives are largely traded in the over-the-counter (OTC) markets. The OTC market is the primary platform for the trading of interest rate and foreign exchange derivatives. The most widely traded OTC foreign exchange derivatives are foreign exchange swaps, and to a lesser extent, currency forwards, while currency swaps and options are rarely traded. The predominance of foreign exchange swaps reflects both their wide use in liquidity management and their popularity in carry trade activity.[1] As of April 2007, OTC turnover was the highest in Russia and Poland, amounting to $16.2 billion and $6.8 billion respectively.

In comparison, the OTC interest rate derivatives markets are much smaller. The average daily turnover in interest rate derivatives constitutes about 40 percent of the foreign exchange derivatives turnover in Poland, and less than 20 percent in Hungary and the Czech Republic. In the case of Poland, an equally large offshore market in interest rate derivatives (in London) provides abundant liquidity. The forward rate agreement (FRA) and especially interest rate swap (IRS) segments of the market are fairly liquid and enable the hedging of exposures along the entire domestic yield curve.

There are only a few exchanges in emerging Europe that trade derivatives, offering a limited number of instruments. Most of the liquidity in the exchange-traded derivatives (ETDs) market is concentrated in foreign exchange and equity contracts, while interest rate contracts have been extremely illiquid. Stock index futures have been the most important segment of the derivatives market at the Warsaw Stock Exchange (WSE) for a number of years; they have become the second most traded contracts on the Budapest Stock Exchange (BSE) after their trading more than tripled between 2005 and 2006. The BSE and the Budapest Commodities Exchange (BCE) offer interest rate derivative products, while the Romanian Commodities Exchange (RCE) also trades Hungarian interest rate futures contracts.

Foreign exchange ETDs are currently traded on three exchanges—the BSE, the WSE, and more recently, the Istanbul Stock Exchange (ISE). Trading in these instruments is carried out primarily in Hungarian forint futures and options, and in Turkish lira futures. The liquidity of the Polish zloty futures is extremely limited and options are not traded at all. As of end-2006, trading volumes of foreign exchange futures on the BSE amounted to almost 11 million contracts, compared to only slightly more than three thousand contracts on the WSE. Foreign exchange futures are the only ETDs traded on the ISE. Although trading in this instrument only began in late-2004 on this exchange, it has developed quickly and turnover in 2006 was almost four times as high as that in the previous year. Separately, the RCE also trades foreign exchange or currency contracts on the U.S. dollar and the euro.

[1] In a carry trade transaction, activity in foreign exchange swaps may increase if they are used by intermediating institutions to hedge foreign exchange exposures (see Galati, Heath and McGuire, 2007).

III. Factors Enabling Local Market Development

Governments play a key role in providing the necessary infrastructure to support the development of efficient and competitive capital markets. This includes implementing and enforcing a strong legal framework to protect the rights of creditors and shareholders; ensuring sufficiently high disclosure standards and quality of information; promoting good governance of institutional investors; and providing support to both private and public institutions (Claessens, Djankov and Klingebiel, 2001; Levine, Loayza and Beck, 2000). Government debt management policy is also very important for the development of a liquid and complete benchmark yield curve, which would facilitate accurate risk pricing in the local markets. In addition, the implementation of efficient and reliable trading, and payments and settlement systems, is also crucial for market credibility. This section discusses the policy practices that have helped to stimulate the development of securities markets in emerging Europe.

Stock markets and privatization methods

A well-functioning stock market can yield efficiency gains by providing an important source of funding for corporates. Properly designed and executed privatization programs also help stimulate development (IMF, 2003). In the emerging European countries, the process of privatization of state-owned enterprises during the 1990s played a very important part in the early development of stock markets. Governments pursued different privatization methods in each country, resulting in different rates of development of individual stock markets (Blommestein, 1998; Claessens, Djankov and Klingebiel, 2000; Lannoo and Salem, 2001).[25]

At the outset, the manner of privatization influenced the listing decision, and thus the speed and sustainability of market growth.[26] In countries, such as the Czech Republic and the Slovak Republic, stock exchange listings were deemed mandatory, following mass privatization effected through the use of vouchers. As a result, market capitalization increased quickly as the number of listed firms increased sizably. However, market expansion was not accompanied by a corresponding increase in liquidity. Following an initial phase of high trading volumes, most stocks became illiquid over time, and as many companies were delisted, the number of shareholders fell and ownership became concentrated.

In contrast, countries that followed a more gradual privatization path experienced slower growth in market capitalization. For instance, Hungary and Poland adopted the method of privatization by direct sales, starting up with a small number of listed shares—usually

---

[25] Enterprise privatization methods include the sale of state-owned companies to private investors, management- or employee-buy-outs, voucher privatization and restitution (Stirbock, 2001). The chosen method of enterprise privatization also influenced the development of regulation and the regulatory policy priorities (Lanoo and Salem, 2001).

[26] Berglof and Pajuste (2003) discuss the different approaches to stock market listings in the emerging European countries.

voluntary IPOs—which were gradually increased as their stock markets developed. Separately, countries such as Russia and Ukraine combined both methods, with privatized entities issuing in the equity markets both through voluntary IPOs and mandatory listings.

Market infrastructure and benchmarks

The provision of a robust financial infrastructure for trading, clearing and settlement of transactions is generally considered to be a public good (IMF, 2003). Thus, governments play a critical role in providing the infrastructure needed to facilitate the flow of information and the price discovery process, in order to support the development of efficient and competitive capital markets. In many emerging European countries, the market infrastructure for trading local securities has undergone significant improvement. The majority of stock markets appear to have adequate infrastructure for the trading of stocks, namely, electronic trading systems, varied pricing methods and continuous trading facilities.[27] Additionally, most of these countries have independent clearing institutions and delivery versus payment (DvP) clearing and settlement systems.

In bond markets, the establishment of a liquid government security benchmark yield curve facilitates the pricing of corporate securities.[28] In this regard, firm government commitment to a set of issuance policies, including a predictable supply of government securities, is essential for successful market development. Some emerging European countries have introduced regular auction calendars and primary dealer systems, ensuring a continuous and predictable supply of government securities in the primary markets, and facilitating increased efficiency in the secondary markets. In the CEE-3 countries, for instance, the growth and deepening of government bond markets have been supported by the establishment of public debt management agencies (Roldos, 2004a). The issuance strategy in Poland had been designed to increase the liquidity and extend the maturity tenors in the government bond market, subject to budget constraints. In turn, the Hungarian government had focused its issuance strategy on smoothing the transition to a euro-denominated debt market and bringing market practices in line with those of the Eurozone. Both Hungary and the Czech Republic have also been extending the government yield curve over time.

Government policies in regard to primary markets can define the efficiency of both the primary and the secondary markets, and affect the price discovery process. Some decisions that are particularly relevant to the development of the primary market include the choice of auction techniques and the set-up of primary dealer systems. In the secondary market, the implementation and continuous enhancement of efficient and reliable trading, and payments

[27] The availability of remote trading facilities is less common.

[28] In principle, benchmarks could be provided by liquid securities with relatively low default risk, such as instruments issued by quasi-public entities. That said, the evidence suggests that the level of issuance and liquidity needed to perform the benchmark role tend to be difficult to meet (IMF, 2003). In the Czech Republic, some corporate bonds and swap markets had traditionally acted as benchmarks, but their small size and illiquidity eventually gave way to the introduction of government benchmark issues.

and settlement systems are critical for maintaining market credibility and ensuring liquidity.[29] In Poland the introduction of primary dealers was associated with a substantial contraction in yield spreads along the entire government yield curve, reflecting efficiency gains and higher transparency in the market (World Bank, 2006). In contrast, countries with young and underdeveloped bond markets—such as Macedonia, where government securities were introduced only as recently as 2004—place government securities through a network of active banks without imposing the market-making restrictions associated with the primary dealership system (Blazevski, 2006). As a consequence, the primary markets continue to be highly segmented, likely contributing to the illiquidity of the secondary markets.

Institutional investors

The development of a local institutional investor base is essential for supporting local capital markets. In emerging Europe, the growth of traditional institutional investors, such as insurance companies, mutual funds and pension funds, has played an important role in the transformation of countries in the region into market economies.[30] Institutional investors enhance market competition and act as a balancing influence in bank-dominated financial systems.[31] They represent an alternative savings vehicle to banks for individual investors. More specifically, institutions, such as pension funds and life insurance companies, help to address the demographic challenges within an economy by offering products tailored to long-term savings and thus potentially alleviating the fiscal burden of ageing. In countries where local markets remain underdeveloped, institutional investors may also be able to facilitate the diversification of individuals' savings into overseas markets.[32]

Institutional investors also help to address the problem of information asymmetry between company management and individual investors. In particular, these investors impose discipline on company management via transactions in company stocks.[33] This issue has been particularly relevant in emerging European countries where the voucher distribution schemes, which resulted in widely dispersed stock ownership in some countries, had

---

[29] Details on fixed income instruments, market infrastructure and securities legislation are discussed in Bakir and Brown (2004) for Turkey; Nemeth and Szilagyi (2004) for Hungary; Ooi and Batten (2004) for the Czech Republic; Philosophov and Philosophov (2004) for Russia; and Noel, Akamatsu, Brzeski and Segni (2006) and Szilagyi (2004b) for Poland.

[30] See Appendix II for a detailed discussion on the growth of the institutional investor base in emerging Europe, and implications for asset allocation and risk diversification.

[31] See Vittas (1998).

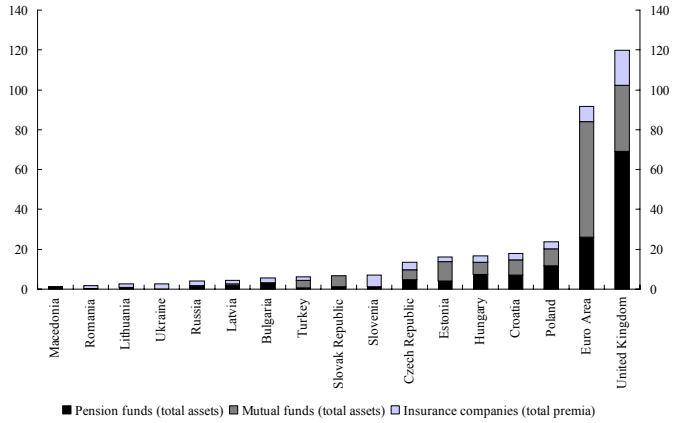
[32] Pension funds in Hungary are allowed to invest 30 percent of the assets of mandatory pension funds and 20 percent of the assets of voluntary funds in foreign assets, with investments in non-Organization for Economic Co-operation and Development securities subject to additional sub-limits. This enables greater diversification of portfolio risk, but contributes little towards the development of local capital markets.

[33] Korczak and Tavakkol (2004), for instance, find that pension funds participating in the Polish stock market have some information advantage over other investors—company managers tend to share positive news with pension funds quickly, but hold on to negative news until the obligatory deadline.

previously raised questions about the efficiency of the stock market and effective corporate control (Fischer, 1991).

The growth in assets under management (AUM) by institutional investors in the region has boosted demand for equity and debt securities. In particular, pension funds' appetite for low-risk assets has enabled governments to meet some of their funding needs through capital markets. Although both the primary and the secondary markets for government paper continue to be dominated by large banks, insurance companies and pension funds are increasingly playing a more significant role in these markets.[34] Institutional investors have been particularly important in the CEE-3 countries, Croatia and Estonia (Figure 8). Indeed, the rapid growth in assets managed by private pension funds in countries such as Hungary and Poland, and their resulting demand for government bonds, has been credited with helping to develop—and lengthen—benchmark yield curves. In aggregate, pension funds and insurance companies in Poland, Hungary and Croatia hold around one-third of outstanding government bonds.

Figure 8. Europe: Size of Institutional Investors, End-2006
(In percent of GDP)



Source: Zoli (2007).

Regulatory changes have also been key in strengthening the role of institutional investors in local market development. As an example, the easing of investment restrictions in Poland has allowed greater participation by pension funds in stock markets and increased the overall demand for equities, albeit without a clear effect on liquidity (Box 2). In Croatia, recent legislative changes enabling mandatory pension funds to invest up to 15 percent of their assets in riskier stocks may also provide a boost for the local stock market.[35] In contrast, countries such as Serbia and Bosnia and Herzegovina are still to carry out the necessary legal and regulatory reforms necessary for the development of an institutional investor base.

[34] See Appendix I, Table A.5.

[35] Previously, mandatory pension funds in Croatia could only invest in several companies listed in the top tier of the stock exchange.

Box 2. Pension Funds in Poland

The emergence of a viable stock market in Poland has been supported by strong demand by domestic institutional investors, and particularly pension funds. The presence of pension fund in Polish equity markets is significant by emerging European standards, attributable to early "big bang" pension reforms in 1999 and the simultaneous introduction of a requirement that pension funds invest 95 percent of their portfolios in domestic securities. As a result, Polish pension fund assets have increased almost fivefold between 2001 and 2006 to roughly 11 percent of GDP, as the share of pension funds' equity holdings reached more than 6 percent of total market capitalization in 2006.

Changes in regulations on investment have allowed Polish pension funds to raise their allocations to equities listed on the local stock exchange. They are now able to invest up to 40 percent of assets under management (AUM) in this asset class. As a result, pension funds have increased their investment in domestic equities and participation in new issues, and are currently holding, on average, around 30 percent of their portfolios in equities (compared to less than 10 percent in Hungary and the Czech Republic). They have also been driving the demand for new listings, thus supporting the consistently high level of IPOs in recent years. That said, with only a few blue-chip companies having equity issues large enough to meet pension funds' regulatory ownership concentration limits on a single issuer, their role in the broader development of local stock markets may be limited (Chan-Lau, 2005).

A potential concern is that the high proportion of Polish pension funds' equity holdings relative to the size of the stock market may create liquidity constraints in a market that is still highly concentrated.[1] Given that pension funds invest in a handful of the most liquid "blue chip" companies, these funds tend to take up a high proportion of the free float. Indeed, investments by pension funds in five such companies are estimated to account for close to 35 percent of their total AUM (Zalewska, 2006). Pension funds also face limited portfolio-adjustment opportunities, given that liquidations of big holdings are difficult without affecting market prices. As a result, pension funds adjustments tend to be more "cosmetic" in nature; their buy-and-hold strategies thus have a substantial effect on stock market liquidity.

[1] Presently, the largest 20 companies account for roughly 70 percent of turnover in the Polish stock market. Voronkova and Bohl (2005) and KNUiFE (2005) show that Polish pension fund portfolios closely track the composition of the benchmark WIG-20 index.

Corporate governance and transparency

Strong corporate governance and financial transparency are crucial for the development of local capital markets.[36] They entail the adoption and implementation of well-developed securities and bankruptcy laws, credible accounting and auditing standards, and enhanced regulation and supervision and stronger enforcement of private contracts. Proper financial disclosure has become even more important in a globalized environment with increasing cross-border activity (Dowers and Lorenzo, 2004). Since information needs to be made available to, and understood by, investors, shareholders, firms and financial analysts globally, the implementation of consistent financial market conventions and principles is crucial for market credibility.

[36] La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) show that countries with less protection for minority shareholders have less developed markets, while Pajuste (2002) and Klapper and Love (2004) find that better corporate governance is highly correlated with higher market valuation.

The prospect of EU accession, and thus participation in the Financial Services Action Plan (FSAP) and adoption of the International Financial Reporting Standards (IFRS), was a key catalyst for the rapid improvement of the financial market regulatory framework in the region.[37] Numerous emerging European countries had effected considerable transformation of the laws on the books in preparation for EU accession. In a little over decade, countries had adopted a broad set of laws and regulations comparable to those of their advanced country counterparts (Berglof and Pajuste, 2005). They harmonized their legal systems with those of the EU and with internationally recognized standards, and established independent regulatory institutions (Lemierre, 2002). As an example, Hungary was seen to have achieved a significant level of harmonization in its financial sector legislation with the EU, and practically full compliance with the EU's bond market regulation, well before becoming a full member of the EU in 2004.[38] That said, actual enforcement of these laws and regulations remain weak in some countries (see following section).

In addition, the implementation of the Markets in Financial Instruments Directive (MiFID) is expected to introduce a comprehensive regulatory regime aimed at ensuring transparent, efficient and integrated financial markets in the EU.[39] It would be effected through extensive requirements on disclosure, record-keeping, best execution and conflicts of interest. Also, widespread adoption of the IFRS is set to ensure more uniform reporting of firms' operations and financial positions. In this context, corporate financial disclosure is expected to become increasingly more harmonized across emerging European countries which have acceded—or are preparing to accede—to the EU, and have moved or are moving to IFRS accounting.

IV. Selected Policy Issues

Financial sector diversification, the development of market infrastructure and institutional investors, and strong corporate governance and transparency are commonly accepted as key to promoting capital market development. This section considers selected policy issues vital to the continued development and growth of capital markets in the region. It covers both, the "unfinished agenda" described in the previous section, as well as some of the more "gray" areas where there is less consensus on the appropriate degree of official intervention as opposed to allowing market forces to work.

---

[37] The FSAP consists of a set of measures which are aimed at filling gaps and removing the remaining barriers to a Single Market in financial services across the EU. It covers wholesale measures relating to securities issuance and trading, securities settlement, accounts and corporate restructuring; retail measures relating to insurance, savings through pension funds and mutual funds, retail payments, electronic money and money laundering. Additionally, there are also measures relating to financial supervision, corporate insolvency and cross-border savings.

[38] See Szalkai (2001).

[39] MiFID is the EU law—and cornerstone of the FSAP—which harmonizes the regulatory regime for investment services across the 30 member states of the European Economic Area (the 27 member states of the EU plus Iceland, Norway and Liechtenstein). The main objectives of the Directive are to increase competition and consumer protection in investment services. MifID replaced the Investment Services Directive from 1 November 2007.

Enforcement of laws and regulations

Many emerging European markets still suffer from inadequate reporting standards, reporting histories, lack of credible corporate ratings and ownership disclosure structures. Even where transformation of the laws on the books ahead of EU membership has been very successful, enforcement at the firm level is still lagging.[40] In some cases, judicial bottlenecks and the lack of capacity prevent effective enforcement. For example, Berglof and Pajuste (2005) note that while the Baltic countries and Romania implemented strict securities market regulations early on, enforcement has been limited due to the lack of well-defined legal responsibilities, resources and expertise.

In other instances, rules relating to mandatory disclosure in annual reports are still not sufficiently enforced. According to Berglof and Pajuste (2005), corporates in Poland disclose less in their annual reports than are legally required, notwithstanding the fact that Poland's supervisory structure and management of the Warsaw Stock Exchange are largely regarded as exemplary, and that Poland had implemented strict regulatory mechanisms aimed at investor protection and large shareholder fraud.[41] This is in sharp contrast to the Czech Republic, where corporates are now said to disclose more in their annual reports than are legally required. In Turkey, poor information has contributed to the low reliability of companies' financial reports, discouraging investors and contributing to stock market volatility. The authorities are currently in the process of implementing regulations aimed at bringing company accounts into full compliance with IFRS.

The enforcement of regulation *per se* may not be sufficient for encouraging capital market development. The regulatory process must also be efficient: market timing is of utmost importance to both issuers and investors, since any regulatory delay would be tantamount to prohibitive regulation (Luengnaruemitchai and Ong, 2005; Schinasi and Smith, 1998). The development of corporate bond markets in emerging Europe is a case in point. While the lack of sufficient corporate procedures and regulations has been a drawback for development in some instances, the existence of restrictive regulations and procedures has held back progress in others. In some countries, potential issuers have been deterred by high entry costs, statutory restrictions, repressive regulatory processes and a lack of government incentives (Szilagyi, Fetherston and Batten, 2004).

---

[40] IOSCO assessments in many of these countries have pointed to various degrees of weaknesses in enforcement programs. Carvajal and Elliott (2007) observe that a combination of factors, such as insufficient legal authority, a lack of resources, political will and skills, tend to undermine regulators' capacity to effectively execute regulation. Zoli (2007) discusses areas where there are still scope for strengthening institutional reform in emerging European countries.

[41] However, the IMF's Financial Sector Assessment Program Update for Poland in 2006 had warned that the unification of financial sector supervision in a new agency, whose independence is not guaranteed in the law, risked weakening the governance structure of supervision (IMF, 2006).

Credit risk pricing

The lack of sophistication in pricing credit risk is a major constraint to the growth of local bond markets in emerging Europe. Benchmark yield curves remain largely "incomplete" and illiquid in many countries.[42] Presently, government bond issues are largely clustered around the 3- to 5-year tenor. A handful of countries, such as the CEE-3, Bulgaria, Romania and Russia have issued bonds up to the 15-year mark, and only the Czech Republic, Poland and Russia have issued 30-year bonds to date.[43] In late-2007, the Czech Republic became the first country in the region to issue a 50-year bond.

The creation of well-functioning money markets is also critical for the successful development of bond and derivatives markets. Money market instruments provide the necessary "anchors" at the short-end of the yield curve, and serve as benchmarks for pricing fixed-income securities with different credit quality, maturity and liquidity (Luengnaruemitchai and Ong, 2005). Thus, they are essential for price discovery and liquidity. Forssbaeck and Oxelheim (2006) observe that the development of domestic money markets in small European countries have comprised two interlinked processes—the deregulation and liberalization on the part of authorities and innovation and growth on the part of markets. Thus, while central banks' influence on money market development has not been insignificant, innovation, market growth and regulatory changes also appear to influence monetary policy instruments used by central banks.[44]

Some emerging European money markets have also been influenced by the process of convergence in European money markets. Signs of convergence first appeared in the mid-1990s, namely, in the structure of money markets and the interplay between policies and market outcomes.[45] Since then, the introduction of a single monetary policy in the Economic and Monetary Union (EMU) countries has ensured substantial integration in the money market (Szilagyi, 2004a). Among the non-EMU countries, money markets in the CEE-3 countries and the Slovak Republic show a high degree of integration with the euro area, although this segment of the bond market remains largely underdeveloped in the other countries in emerging Europe.[46] EU integration is also playing a role in determining the types of money market instruments that are being developed. In Slovenia, for instance, attractive

---

[42] As the recent global credit turmoil has demonstrated, even the more developed credit markets suffer from data limitations and model uncertainty in accurately pricing credit risk.

[43] See Appendix I, Table A.6.

[44] An important factor in money market development in Turkey has been the central bank's approach to reducing liquidity to limit inflation. Its main instrument has been deposit-taking from banks at the Central Bank of the Republic of Turkey (CBRT) borrowing rate. The availability of attractive CBRT instruments, in addition to legal and contract standardization problems, have further limited the development of the repo money market.

[45] See discussion in Forssbaeck and Oxelheim (2006).

[46] See Herrmann and Jochem (2003) for evidence on the international integration of money markets in the CEE countries.

alternatives for money market instruments—such as foreign exchange swaps—were used for money management in the run up to the introduction of the euro, while the ease of access to the EU repo market made the development of an onshore repo market redundant (Andritzky, 2007).

The lack of a credible credit rating system represents an important barrier to the development of corporate bond markets in the region. Local credit rating agencies do no exist in parts of the region and the culture of using ratings for risk assessment is largely undeveloped (Szilagyi, Fetherston and Batten, 2004). As a result, there are no viable benchmarks for assessing counterparty risks. Although some of the larger issuers may have a credit rating assigned by one or more of the international credit rating agencies, many have no credit rating at all, and only research by brokerage or bank credit analysts may be available in some instances. Moreover, even in countries where rating agencies exist, the credit rating culture for private bond issues remains weak. In Bulgaria, for instance, corporate bond issuers have not felt the need to acquire a credit rating thus far, likely due to the lack of corporate defaults to date (Arvai and Herderschee, 2007). Thus, it is unclear to what extent regulations could induce the use of rating agencies, or whether their credit assessments would be useful in pricing or allocation decisions (IMF, 2003).

Weaknesses in the financial infrastructure remain a key problem for price discovery in local bond markets throughout the region. While the provision of adequate infrastructure is crucial for the credibility of the price discovery process, auction-based systems that operate according to internationally accepted principles are still not available in some countries (Szilagyi, Fetherston and Batten, 2004). Trading in the secondary market is usually thin, reflecting in part the underdevelopment of broker-dealer networks and investors' preference for holding bonds to maturity, due to inadequate clearing and settlement processes and high transaction costs. EU integration has also had an impact on the development of trading infrastructure. With government bond issuance and trading for Eurozone countries migrating to pan-European systems, it may be difficult to encourage the infrastructure investment necessary for developing local capital markets.[47]

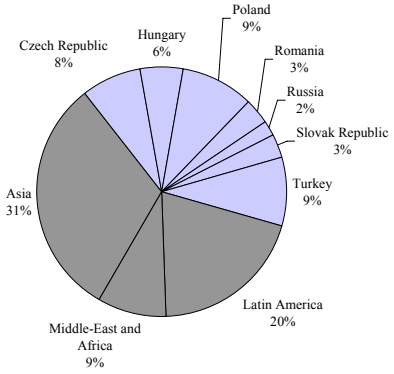
The role of foreign investors

Foreign investors, as an investor class, are playing an increasingly important role in shaping capital market development in the region. They have become an important source of demand for local securities, and are perceived to be key in local market development by, for example, catalyzing the development of robust market infrastructure and improvements in governance and transparency (Mathieson and Roldos, 2004). Koke (1999) finds that, in addition to factors such as general and macroeconomic risk and sound potential for an attractive risk-return tradeoff, foreign institutional investors place significant importance on the stability of the financial and legal system, managerial competency and market liquidity.

[47] See Andritzky (2007) for a discussion on the recent experiences in Slovenia.

Presently, international institutional investors are only able to invest a relatively small proportion of their portfolios in many emerging European markets. This is partly because many emerging European markets constitute a very minute proportion of most major international benchmark indices (for example, the Morgan Stanley Capital International suite of indices; the JPMorgan suite of Emerging Markets Bond Indices), if at all (Figure 9).[48] Moreover, the low liquidity in some market segments represents an obstacle to more sizable investments by larger foreign investors. Despite the existing constraints, foreign investors are currently estimated to account for more than 50 percent of stock market holdings in many countries in the region, where a few large companies constitute the bulk, and the free float represents a small fraction, of market capitalization. Foreign investors also have significant presence in the three most liquid bond markets in the region, namely, the CEE-3 countries.[49]

Figure 9. JPMorgan Emerging Local Markets Index Plus



Source: JPMorgan.
Note: Weights are as of August 31, 2007.

The adoption of MiFID by EU member countries is expected to further open up local markets to international investment. To date, the empirical evidence on the impact of foreign institutional investors on emerging markets remains rather limited and inconclusive. A particular concern about more extensive involvement by foreign investors is that they may contribute to market volatility and crises. Foreign investors may be less informed than local ones; they also may not have the necessary incentives to invest in obtaining the necessary

[48] For example, the JPMorgan Emerging Markets Bond Index Global ("EMBI Global")—which tracks total returns for traded external debt instruments in the emerging markets and includes U.S. dollar-denominated Brady bonds, loans, and Eurobonds with an outstanding face value of at least $500 million—only includes Bulgaria, Hungary, Poland, Russia, Serbia, Turkey and Ukraine from among the emerging European countries.

[49] As of end-2005, foreign investors held close to 78 percent of equity market capitalization in Hungary and 67 percent in Turkey; foreign investors accounted for 51 percent of equity holdings in Bulgaria as of end-2006. Meanwhile, more than a third of all government bonds in Hungary are held by foreigners. In Poland and the Czech Republic, foreign investors hold around a quarter of outstanding government bonds. However, investors appear to be staying away from the government bond markets in South-Eastern Europe, as liquidity in these markets remains very thin.

knowledge and may thus be susceptible to herding behavior (IMF, 2003). Given that investments by foreign institutional investors tend to be quite significant compared to the size of the local markets, and any adjustment in their holdings of the region's assets could lead to large price movements, any collective action by these investors could have a potentially severe impact on local markets. On the other hand, foreign investors have also been credited with supporting market development and growth in emerging market regions (IMF, 2003). In emerging Europe, the portfolio inflows in the early-2000s, which were largely motivated by prospects of convergence with the EU, were generally perceived as being driven by "real money" institutional investors, that is, those with a positive longer-term view of the region.

Derivatives markets

A key reason for the underdevelopment of local derivatives markets is the inadequate development of the underlying securities markets. The interaction between the development of underlying cash markets and their corresponding derivatives markets could be characterized as that of a "chicken and egg" relationship. Investors are usually hesitant to participate in cash markets when there are limited means for hedging against risk; conversely, the underdevelopment of local derivatives markets usually stems from the lack of deep, liquid cash markets.[50] This has largely been the case in many of the emerging European markets. Mathieson and Roldos (2004) argue that once the underlying securities markets reach a certain level of development, the efficiency gains from derivatives products would become apparent, and the derivatives markets are likely to thrive, barring regulatory obstacles.

In emerging Europe, tight regulations that restrict the use of derivatives by banks and institutional investors have also been important contributing factors to the underdevelopment of derivatives instruments. For instance, investment in derivatives products by pension funds are not allowed in many countries, as they are considered excessively risky and complex (Chan-Lau, 2005). Presently, amendments to existing regulations to allow pension funds to invest in derivatives are being contemplated in Poland and Hungary, which if approved, could likely boost the development of the derivatives market in these countries. That said, regulators need to remain vigilant in striking a balance between enabling better risk management through the use of these instruments, and the possibility that the rapid innovation in the market may outstrip the risk management capacity of users and their own supervisory capabilities.

Looking ahead, the development of derivatives markets in many of the emerging European countries will likely take place within the EU regulatory framework.[51] Some countries are presently working to establish derivatives market-related legislation in line with international standards. The Central and Eastern Europe/EMEA committee was established to promote understanding of the International Swaps and Derivatives Association (ISDA) Master

[50] See Ilyina (2004).

[51] See Young (2004).

Agreement and to advocate the necessity of netting being enforceable with regards to OTC derivatives trading in the region.[52] The adoption of Basel-type guidelines for capital adequacy relating to derivatives would also help to strengthen financial regulation.

The future of local exchanges

Emerging European countries are facing new challenges in the form of increased competition for their capital markets, following their accession to the EU. Arguably, the long-term sustainability of some of the emerging European stock exchanges may be in doubt, given the growing integration of financial markets within Europe and with the rest of the world (Berglof and Bolton, 2002). The advent of MiFID under the FSAP is likely to raise the critical size needed for exchanges to attract and retain liquidity, and to generate the revenues necessary to invest in the necessary technology (Haas, 2007). Corporate bond markets are also facing a changing financial landscape. The success of privatized banking systems in competing for corporate clients and the increasing access of multi-national companies to foreign resources have raised questions about the need for domestic currency-denominated corporate bond markets as emerging European countries move towards euro adoption.[53]

Elsewhere, the advent of the euro and advancements in technology have led to an overhaul and reshaping of the infrastructure for effecting payments, and for the trading, clearing and settlement of securities.[54] Monetary union has also provided a boost for harmonizing and consolidating payment and securities settlement systems. The Eurosystem—comprising the European Central Bank and the national central banks of the euro area—in collaboration with market participants, is presently looking into the implementation of a single securities settlement facility to settle all securities transactions in Europe, to be called TARGET2-Securities. Naturally, these developments would directly affect emerging European capital markets that have already acceded to the EU, and would also have significant implications for countries that are in line for future EU membership.

As a result, there have been strong incentives for market operators, especially in small and medium-sized markets, to consolidate or intensify collaboration. Relatively small markets may need to move toward linking their trading systems or merging with global markets (Claessens, Klingebiel and Schmukler, 2002; and Steil, 2001). The OMX strategy of focusing on building its presence in smaller markets using its technology platform—such as its merger with the Nordic-Baltic exchanges, which include Estonia, Latvia and Lithuania—is one such example. Alternatively, the emerging European countries are involved in a different strategy vis-à-vis the Vienna Stock Exchange (VSE), which has acquired a stake in the Budapest Stock Exchange and entered into an index co-operation project with the Bucharest Stock

---

[52] Since the mid-1990s, ISDA has provided technical on the drafting of legislation relevant to derivatives in the Czech Republic, Hungary, Poland and the Slovak Republic. Additionally, ISDA is also monitoring and supporting relevant legislative developments in Turkey.

[53] See Gyorgy (2002) and Koke (2002).

[54] See European Central Bank (2007).

Exchange, both in 2004.[55] Separately, the Budapest Stock Exchange has been trying to identify strategic cooperation opportunities with more developed and large exchanges, with a major proportion of the local turnover of Hungarian securities taking place in the London exchange SEAQ (Nemeth and Szilagyi, 2004).[56]

V. Concluding Remarks

Emerging European countries have made significant progress in developing their capital markets since the start of transition in the early-1990s. To date, stock markets in the region have continued to grow and, especially in the larger countries, have matured as investor interest in the region has intensified. Also, governments have committed to developing the local bond markets through benchmark issuances and the establishment of viable yield curves. In a handful of countries, corporate bond markets have increased their importance as a source of debt financing. Overall, some essential components of capital market development—such as the implementation and enforcement of securities laws and financial regulations, the development of market infrastructure and benchmarks, the maturation of the institutional investor base—still require improvement. Most importantly, countries in the region need to sustain sound economic policies and maintain a stable environment to ensure continuing investor interest in their markets.

Local market development in the region is increasingly linked to EU markets and legislation. EU membership is expected to improve capital market integration, both among emerging European countries and, more generally, within the EU through the convergence of regulations, infrastructure and instruments. The establishment of regional exchanges is raising questions about the long-term sustainability of some local exchanges and the necessity of developing free-standing local markets, given the increasing competition faced by the latter. In this context, however, it has been argued that local capital markets remain an important source of financing for small- and medium-sized companies which are less likely to be able to list on the major exchanges.

Corporate governance, financial transparency and enforcement of laws and regulations need to be continually improved to attract and sustain investor interest. Although there has been significant progress in developing sound financial regulatory frameworks across the region, the success in transforming the laws on the books has not necessarily translated into actual implementation and enforcement in some instances. As a result, the quality of governance and the degree of financial disclosure varies significantly across countries. Some markets in the region still lack the necessary credibility with institutional investors, which have traditionally played a key role in the development of emerging local markets. These

---

[55] The stock exchanges in Banja Luka and Sarajevo (Bosnia and Herzegovina), Zagreb (Croatia), Belgrade (Serbia), Sofia (Bulgaria), Podgorica (Montenegro) and Skopje (Macedonia) have since signed co-operation agreements with the VSE.

[56] The Stock Exchange Automated Quotation system (SEAQ) is a system of the London Stock Exchange for trading securities that are not liquid enough to trade on the Stock Exchange Electronic Trading System (SETS) or the electronic hybrid trading system, SETSmm.

shortcomings are especially pertinent for local companies seeking listings on major regional exchanges, as they may fall short on meeting international best practice standards.

The financial infrastructure needed to facilitate the flow of information and the price discovery process should also be continually upgraded. In many cases, the market infrastructure for trading local securities has undergone significant improvement. However, some capital markets in the region still lack the necessary sophistication in pricing credit risk, in the absence of complete and liquid benchmark yield curves, well-functioning money markets, a credible credit rating system and robust bond trading infrastructure. The inadequacy of derivatives markets is also hindering the growth of debt markets, and vice-versa. The increasing integration between emerging Europe and the rest of the EU creates an additional complication as any financial infrastructure development would also need to take into account compatibility with regional platforms and systems.

The different paths which individual emerging European countries have taken in developing their respective local markets raise interesting issues about the optimal sequencing of reforms vis-a vis the development of other financial institutions, and macroeconomic and regulatory policies. Clearly, there is no single optimal strategy for all countries, given their different circumstances and stages of development. As a general rule, however, a gradual and complementary approach is likely to be beneficial, although a particular sequencing may be preferable in some instances (IMF, 2003). It is beyond the scope of this paper to detail specific reforms and the associated sequencing for each individual country—these issues represent interesting areas for future research. Nonetheless, it is clear that many of the required elements for establishing deep, liquid markets described in this paper are usually not exclusive; rather, they are usually developed in conjunction with one another. For emerging European countries, the increasing integration with EU markets represents an additional, and very important, consideration in the sequencing and implementation of reforms.

Appendix I. Emerging Europe: Capital Markets Statistics

Table A.1. Emerging Europe: Main Stock Exchanges and Stock Market Indices, End-2006

	Bosnia and Herzegovina	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Macedonia
Main stock exchange	Sarajevo Stock Exchange	Bulgarian Stock Exchange	Zagreb Stock Exchange	Prague Stock Exchange	OMX Talinn Stock Exchange	Budapest Stock Exchange	OMX Riga Stock Exchange	OMX Vilnius Stock Exchange	Macedonian Stock Exchange
Number of companies traded	489	347	183	29	16	41	40	44	101
Market capitalization (in billions of U.S. dollars)	13.0	10.3	29.0	48.6	6.0	41.9	2.7	10.2	1.1
Market capitalization (in percent year-on-year change)	129.5	103.0	124.5	26.8	70.6	28.7	7.0	24.5	71.7
Market turnover (in billions of U.S. dollars)	0.4	1.5	1.8	32.9	1.0	31.2	0.1	2.1	0.4
Market turnover (in percent year-on-year change)	22.1	8.7	128.4	-19.9	-60.8	30.4	16.1	182.7	182.1
Market turnover ratio (in percent)	3.3	14.6	6.3	67.6	16.3	74.4	4.1	20.5	36.0
Benchmark index	BIFX	SOFIX	CROBEX	PX	OMXT	BUX	OMXR	OMXV	MBI-10
Benchmark index (in percent year-on-year change)	27.4	48.3	60.7	7.9	28.9	19.5	-3.1	9.8	61.5
Settlement period (days)	T+3	T+2	T+3	T+3	T+3	T+3	T+3	T+3	T+3
Number of indices	2	2	2	2	1	2	1	1	1

	Montenegro	Poland	Romania	Russia	Serbia	Slovak Republic	Slovenia	Turkey	Ukraine
Main stock exchange	Montenegro Stock Exchange	Warsaw Stock Exchange	Bucharest Stock Exchange	Russia Trading System Stock Exchange	Belgrade Stock Exchange	Bratislava Stock Exchange	Ljubljana Stock Exchange	Istanbul Stock Exchange	PFTS Ukraine Stock Exchange
Number of companies traded	65	267	58	309	1,204	173	100	314	249
Market capitalization (in billions of U.S. dollars)	2.4	149.1	32.8	1,321.8	11.0	5.5	15.2	162.4	42.9
Market capitalization (in percent year-on-year change)	134.4	58.8	59.2	141.0	4.2	103.1	92.2	0.5	71.6
Market turnover (in billions of U.S. dollars)	0.3	55.0	4.3	514.4	0.1	1.3	1.0	227.6	1.2
Market turnover (in percent year-on-year change)	225.3	83.6	25.3	222.8	13.5	128.2	29.3	13.1	81.7
Market turnover ratio (in percent)	11.9	36.9	13.0	38.9	1.0	12.2	6.7	140.2	2.8
Benchmark index	MOSTE	WIG-20	BET	RTS	BELEX-15	SAX	SBI-20	ISE National-100	PFTS
Benchmark index (in percent year-on-year change)	98.4	41.6	22.2	642.8	0.6	5.1	37.9	-1.7	41.3
Settlement period (days)	T+3	T+3	T+3	t+0	T+3	T+3	T+2	T+2	T+5
Number of indices	2	4	4	2/3	2	2	2	4	0

Sources: Emerging Markets Data Base; Federation of Euro-Asian Stock Exchanges; Federation of European Securities Exchanges; and national stock exchanges.
Note: Turnover ratios are estimated as the ratio of market turnover to year-end capitalization for a particular year.

Table A.2. Emerging Europe: Availability of Bond Instruments

Country	Market Segment	
	Government	Corporate
Bosnia and Herzegovina		
Bulgaria	√	√
Croatia	√	√
Czech Republic	√	√
Estonia		
Hungary	√	√
Latvia	√	
Lithuania	√	√
Macedonia	√	
Poland	√	√
Romania	√	√
Russia	√	√
Slovak Republic	√	√
Serbia and Montenegro	√	
Slovenia	√	
Turkey	√	
Ukraine	√	√

Source: Authors' estimates based on various sources.

Table A.3. Emerging Europe: Foreign Exchange Turnover, 1998–2007
(Daily averages, in millions of U.S. dollars)

Country	1998	2001	2004	2007				
				Total	With reporting local dealers	With reporting dealers abroad	With other financial institutions	With non-financial customers
Bulgaria	-	-	-	532	27	185	174	145
Czech Republic	5,027	2,422	2,322	4,947	314	3,457	629	548
Estonia	-	-	-	1,251	3	1,083	62	103
Hungary	1,417	664	2,782	6,715	274	4,035	1,962	444
Latvia	-	-	2,038	2,589	290	999	761	539
Lithuania	-	-	1,047	963	35	390	291	247
Poland	2,664	8,860	6,355	8,813	701	5,838	1,254	1,020
Romania	-	-	-	2,510	304	1,550	209	447
Russia	6,763	13,715	29,792	50,173	11,179	14,307	10,646	14,041
Slovak Republic	-	708	1,605	3,422	156	3,216	50	-
Slovenia	-	96	143	244	0	181	33	30
Turkey	-	1,079	3,414	3,362	333	2,234	626	169

Source: Bank for International Settlements.
Note: Data include turnover of spot transactions, outright forwards and foreign exchange swaps; net of local inter-dealer double-counting by country and counterparty; data for each year represent the April averages.

Table A.4. Emerging Europe: Availability of Local Exchange-Traded and OTC Derivatives Instruments

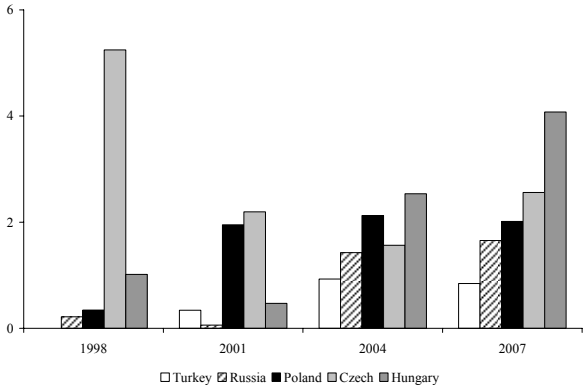
	Exchange-Traded										OTC						
	Stock Futures	Stock Options	Stock Index Futures	Stock Index Options	Interest Rate Futures	Interest Rate Options	Currency Futures	Currency Options	Commodity Futures	Commodity Options	FX Swaps	FX Forwards	Currency Swaps	FX Options	FRAs	Interest Rate Swaps	Interest Rate Options
Bosnia and Herzegovina																	
Bulgaria											√	√	√	√		√	√
Croatia																	
Czech Republic											√	√	√	√	√	√	√
Estonia											√	√		√		√	√
Hungary	√	√	√	√	√		√	√	√	√	√	√		√	√	√	
Latvia											√	√					
Lithuania											√	√				√	√
Macedonia																	
Poland	√	√	√	√	√		√				√	√	√	√	√	√	√
Romania	√	√	√	√	√	√	√	√			√	√		√		√	
Russia	√	√	√		√		√		√		√	√		√			
Serbia																	
Slovak Republic											√	√		√			
Slovenia											√	√		√		√	
Turkey							√				√	√	√	√	√	√	√
Ukraine																	

Sources: Bank for International Settlements; and World Federation of Exchanges.

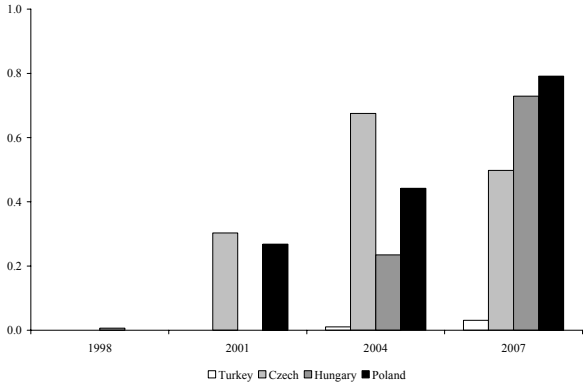
Figure A.1. Emerging Europe: Over-the Counter and Exchange-Traded Derivatives in Selected Countries

Over-the-Counter Turnover
(Daily averages, in percent of GDP)

Foreign Exchange Derivatives

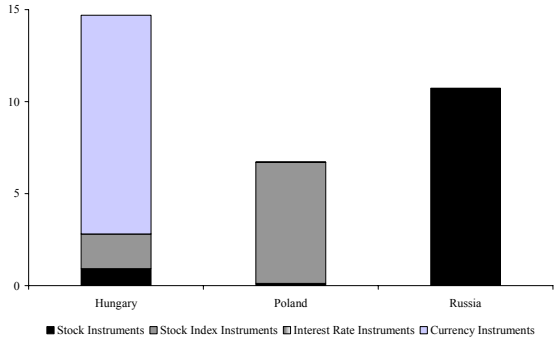


Interest Rate Derivatives

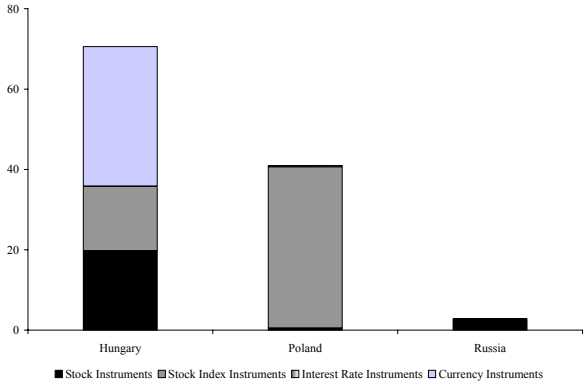


Exchange-Traded Derivatives Notional Values, End-2006

(In millions of contracts)



(In percent of GDP)



Source: Bank for International Settlements.
Note: Data for 2007 represent the April averages.

Table A.5. Emerging Europe: Holdings of Government Bonds by Investor Type
(In percent of total)

Country	Central Bank	Banks	Insurance Companies	Pension Funds	Other Financial Institutions	Non-Financial Institutions	Households	Non-residents	Other
Bulgaria	0.0	70.2	20.3		0.0	8.8		0.7	0.0
Croatia	0.0	36.0	11.0	34.0	0.0	0.0	0.0	7.0	3.0
Czech Republic	0.0	43.3	23.4		4.1	0.3	0.2	27.4	1.3
Hungary	1.3	30.3	25.0		6.3	1.8	7.7	26.8	0.8
Latvia	0.0	57.1	36.0					6.9	0.0
Lithuania	0.0	50.1	17.7	0.0	0.0	2.6	7.4	3.8	18.5
Poland	0.0	20.1	17.2	22.6	11.1	1.0	2.9	20.0	5.1
Romania	0.0	21.3	20.7					0.0	58.0
Russia	64.9		34.9					0.2	-
Slovenia	0.0	46.0	23.0	4.0		5.0	8.0	7.0	7.0
Turkey	7.3	48.2	7.8	0.3	1.7	5.8	12.4	10.1	6.6

Sources: Erste Bank; and national authorities.
Note: Data for the Czech Republic is as of September 2007; for Hungary, Bulgaria, Poland and Turkey as of November 2007; for Latvia as of end-2006.; for all other countries as of end-2005.

Table A.6. Emerging Europe: Availability of Government Bond Tenors
(In years)

Country	Tenor															
	1	2	3	4	5	6	7	8	9	10	11	12	15	20	30	50
Bosnia and Herzegovina																
Bulgaria			√		√		√			√			√			
Croatia			√		√		√			√			√			
Czech Republic			√		√					√			√		√	√
Estonia																
Hungary			√		√					√			√			
Latvia		√			√					√	√					
Lithuania	√	√	√	√	√	√	√		√	√						
Macedonia	√	√														
Poland		√			√					√		√		√	√	
Romania			√		√					√						
Russia			√		√					√			√		√	
Slovak Republic	√															
Serbia			√		√		√			√			√	√		
Slovenia					√				√		√					
Turkey	√	√	√		√		√									
Ukraine		√	√	√	√											

Sources: Finance ministries; and authors' estimates.

Appendix II. Emerging Europe: Institutional Investors

Pension Funds

In some emerging European countries, pension fund assets under management (AUM) have increased sharply in recent years. The growth in AUM has been driven by the timing and nature of reform, the range of investment options in local markets and the specific investment regulations. Roldos (2004b) observes that the development of this institutional segment followed the increasing adoption of variants of a funded, privately-managed, defined-contribution personal accounts retirement system, while Bakker and Gross (2004) note that pension assets have grown rapidly in emerging European countries with mandatory second pillar systems.[57]

The pace of pension reform has differed considerably across the region. In countries such as Poland and Hungary, which were the first to initiate pension reforms in 1998 and 1999 respectively, AUM have grown significantly and are the highest in the region (Figure A.2). Estonia and Latvia followed in introducing privately-managed compulsory pension savings schemes. Third pillar (privately-managed voluntary contribution) schemes had already been in place for quite some time in the Czech Republic and Hungary, even while Lithuania and the Slovak Republic were still debating the introduction of a mandatory pillar in the early-2000s. The mandatory pillar pillar was introduced in the Slovak Republic only in 2005. Countries such as Ukraine and Macedonia only carried out their pension reforms in 2004 and 2006 respectively, and AUM remain very low. Romania introduced their second and third pillar pension reforms in 2004, and ten pension fund companies are currently at various stages of authorization.

The use of tax incentives to encourage contributions to private pension schemes has also contributed to the growth in pension assets in the emerging European countries.[58] In the Czech and Slovak Republics for instance, contributions to voluntary pension funds are tax-deductible up to a pre-determined maximum amount annually. In Hungary, a part of supplementary pension fund contributions is tax-deductible. In contrast, no tax incentive is provided for participation in voluntary schemes in Poland, although tax advantages are available for mandatory second pillar contributions, and employer contributions to employee pension programs are tax exempt.

The expansion in pension assets has largely outpaced the growth in the region's securities markets, and emphasizes the need to develop deep, liquid local capital markets. For example, at roughly 12 percent of GDP, pension fund asset accumulation in Poland is higher than the equivalent in Germany or France, countries with pension funds that started recently from a low base (Figures A.2 and A.3). Overall, this poses significant challenges for pension funds which are confronted with portfolio risk concentrated in low-yielding bank deposits, a few

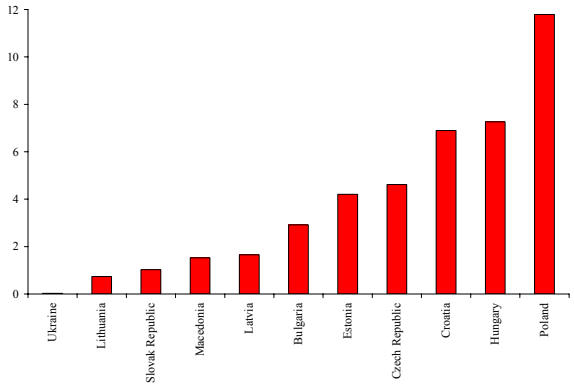
---

[57] The World Bank (1994) defines the three pillars of a pension system as follows: The universal Pillar 1 is a flat, subsistence pension; Pillar 2 is an earnings-related pension; Pillar 3 refers to voluntary retirement savings.

[58] See Bakker and Gross (2004).

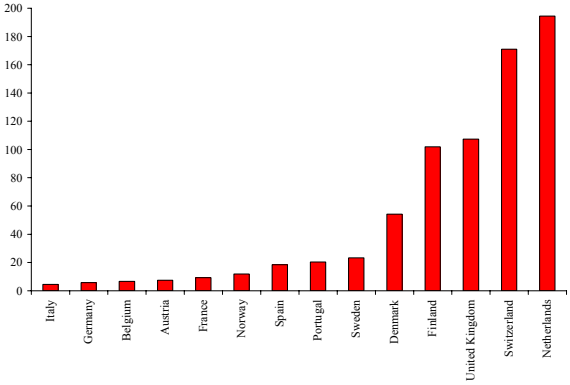
corporate names, government securities and illiquid real estate (Bakker and Gross, 2004; Chan-Lau, 2005). Thus, it is not surprising that pension funds in the region are heavily invested in local government bonds. With the exception of the Slovak Republic, Ukraine, Lithuania, and possibly Latvia, pension funds have invested around 70 percent of their assets in government bonds or bank deposits (Table A.7). The high concentration also reflects restrictive investment limits on specific asset classes (Table A.8).

Figure A.2. Emerging Europe: Pension Fund Assets, End-2006
(In percent of GDP)



Sources: Federacion Internacional de Administradoras de Fondos de Pensiones; national authorities; World Economic Outlook; and authors' estimates.
Note: Data for Bulgaria are as at September 2006; data for Lithuania, Macedonia, Slovak Republic and Ukraine are as at June 2006; GDP data are as of end-2006.

Figure A.3. Developed Europe: Pension Fund Assets, End-2005
(In percent of GDP)



Sources: Organization for Economic Co-operation and Development; World Economic Outlook; and authors' estimates.

In addition to investment restrictions, additional measures have been imposed in emerging European countries to safeguard pensioners' savings. Foremost among them are the imposition of mark-to-market and minimum guaranteed returns requirements and the obligation by pension fund managers to disclose the performance and market value of the fund assets on a regular basis. Chan-Lau (2005) notes that these measures have had the effect of encouraging pension fund managers to behave more like their shorter-term focused mutual fund counterparts, in countries such as Hungary and Poland. They also encourage herd-like behavior, as fund managers choose similar portfolio allocation strategies to minimize the probability of underperforming the competition. Pension fund managers might also avoid diversifying into riskier assets with favorable longer-term risk-adjusted returns to minimize return volatility of their portfolios.

Table A.7. Emerging Europe: Composition of Pension Fund Holdings, June 2006
(In percent of total)

Country	Government Bonds	Corporate Bonds	Other Non-Government Bonds	Equities	Bank Deposits	Overseas	Other
Bulgaria	43.6	12.8	7.0	13.6	22.0	0.0	1.1
Croatia	71.2	3.2	0.0	5.4	2.0	9.0	9.1
Czech Republic	62.4	6.5		7.5	7.8	6.4	9.5
Hungary	73.5	2.3	0.0	7.7	0.0	-	16.6
Latvia	50.8			4.6	26.0	-	18.6
Lithuania	9.1	2.0	0.0	3.5	2.4	77.2	5.7
Macedonia	69.2	-	-	2.0	-	0.0	28.8
Poland	61.9	0.3	-	31.8	2.8	1.7	1.5
Slovak Republic	7.5	0.0	6.3	6.9	62.8	12.2	4.2
Turkey	69.3	0.0	0.0	9.1	-	0.7	21.0
Ukraine	0.1	3.3	49.7	2.2	21.9	0.0	22.7

Sources: Capital Markets Board of Turkey; Czech National Bank; Federacion Internacional de Administradoras de Fondos de Pensiones; Financial and Capital Market Commission Latvia; Financial Services Supervisory Agency, Croatia; and Financial Supervisory Authority, Hungary.
Note: Data for the Czech Republic are as of end-2005.

Table A.8. Emerging Europe: Pension Fund Investment Restrictions, End-2006

Country		Equity	Real Estate	Corporate Bonds	Municipal Bonds	Financial Institutions Bonds	Mortgage Bonds	Investment Funds	Loans	Bank Deposits
Czech Republic		25 (non-listed)	No limit	No limit	No limit	No limit	No limit	25	0	10
Hungary	MPF	50	5 directly; 10 with real estate investment funds	30	30	No limit	-	50	0	No limit
	VPF	60	10 directly or through real estate investment funds						30% of projected fund income to the liquidity and operational reserves during the life of the loan; 5% to fund members	
Poland	OPF	40 (listed on primary market); 7.5 (unlisted or secondary market)	0	40	40	-	40 (No more than 15 in unlisted bonds)	10 (Natl Invest Funds); 10 (close-ended); 15 (Open-ended)	Equal to investment in the shares of the borrower	20
	EPF	No limit	0	10	10	10	10	No limit	Equal to investment in the shares of the borrower	No limit
Slovak Republic		80	Not allowed	No limit	No limit	No limit	No limit	50	Not allowed	No limit
Russia		65	-	80	40	-	-	-	-	-
Turkey		76	0	No limit	-	No limit	No limit	10	-	10

Sources: Federal Financial Markets Service, Russia; and Organization for Economic Co-operation and Development.

Mutual Funds

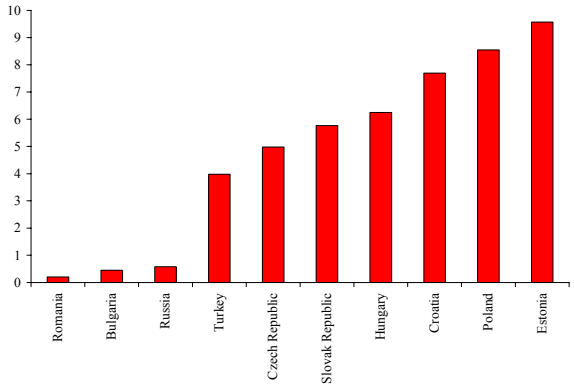
Mutual funds require a robust and effective regulatory framework for their successful operation and development. Specifically, the enforceability of agency contracts, accounting and auditing rules, information disclosure and transparency requirements are of paramount importance for the mutual fund industry to thrive (Klapper, Sulla and Vittas, 2004). Further, securities markets development represents an important ingredient in stimulating demand for mutual fund products and promoting the supply of mutual fund services.

Mutual fund assets in emerging Europe as a whole have recorded high growth rates in recent years, albeit starting from a very low base. Indeed, their AUM are still well below the levels of their advanced country counterparts (Figures A.4 and A.5). The growth trends have differed widely across countries. The Czech Republic and Hungary have the most developed mutual funds industries, and along with Poland, are biggest in terms of AUM. Mutual funds are very competitive in Hungary, in part due to the lack of up-front fees, while the growth of the industry in Poland was boosted by the introduction of the "Belka tax" on interest income from bank deposits in 2001, which resulted in a sharp shift of retail funds away from the banking system.[59] Among the Baltic countries, the industry is developing very quickly in Estonia, which has the largest market relative to GDP in the region. In stark contrast, mutual fund assets remain negligible in Latvia and Lithuania, while concerns about high fees, valuation and legal status have constrained the development of the mutual fund industry in Turkey.

From an asset allocation perspective, mutual fund investors in emerging Europe have shown a strong preference for fixed income funds (Table A.9). This is likely due to the asset constraints from underdeveloped domestic capital markets also faced by other institutional investors, discussed previously. Nonetheless, the proportion of mutual funds' global AUM invested in the region's bond markets remains miniscule (Figures A.6 and A.7). Mutual funds in emerging European countries are also facing increasing competition from private pension funds which benefit from tax advantages. That said, the former are also expected to benefit from the rapid growth of the latter, which are likely to push for greater efficiency in local capital markets by using their growing influence to improve corporate governance, transparency and disclosure to the benefit of all investors in the market (Bakker and Gross, 2004).

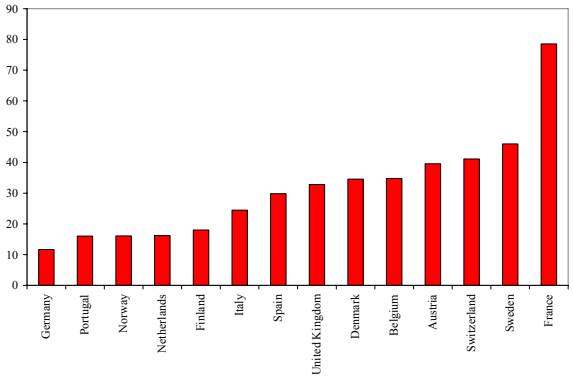
[59] The "Belka tax," which was introduced by the then Minister of Finance, Marek Belka, in 2001 and has been effective since 2002, taxes all capital gains, including profits earned on stocks (including dividends) and bonds, and interest from bank deposits, at a rate of 19 percent.

Figure A.4. Emerging Europe: Mutual Fund Assets, End-2006
(In percent of GDP)



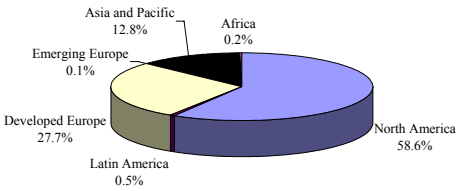
Sources: Investment Company Institute; national authorities; World Economic Outlook; and authors' estimates.

Figure A.5. Developed Europe: Mutual Fund Assets, End-2006
(In percent of GDP)



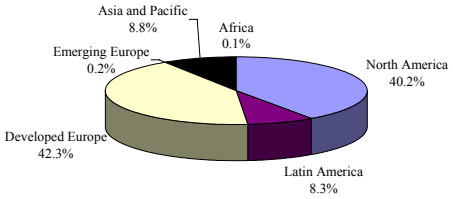
Sources: Investment Company Institute; World Economic Outlook; and authors' estimates.

Figure A.6. Mutual Fund Net Holdings of Equities by Region, End-2006



Source: Investment Company Institute.
Note: Emerging European countries comprise Czech Republic, Hungary, Poland, Romania, Russia, Slovak Republic and Turkey.

Figure A.7. Mutual Fund Net Holdings of Bonds by Region, End-2006



Source: Investment Company Institute.

Table A.9. Emerging Europe: Mutual Fund Holdings in Selected Countries, End-2005
(In percent of total)

Country	Government Bonds	Corporate Bonds	Other Non-Government Bonds	Equities	Bank Deposits	Derivatives	Overseas	Others
Estonia	37.0			49.0	11.0	-	-	3.0
Latvia	31.6	50.5	0.2	15.1	-	-	-	2.7
Romania	10.8	7.5		24.5	39.7	0.1	-	17.5
Turkey	70.3	0.0	0.0	2.5	-	0.0	0.0	27.2

Sources: Bank of Latvia; Central Bank of Romania; Central Bank of the Republic of Turkey; and Financial Supervisory Authority, Estonia.
Note: Data for Romania are as of end-2006.

Insurance Companies

The insurance industry in emerging Europe remains in its infancy, even among the new EU member states. There are both life and non-life insurance companies throughout the region. Legislative frameworks for the insurance industry were developed only in the mid-1990s, and the industry only started to develop in the late-1990s.[60] Although the structure of the insurance industry is highly concentrated, with one large player dominating the market following privatization of former monopolies, smaller insurance companies have grown with the expansion of several large insurance companies from the advanced EU countries into the region.

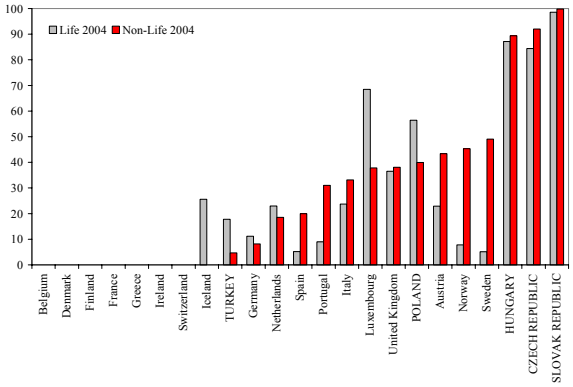
Insurance product penetration has been highest in countries which have allowed early participation of foreign insurance companies.[61] While these companies have been gaining market share over time, the overall penetration rate in the region is still very low, standing at less than 5 percent (Figures A.8 and A.9). The Czech Republic and Slovenia have the most developed insurance markets, while the small size of the population in the Baltic countries has discouraged foreign investment in the sector and hindered overall growth (Bakker and Gross, 2004).

Consistent with its level of development, the insurance sector has not played a significant role in capital market development in emerging Europe to date. Investment by insurance companies in the securities of domestic companies remains very small in GDP terms, even in the more advanced capital markets in the region, such as the CEE-3 countries (Figure A.10). Similar to the trend observed in most of the advanced countries, insurance companies operating in the region tend to have a greater proportion of their investments in bonds, compared to stocks.

[60] See Pye (2000).

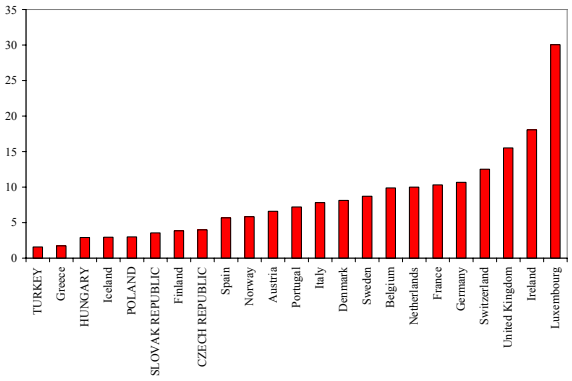
[61] See Bonin and Wachtel (2003).

Figure A.8. Europe: Foreign Companies' Share of the Domestic Insurance Market, End-2004
(In percent)



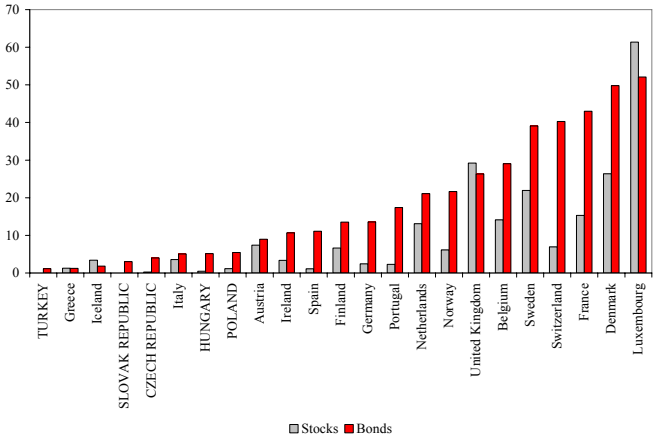
Source: Organization for Economic Co-operation and Development.

Figure A.9. Europe: Insurance Product Penetration, End-2004
(In percent)



Source: Organization for Economic Co-operation and Development.
Note: Insurance product penetration is defined as gross premia as a percentage of GDP.

Figure A.10. Europe: Outstanding Investment in Domestic Companies' Securities by Direct Insurance Companies, 2004
(In percent of GDP)



Sources: Organization for Economic Co-operation and Development; World Economic Outlook; and authors' estimates.

References

Andritzky, Jochen R., 2007, "Capital Market Development in a Small Country: The Case of Slovenia," IMF Working Paper No. 07/229 (Washington: International Monetary Fund).

Arvai, Zsofia and Johannes Herderschee, 2007, "Bulgaria's Credit Boom: After Credit Limits," IMF Country Report No. 07/390 (Washington: International Monetary Fund).

Atje, Raymond and Boyan Jovanovic, 1993, "Stock Markets and Development," *European Economic Review*, Vol. 37, Nos. 2–3, pp. 632−40.

Bakir, Caner and Kym Brown, 2004, "Turkey," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 373–89 (Sussex: John Wiley & Sons Ltd.).

Bakker, , Marie-Renee and Alexandra Gross, 2004, "Development of Non-Bank Financial Institutions and Capital Markets in European Union Accession Countries," World Bank Working Paper No. 28 (Washington: The World Bank).

Berglof, Erik and Patrick Bolton, 2002, "The Great Divide and Beyond: Financial Architecture in Transition," *Journal of Economic Perspectives*, Vol, 16, No. 1, pp. 11−100.

Berglof, Erik and Anete Pajuste, 2003, "Emerging Owners, Eclipsing Markets? Corporate Governance in Central and Eastern Europe," in *Corporate Governance and Capital Flows in a Global Economy*, ed. by Peter K. Cornelius and Bruce Kogut, pp. 267–304 (New York: Oxford University Press).

Berglof, Erik and Anete Pajuste, 2005, "What Do Firms Disclose and Why? Enforcing Corporate Governance and Transparency in Central and Eastern Europe," *Oxford Review of Economic Policy*, Vol. 21, No. 2, pp. 178–97.

Blazevski, Darko, 2006, "Primary Dealers on Government Securities Market," Bulletin No. 1-2/2006, Ministry of Finance, Republic of Macedonia (Skopje, January/February).

Blommestein, Eva T., 1998, "The Development of Securities Markets in Transition Economies—Policy Issues and Country Experience," in Organization for Economic Co-operation and Development Proceedings: *Capital Market Development in Transition Economies, Country Experiences and Policies for the Future*, pp. 13−34 (Paris: Organization for Economic Co-operation and Development).

Bonin, John and Paul Wachtel, 2003, "Financial Sector Development in Transition Economies: Lessons from the First Decade," Financial Markets, Institutions & Instruments, Vol. 12, No. 1, pp. 1–66.

Carvajal, Ana and Jennifer Elliott, 2007, "Strengths and Weaknesses in Securities Market Regulation: A Global Analysis," IMF Working Paper No. 07/259 (Washington: International Monetary Fund).

Chan-Lau, Jorge A., 2005, "Pension Funds and Emerging Markets," *Financial Markets, Institutions & Instruments*, Vol. 14, No. 3, pp. 107–34.

Claessens, Stijn, Simeon Djankov and Daniela Klingebiel, 2001, "Stock Markets in Transition Economies," in *Financial Transition in Europe and Central Asia: Challenges of the new Decade*, ed. by Lajos Bokros, Alexander Fleming and Cari Votava, pp. 109−37 (Washington: The World Bank).

Claessens, Stijn, Daniela Klingebiel and Sergio L. Schmukler, 2002, "Explaining the Migration of Stocks from Exchanges in Emerging Economies to International Centers," WIDER Discussion Paper No. WOP 2002/94 (Helsinki: United Nations University—World Institute for Development Economic Research).

Dowers, Kenroy A. and Vania A. Lorenzo, 2004, "The Impact of Disclosure in Financial Market Development," in *International Accounting Standards: Transparency, Disclosure and Valuation for Latin America and the Caribbean*, ed. by Jose Antonio Lainez, Pietro Masci and Juan Jose Durante, pp. 1–27 (Washington: Inter-American Development Bank).

Dvorak, Tomas and Richard Podpiera, 2005, "European Union Enlargement and Stock markets in Accession Countries," IMF Working Paper No. 05/182 (Washington: International Monetary Fund).

Elana Trading, 2005, "Bulgarian Corporate, Mortgage and Municipal Bond Markets," *Elana Research* (Sofia, July). Available on http://www.elana.net/analysis/reports/dalgov_pazar_3.pdf.

European Central Bank, 2007, "Payment and Securities Settlement Systems in the European Union: Volume 1," *Blue Book* (Frankfurt, August).

Fischer, Stanley, 1991, "Privatization in East European Transformation," NBER Working Paper No. 3703 (Cambridge: National Bureau of Economic Research).

Forssbaeck, Jens and Lars Oxelheim, 2006, "The Interplay between Money Market Development and Changes in Monetary Policy Operations in Small European Countries, 1980–2000," IFN Working Paper No. 669 (Stockholm: Research Institute of Industrial Economics).

Galati, Gabriele, Alexandra Heath and Patrick McGuire, 2007, "Evidence of Carry Trade Activity," BIS Quarterly Review, September (Basel: Bank for International Settlements).

Greenspan, Alan, 1999, "Do Efficient Financial Markets Mitigate Financial Crises?" A Remark before the 1999 Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia, October 19. Available via the internet: http://www.federalreserve.gov/boarddocs/speeches/1999/19991019.htm.

Gyorgy, Sandor, 2002, "Developments in the Hungarian Debt Markets," in *The Development of Bond Markets in Emreging Economies*, BIS Paper No. 11 (Basel: Bank for International Settlements).

Haas, Francois, 2007, "The Market in Financial Instruments Directive and the Transformation of Europe's Capital Markets," IMF Country Report No. 07/259 (Washington: International Monetary Fund).

Herrmann, Sabine and Axel Jochem, 2003, "The International Integration of Money Markets in the Central and East European Accession Countries: Deviations from Covered Interest Parity, Capital Controls and Inefficiencies in the Financial Sector," Discussion Paper No. 07/03 (Frankfurt: Deutsche Bundesbank).

Holicka, Katerina, 2004, "International Financing—Focused on GDR and ADR," Working Paper (Prague: Univerzita Karlova v Praze).

Ilyina, Anna, 2004, "The Role of Financial Derivatives in Emerging Markets," in *Emerging Local Securities and Derivatives Markets,* World Economic and Financial Surveys, pp. 69–90 (Washington: International Monetary Fund).

International Monetary Fund, 2003, "Local Securities and Derivatives Markets in Emerging Markets: Selected Policy Issues," in *Market Developments and Issues*, World Economic and Financial Surveys (Washington, March).

International Monetary Fund, 2006, "Republic of Poland: 2006 Article IV Consultation—Staff Report," IMF Country Report No. 06/391 (Washington, August).

Wajid, Kal, Alexander Tieman, May Khamis, Francois Haas, Dirk Schoenmaker, Plamen Iossifov and Kalin Tintchev, "Financial Integration in the Nordic-Baltic: Challenges for Financial Policies," IMF Staff Policy Paper (Washington: International Monetary Fund).

Klapper, Leora and Inessa Love, 2004, "Corporate Governance, Investor Protection and Performance in Emerging Markets," *Journal of Corporate Finance*, Vol. 10, No. 5, pp. 703–28.

Klapper, Leora, Victor Sulla and Dimitri Vittas, 2004, "The Development of Mutual Funds around the World," *Emerging Markets Review*, Vol. 5. No. 1, pp. 1–38.

KNUiFE, 2005, *Open Pension Funds in Poland 2004*, Communication and European Integration Department, Insurance and Pension Funds Supervisory Commission, Warsaw.

Koke, F. Jens, 1999, "Institutional Investment in Central and Eastern Europe: Investment Criteria of Western Portfolio Managers," ZEW Discussion Paper No. 99-37 (Mannheim: Zentrum fur Europaische Wirtschaftsforschung/Center for European Economic Research).

Korczak, Piotr and Amir Tavakkol, 2004, "Institutional Investors and the Information Content of Earnings Announcements: The Case of Poland," *Economic Systems*, Vol. 28, No. 2, pp. 193–208.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Schleifer and Robert Vishny, 2000, "Investor Protection and Corporate Governance," Journal of Financial Economics, Vol. 58, Nos. 1–2, pp. 3–27.

Lannoo, Karel and Tanja Salem, 2001, "The Emerging Regulatory Framework for Banking and Securities Markets in the CEECs," in *The New Capital Markets in Central and Eastern Europe*, ed. by Michael Schroder, pp. 85–124 (Berlin; New York: Springer).

Lemierre, Jean, 2002, "Eastern Europe—Regional Developments in the Securities Markets," *The Compaq Handbook of World Stock, Derivative and Commodity Exchanges* (New York: Mondovisione).

Leungnaruemitchai, Pipat and Li Lian Ong, 2005, "An Anatomy of Corporate Bond Markets: Growing Pains and Knowledge Gains," IMF Working Paper No. 05/152 (Washington: International Monetary Fund).

Levine, Ross, Norman Loayza and Thorsten Beck, 2000, "Financial Intermediation and Growth: Causality and Causes," *Journal of Monetary Economics*, Vol. 46, No. 1, pp. 31−77.

Levine, Ross and Sara Zervos, 1996, "Stock Market Development and Long-Run Growth," *World Bank Economic Review*, Vol. 10, No. 2, pp. 323−39.

Mathieson, Donald. J. and Jorge E. Roldos, 2004, "Local Securities and Derivatives Markets in Emerging Markets: Selected Policy Issues," in *Emerging Local Securities and Derivatives Markets,* World Economic and Financial Surveys, pp. 1–23 (Washington: International Monetary Fund).

Nemeth, Nora and Laszlo Szilagyi, 2004, "Hungary," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 275–97 (Sussex: John Wiley & Sons Ltd.).

Noel, Michael, Noritaka Akamatsu, W. Jan Brzeski and Carlo Segni, 2006, "The Polish Fixed-Income Securities Market: Recent Developments and Selected Policy Challenges," World Bank Working paper No. 91 (Washington: The World Bank).

Ooi, Guan-Chye and Jonathan A. Batten, "Czech Republic," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 167–80 (Sussex: John Wiley & Sons Ltd.).

Pajuste, Anete, 2002, "Corporate Governance and Stock Market Performance in Central and Eastern Europe: A Study of Nine Countries, 1994–2001," Working Paper (Stockholm: Stockholm School of Economics).

Philosophov, Leonid V. And Vladimir L. Philosophov, 2004, "Russia," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 373–89 (Sussex: John Wiley & Sons Ltd.).

Pye, Robert B. K., 2000, "The Evolution of the Insurance Sector in Central and Eastern Europe and the former Soviet Union," Unpublished paper, The William Davidson Institute (Ann Arbor: University of Michigan).

Roldos, Jorge E., 2004a, "Emerging Local Bond Markets," in *Emerging Local Securities and Derivatives Markets,* World Economic and Financial Surveys, pp. 24–45 (Washington: International Monetary Fund).

Roldos, Jorge E., 2004b, "Pension Reform, Invesment Restrictions and Capital Markets," IMF Policy Discussion Paper No. 04/4 (Washington: International Monetary Fund).

Schinasi, Garry J. and R. Todd Smith, 1998, "Fixed-Income Markets in the United States, Europe and Japan: Some Lessons for Emerging Markets," IMF Working Paper No. 98/173 (Washington: International Monetary Fund).

Schipke, Alfred, Christian Beddies, Susan M. George and Niamh Sheridan, 2004, "Capital Markets and Financial Intermediation in the Baltics," IMF Occasional Paper No. 228 (Washington: International Monetary Fund).

Steil, Benn, 2001, "Borderless Trading and Developing Securities Markets," in *Open Doors: Foreign Participation in Financial Systems in Developing Countries*, ed. by Robert E. Litan, Paul Masson and Michael Pomerleano, pp. 327–50 (Washington: Brookings Institution Press).

Stirbock, Claudia, 2001, "Success of Privatization in CEE Countries," in *The New Capital Markets in Central and Eastern Europe*, ed. by Michael Schroder, pp. 21–38 (Berlin; New York: Springer).

Szalkai, Istvan, 2001, "Financial Markets in Hungary: Achievements and Prospective Challenges," in *Financial Transition in Europe and Central Asia: Challenges of the New Decade*, ed. by Lajos Bokros, Alexander Fleming and Cari Votava, pp. 77–88 (Washington: IBRD).

Szilagyi, Peter G., 2004a, "The Euro Area Bond Market: Integration and Development under Monetary Union," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 27–52 (Sussex: John Wiley & Sons Ltd.).

Szilagyi, Peter G., 2004b, "Poland," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 337–56 (Sussex: John Wiley & Sons Ltd.).

Szilagyi, Peter G., Thomas A Fetherston and Jonathan A. Batten, 2004, "Perspective on the Emerging European Financial Markets," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 53–66 (Sussex: John Wiley & Sons Ltd.).

Vittas, Dimitry,1998, "Institutional Investors and Securities Markets: Which Comes First?" *Banks and Capital Markets: Sound Financial System for the 21st Century,* Annual World Bank Conference on Development in Latin America and the Caribbean (Washington: The World Bank).

Voronkova, Svitlana. and Martin T. Bohl (2005), "Institutional Traders' Behaviour in an Emerging Stock Market: Empirical Evidence on Polish Pension Fund Investors," *Journal of Business Finance and Accounting*, Vol. 32, Nos. 7–8, pp.1537–60.

World Bank, 1994, *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth* (Washington: World Bank Publications).

World Bank, 2006, *The Polish Fixed-Income Securities Market: Recent Developments and Selected Policy Challenges* (Washington: World Bank Publications).

Young, Martin, 2004, "Perspectives on European Derivatives Markets," in *European Fixed Income Markets: Money, Bond and Interest Rate Derivatives*, ed. by Jonathan A. Batten, Thomas A. Fetherston and Peter G. Szilagyi, pp. 67–84 (Sussex: John Wiley & Sons Ltd.).

Zalewska, Anna, 2006, "Is Locking Funds into the Local Market Beneficial? Evidence from the Polish Pension Reforms," *Emerging Markets Review*, Vol. 7, pp. 339–60.

Zoli, Edda, 2007, "Financial Development in Emerging Europe: The Unfinished Agenda," IMF Working Paper No. 07/245 (Washington: International Monetary Fund).