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FISCAL POLICY AND ALTERNATIVE SOURCES OF PUBLIC CAPITAL IN TRANSITION ECONOMIES: THE DIASPORA BOND

ABSTRACT

State-sponsored projects in the transition economies often lack reliable finance sources as governments deal with orthodox policy limitations. At the same time reliance on relatively inconsistent natural resources export revenues, migrant remittances or conditional loans and foreign aid may not be adequate for long run development projects. One alternative is a Diaspora-sovereign bond program with a patriotic discount. Implied independent decision-making and fiscal responsibility will allow for strategic funds allocation, with an incentive for infrastructure and social initiatives investment with strong feedback into a productive economy stimulating effective demand. Ultimately these components define modern fiscal policy and are fundamental to economic growth and development. Regulated via "State–Diaspora Supervisory Board," a Diaspora bond may also serve as the initial or renewed access to the international capital markets, especially for smaller economies and those with low sovereign ratings.

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INTRODUCTION

Prospects of economic development and social transformation in the countries of the former Soviet Union (FSU) and Eastern Europe (EE) are high on today's agenda. Collectively these countries are referred to as transition economies. This term implies a transition from pre-capitalist, administratively-planned-economy type, to one with a new capitalist mode and content. In the early transition stages the government's share in the social processes was significantly reduced across all FSU/EE countries. Fiscal withdrawal in the early 1990s from infrastructure, education, healthcare, and industrial policy (beyond the legal-regulatory scope) coupled with the absence of a timely and adequate institutional replacement caused social crises that impeded economic development (e.g., Stern and Hicks 1996; Aghion and Schankerman 2000, and others).

More recently, to their credit, territorially smaller, natural resources and foreign exchange constrained transition economies—majority of all post-socialist states—have coped with ongoing social transformation through partial fiscal return in the non-waged sector. For those, proactive development stimulating fiscal measures raise the question of tough compromises in the development policy, search for alternative sources of funds, scrutiny of government budgets, and responsible fiscal policy.

This paper presents an alternative way of raising foreign exchange via sovereign bond mechanism. The program's competitiveness is determined through all-inclusive analysis, rather than through a simplified bond term structure. The discussion is in context of all FSU economies (with exception of three Baltic states) and three EE countries (Bulgaria, Poland and Romania). With exception of Russia—a large country well endowed with resources and rapidly growing economy—all are relatively small territorially and in terms of market share, caught in reconciliation stage between transforming past and urgent need for aggressive modernization. As a more recent phenomenon these countries also possess strong and widespread Diaspora networks outside their national borders.

Elsewhere countries at different socio-economic development stages have long since exploited various measures in mobilizing Diaspora resources for the development and benefit of the "historically native lands." In terms of institutional investment the two well-known examples of sovereign finance are the State of Israel Development Bonds of 1950 and Resurgent India Bonds of 1998. A major aspect of Diaspora-targeted sovereign financial instrument is the state's unique opportunity to raise low-cost (via patriotic discount) capital by the state to promote socio-economic progress, with greater decision-

making independence and investment project selection then offered by other policy measures (as will be discussed below). The important aspects, though, are in ensuring sustainability, timely interest payments, adherence to fiscal rules and responsible investment in productive sectors to stimulate effective demand.

This article is organized as follows: Section II sets the general background for understanding of Diaspora involvement in the transition economies development. Within the general discussion of fiscal policy Section III identifies some socio-economic areas requiring attention as core components of sustained economic growth and development. While, each case is unique, available evidence allows us to provide some general pointers for the group of countries. Finally, Section IV discusses the perils of floating and regulating the Diaspora bond in transition societies. The paper ends with Conclusion, References, and statistical Appendix.

DIASPORA AND TRANSITION ECONOMIES

In discussing "Diaspora" definitions must be set to avoid misinterpretation. The concept of the Diaspora dates back centuries in history. While anthropologists identify three world "classical" Diasporas: the Greek, the Jewish and the Armenian (e.g., Brubaker 2005), today the term has been extended to include larger expatriate populations of almost any country. Diaspora members are actively involved in activities of their adopted homelands, referred to as host countries. Yet the same people also retain strong ties with their native lands, home countries, and often participate in various cultural, political, business and other such activities there.

A standard definition sees Diaspora as a group of people dispersed outside its traditional homeland. Diaspora is a historical and a contemporary concept and in these terms almost any nation would have recorded waves of migration back in time. For example, the massive migrations in the early twentieth century created tightly-knit communities of Irish and Italians in the United States. More generally there are instances where those who left their homelands assimilated in the host countries severing ties with the old land. Others were able to preserve some connection to their previous homes. Still others abroad seem to have never left their homeland and live the dream of repatriation.

There are various explanations leading to each case ranging primarily from political to economic determinants. But what seems common in most cases is that Diaspora networks stay afloat thanks to their interactions with the constant inflows of newcomers from the

home country. In recent years this has been accomplished via temporary labor migration flows producing around 200 million people moving globally, according to the latest UN data (UN 2006). In fact the rapid spread of news, ease of travel and open borders that have immensely simplified population flows, allows one to speak of two complementing types within Diaspora: the "old" Diaspora and the "new" Diaspora (as identified in the case study of labor migration between Armenia and Russia in Gevorkyan, Gevorkyan and Mashuryan 2006). A realization of existence of both is important when discussing Diaspora involvement in the home country. This is especially important in the case of transition economies with histories of population shifts.

Typically, the "old" Diaspora—the second and greater generations emigrants, citizens of the countries adopted by their great-grandfathers. Being fully integrated in those societies they still retain the sense of belonging to a larger nation in exile, often forming the initial Diaspora hubs. Meanwhile the "new" Diaspora is a more recent phenomenon and consists of mainly temporary labor migrants that seem to be in search of their final economic destination. The continuous interaction of the two entities perpetuates the Diaspora to the point that practically equalizes population numbers between the home country's native population and those who by ways of ethnic, historical, cultural or other background are in the expatriate communities.

Once in the Diaspora individuals and organizations exhibit diverse views and incentives of their involvement of the home country affairs: ranging from business, cultural, political and to patriotic interests of all levels and extents. These incentives are dynamic and are responsive over time to a number of factors including experiences in dealing with the homeland and relations between the host and home nations.

Therefore a Diaspora evolves as a unified entity as a collection of those individual incentives. For transition economies (especially with small internal populations) existence of established Diaspora networks and the ability to capitalize on that is often analogous to potential "oil-rich" reserves economies. Some countries (e.g., Poland, Bulgaria, and Armenia) have established government and joint government-Diaspora agencies, tracking their population worldwide and establishing relations with representatives of geographically widely spread communities.

Freinkman (2001) raises issues of Diaspora participation in the home country development (economic recovery) in the context of transition economies. Similar ideas are extended and applied to the case of the Armenian Diaspora in Gevorkyan and Grigorian

(2003). Later Johnson and Sedaca (2004) analyzed Diaspora to home country development processes in several international communities, deriving general alternative policy recommendations. Citing the apparent advantages of Diaspora networks' global spread, and, in many cases, instances of affluent Diaspora communities these studies offer several approaches to institutional engagement of Diaspora groups. Those propositions range from humanitarian assistance, volunteer programs, cultural exchanges, hometown associations to more complex joint investment projects, infrastructure development funds, migration development bank (as in Gevorkyan and Gevorkyan 2007), and floating of Diaspora bonds. The latter proposition is one of the most intriguing ones. It has been gaining growing attention from the research and policy community internationally mainly due to the peculiarities involved in Diaspora resources institutionalization and the entrance into volatile international capital markets by still growing economies.

While research cited above views the Diaspora bond as one of many alternatives in raising foreign exchange for development, Chander (2001) and more recently Ketkar and Ratha (2007) tackle the issue directly, by referring to the successful implementations of Diaspora bond programs in Israel and India (these facts are summarized in Box 1 of the Appendix). The crucial finding is that altruism and patriotic feelings mattered once the home government took the first step in recognizing the potential and efforts of their Diaspora network. For transition economies all the above mentioned methods of engagement between the home country and its Diaspora are viable.

Today almost every transition economy possesses a Diaspora beyond the national borders. Reliable data on this Diaspora stock (and Diaspora estimates in general) are very difficult to collect. To our knowledge data presented in Table 1 of the Appendix on transition economies' potential Diaspora stock (a combined "old" and "new" Diaspora figure) is one of the first such attempts putting a realistic number behind the phenomenon. In deriving these estimates we relied primarily on official sources (such as census data and government statements) as well as independent sources where possible. The numbers, which also allude to larger shares of assimilated populations, are approximations and must be read with caution as most are highly inflated estimates. A conservative approach would be to consider the lower number in the given range as a realistic Diaspora potential for various reasons. Still, the data offers a starting point to our discussion.

Aside from estimates of potential Diaspora stock, Table 1 illustrates the latest net migration rates by country. For most countries able labor force emigration is high. While, as mentioned above, emigration helps keep a Diaspora afloat, it delivers a heavy blow to the transition economies in terms of lacking human capital and exacerbates "brain drain" effects. Of note is the fact that transition era migration from post-socialist economies, especially the states of the FSU, unlike other known international cases, is skilled labor migration (e.g., literacy rates in the FSU are around 100% and high proportions of college graduates according to World Bank (2008), while primary education remains compulsory in all countries) that is induced by economic factors; those leaving, remain emotionally attached to their home countries. Also important is that the main destination for the FSU states' migrants is the Russian booming economy, while EE countries send their migrant workers to other European states as indicated in Table 1.

Given the Diaspora's incentive for taking an active role in its homeland development the question remains should the governments be involved and how? At present the policy space is open and proactive government actions would be a required first step. Borrowing from Diaspora, via Diaspora bond, and channeling that money into public goods is one of the possible approached. This paper offers a conceptual analysis of the Diaspora bond program in the transition economies. Before delving into the perils associated with such policy, it is important to discuss certain measure of state's role in public investment projects in the transition economies. Note that the key here is the sovereign's relative independence in fiscal policy conduct and project selection.

THE FISCAL ROLE IN DEVELOPMENT: TRANSITION PECULIARITIES

Accelerating globalization and increased openness and fragility of post-socialist economies has led to transformational shifts in the societies exacerbated by the early withdrawals of the state from the traditionally sponsored areas of national economies. According to the UN National Accounts Estimates (UN 2008), these reductions were (conservatively) between 5 and 20 percentage points particularly in the smaller economies between 1990 and 1997. More recently the fiscal share has been somewhat increasing and in some cases even surpassing 1990s levels (e.g., reaching up to 30 percent in 2006 in the Kyrgyz Republic). The empirical evidence suggests that as memories of the state retreat persist and adequate market-generated replacements are still absent, an opposite process is

gaining momentum. Attempts of fiscal sector return into the economy are becoming frequent and engagement varies depending on locale. These efforts have been primarily recorded via the provision of non-waged labor goods such as social benefits, childcare, basic education and social infrastructure (Filer, Schneider, and Svejnar 1994; Juurikkala and Lazareva 2006).

Sustainability, however, of these projects requires adequate financing. Arguments made in favor of raising tax revenue must be taken with caution not simply for their politically unpopular complications but in terms of realistic reasoning in the chosen locale. As Figure 1 suggests while the initial collapses of the Gross National Income (GNI) per capita of the early 1990s may have been regained in some transition economies, the persistent low levels of per capita income inflict strict limits for traditional fiscal policy.

Figure 1: GNI per Capita in Current USD (in 1,000)
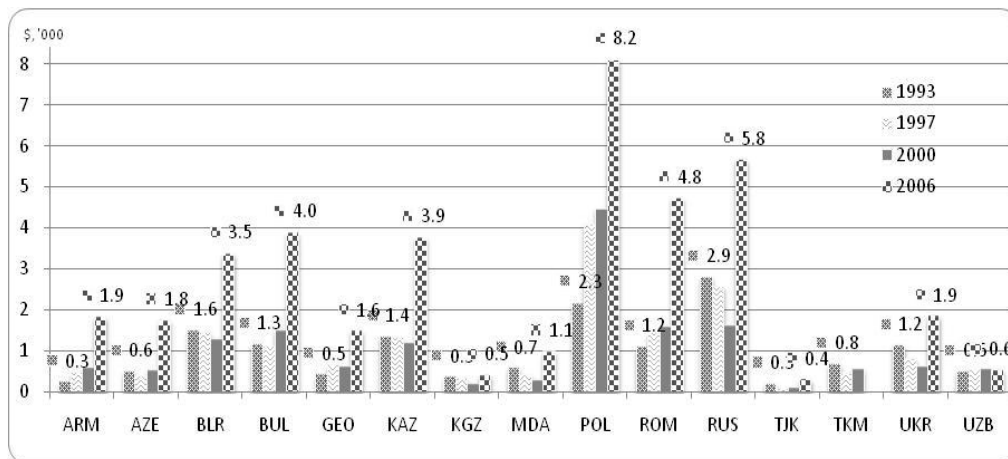
Notes: latest available data for Turkmenistan is as of 2000.
Sources: World Bank WDI 2008; own calculations.

The situation is complicated by the prevalent underdeveloped financial markets, high inflation, large current account deficits, accumulated large national debts, low investment activity, high net out migration of working age population, combined with high unemployment, and collapses in the educational, healthcare and social services spheres (for some of this data see Table 2 of the Appendix). Clearly the economies of FSU and EE present a diverse palette of social and economic issues. While we refer to the specifics of individual cases, we leave detailed discussion for later time. Here we are concerned with

a profile of a candidate that would potentially benefit from a less orthodox policy approach.

Considering the data discussed thus far, it may be noted that some of the countries that fit the profile include Armenia, Georgia, Moldova, Tajikistan, Turkmenistan, Uzbekistan, and to a lesser degree Ukraine, Romania, Bulgaria, and Poland. It is striking how (with few exceptions) these countries share high negative migration rates, high accumulated debts and low income per capita as of 2006 (with relative exception of Poland, Romania, Bulgaria, Ukraine and Armenia), high unemployment and high debt service as a share of total exports. Armenia, Bulgaria, Moldova, Poland, Romania, and Tajikistan receive high net transfers from their migrant workers, ranging from $1bln to up to $7bln—a high proportion relative to the total Gross Domestic Product.

The next few years will present real challenges to these governments' dealing with accumulating social and economic problems; and creating a policy leading to a more solid development track. This invites a brief discussion on fiscal involvement in the development process and presents the rationale for proactive fiscal operations.

Raising public capital (as in funds available to the fiscal authorities for internal projects) for domestic social development needs is often studied in the general framework of economic growth (e.g., Semmler, Greiner, Diallo, Rezai, and Rajaram 2007; Grenier, Semmler, and Gong 2004; Aschauer 1989). The results show a strong positive correlation between the two. While stimulating economic activity, public investment by itself receives feedback from the ground thus ensuring more intensive state involvement in the process. Romp and Haan (2005) note a crucial relationship between public and private capital as substitutes in the level of economic growth determination often assumed to be complements. In certain cases private capital steps in where public might have been expected (e.g., undertaking adjunct transportation-links renovation). However public capital performs best in such strategic areas as infrastructure, education, and healthcare, providing responsible framework with public access within a domestic regulatory code.

Infrastructure development has a consequent contribution to the productive side. As a result the production process regenerates itself with increased intensity at different levels, relying on an existent infrastructure network. This produces strong feedback into economic growth (e.g., see Aghion and Schankerman 2000 for discussion within transition context). The mechanism is quite simple; for instance transportation companies make faster deliveries utilizing state-built bridges, roads, and railways to move goods often

reaching distanced from main distribution lines regions and markets. Timely fulfilled orders result in higher productivity and profits. Similarly in the developing world, state-stimulated investment in telecommunications networks, establishing accepted standards in compliance with the international requirements alleviates the extra burden otherwise levied on private companies that would have to start building everything from scratch. In short infrastructure is the backbone upon which real economy develops.

A cursory look at the available statistics for FSU and EE economies compared with few other economies (see Appendix Table 3) identifies some deficiencies of transition economies in many development aspects. Here and in the subsequent tables such comparisons are offered as informative references rather than suggesting any specific benchmarks for the transition economies.

Lack of sufficiently paved roads (e.g., Romania at 30 percent and Azerbaijan at 50 percent of the total) is a proxy for the country's transportation networks. Low proportion of paved roads raises alarm in terms of transportation networks development. Similarly, very low numbers of computer, phone and internet users indicate countries' disadvantages in the telecommunications field. On the positive side is the increasing air traffic measured in terms of total passengers carried. However, this is a subjective indicator and may reflect travels of high-income population groups, rather than being suggestive of a general trend. Still, there may be some positive spillover effects into real economy and job creation in terms of airports expansion projects, fleet modernization and maintenance in some states.

As for education and research facility development, the implications of concerted fiscal effort are positive. Education is often used as a proxy for human capital in economic growth models. Increases in human capital, at least temporarily, have positive effects on long run growth (e.g., Lucas 1988; Romer 1990; Grossmann and Helpman 1991; Semmler, Greiner, Diallo, Rezai, and Rajaram 2007; Greiner, Semmler, and Gong 2004). Innovation, a direct product of national research facilities, coupled with a skilled labor force, has positive and consistent feedback into economic activity. This is especially evident from the development examples of advanced capitalist economies. Economic advance in the 21st century requires an educated labor force to conform to requirements of the industrial age and a continuous innovation process to sustain the diversified levels of international trade. These are also derived in Rada and Taylor (2006) and Amsden (2001) as contributors to economic growth and development in emerging markets of the past two decades.

For transition economies average education expenditure has been around 2-5 percent of the total GDP (see Table 4 of the Appendix). In percentage terms some countries match allocations in the developed world (e.g., Belarus and Ukraine match and surpass allocations in the U.K. and the U.S.). However, in absolute terms (due to obvious differences in GDP levels) allocations are lower and more funding is required. Problems in education and research spheres are reconfirmed via various proxy indicators. The period between 1990s and 2002 recorded a decline in the average proportion of gross secondary enrolment of (3.9%). Despite technological and scientific advances 2005 resulted in relatively low numbers of published scientific journal and technical articles (approximately 2100 in the transition economies compared to 205,000 in the U.S., 120,000 in France, Germany, and the U.K., and 14,600 in India at the year end 2005). On the transition map Russia holds undisputed leadership averaging 14,500 articles in 2005 among other FSU and EE states (World Bank (2008)). As of 2006 average of 42 percent of those completing secondary education enrolled in colleges across the transition countries in the sample. Without three EE economies the FSU average drops further down to 38.8 percent. Average R&D expenditure as the GDP share was around 0.46 percent in the transition economies together, compared to at least 2.7 percent of the developed world, where the effect of increased proportion is magnified by far greater GDP scale. Despite modest advances, though, transition economies' figures are low for countries striving to integrate into the *innovative economy* of the new century. But the challenge is to sustain recent upward trends. For that well-funded and serious fiscal involvement is necessary.

From the standpoint of socio-economic development and in efforts to capitalize on the relative successes in post-socialist economies, promotion of infrastructure and educational and innovative projects are seen as priorities in the years to come. To this a consideration of managing migration flows must be added. As has been shown in Table 1, it is the countries with lowest macroeconomic indicators that exhibit high outward migration flows. In terms of policy measures a Diaspora mechanism offered by Gevorkyan, Gevorkyan and Mashuryan (2006) and expanded in Gevorkyan and Gevorkyan (2007) would partially address the issue. However state involvement is a prerequisite.

In implementing these policies, the state's pivotal role as a guarantor, regulator and (at least partial) sponsor of these social programs must be recognized. Fiscal participation comes as the foundation upon which, with time, actual fiscal share may recede, being

replaced by public-private cooperative projects or gaining efficiency private sector. Yet the solid fundamental framework that shapes the continuous development in the spheres mentioned above remains intact as a reliable support for real economy. Then if there is to be state involvement in the development, the question is: whence comes the money?

THE DIASPORA BOND IN TRANSITION ECONOMIES
Export Revenue, Remittances, and Foreign Aid as Finance Source for Public Investment?

While socially unpopular, yet more traditional, fiscal policy prescriptions of tax increases or scaling back of selected state-sponsored projects in favor of others may not be the optimal solution in transition economies, there are several unorthodox alternatives to financing fiscal expenditure.

A resource-rich nation might rely on revenue received from natural-resource exports. For example, countries that would fit this profile are Azerbaijan, Russia, Kazakhstan, Turkmenistan, and Uzbekistan. In fact, oil, gas, and cotton exports help these countries achieve current account surplus in recent years and, as estimates show in 2008 as well, as presented in Figure 2 below.

Figure 2: Current Account Balance as % of GDP
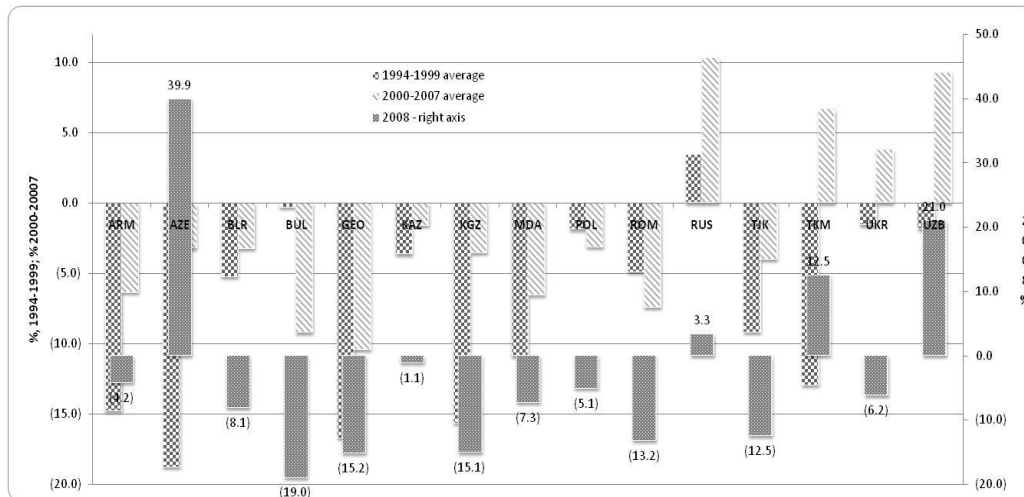
Notes: 2008 scale is based on a year-end estimate by IMF.
Sources: International Monetary Fund, WEO (October 2007); own calculations.

With increased state control of natural resource exports, accumulated revenue flows into official coffers with earmarks for further use at fiscal discretion. Yet this alternative requires swift action by the authorities and the allocation of profits in the economically strategic sectors until the natural resources have not been exhausted and international market prices are high enough to support such spending. Hence there is an inherent moment of unreliability in this funding source.

For countries less endowed in natural resources, territory and industrial capacity but with large current account deficits, such as Armenia, Bulgaria, Moldova, Poland, Romania, Tajikistan and others a recent source of hard currency has been increasing inflow of remittances reaching up to 40 percent of national GDP (e.g., Moldova and Tajikistan as can be inferred from Table 1). However increased temporary migrant worker remittances from abroad (and domestic consumers' over-reliance on such transient funding source) is by definition unsustainable in the medium-run, much less in the long-run. The debate on the use of remittances as a viable development policy tool is ongoing with a working model yet to be developed. Still it may be plausible that a realistic state program can be instituted involving the Diaspora mechanism to regulate somewhat chaotic labor force flows across countries and curtail large remittances inflows into small home economies (e.g., Gevorkyan 2007 or Gevorkyan and Gevorkyan 2007). In the absence of such mechanism, remittances provide a benefit to the home country as long as the recipient remains there and does not follow the principal bread winner (as, in fact, often occurs in the transition economies). Finally in both cases of reliance on export revenues and remittance flows Dutch disease effects on unsustainable spending and exchange rate pressures need to be considered. This may often prove to be difficult and politically costly to fight as incumbent and subsequent governments have to introduce socially unpopular restraints on the economy.

Another alternative funding source comes by way of loans and foreign aid from rich countries and multilateral institutions. Such, for example, are assistance loans from the OECD countries, World Bank and International Monetary Fund—contributors to the transition countries' non-economic sectors. Available data (Figure 3) suggests, however, that aid flows have proven to be at medium levels in relation to the available GDP data. More alarming are the inconsistent volumes and frequencies of transfers. The subtle nuance of such assistance is its conditionality and strict repayment terms.

Figure 3: Total Net Official Development Assistance by Country, Year, USD mlns
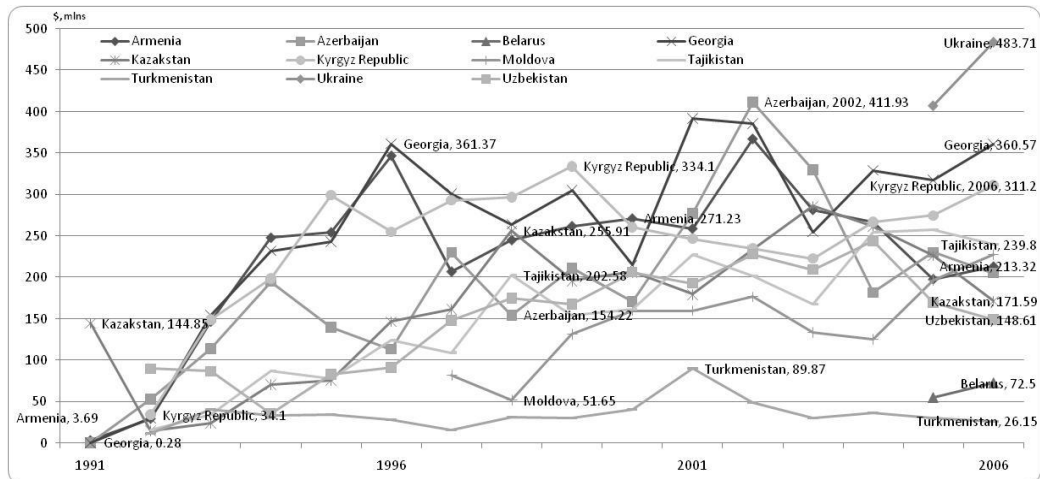
Notes: constant 2000 USD millions. Not all data is available for every year for all countries. Data labels refer to the early-, mid- 1990s and 2006 aid levels by country.
Sources: OECD Stat (2008); own calculations.

Conditionally stipulated foreign aid implies at least to some extent a donor's ability to control funds disbursement in the receiving economy. This substantially negates the government's policy independence, resulting in funding biased towards specific donor-identified sectors (but not necessarily what domestic priorities would suggest as strategic for country's development). Factors such as changing political associations and geopolitical preferences, among others, in Stiglitz (2003) render such foreign aid package as a less reliable source of funding less attractive in terms of returns or popularity public projects.

Costs of Sovereign Bonds, Some Empirics

With the above considerations of alternative funding in mind under certain circumstances determined by real economic performance, borrowing from international capital markets (via sovereign bonds) may be an optional source of adequate funding of fiscal activities, as long as repayment terms are respected. A country's ability to borrow abroad becomes a particularly appealing option in the case of resource limited and low on cash economy (the profile fitted by many transition economies).

If floating a sovereign bond does become an option, strict adherence to fiscal rules is required (e.g., for a very recent analysis of various schemes see Serven 2007). However

access to the markets for public projects may become troublesome for countries with nascent industrial bases and rudimentary financial systems due to inability to sustain high-interest payments guaranteeing full loan repayment upon maturity.

To shed a bit more light on our discussion we looked at a range of macroeconomic indicators over the period of 1980-2002 for twenty two emerging economies (including ten of the larger transition economies, such as Russia, Kazakhstan, Ukraine and some EE states) and their bond structures and recent issues. Our goal was to assess the factors determining sovereign's borrowing terms (combination of yield and maturity). Similar work and more complex analyses may be found in Wesphalen (2001), Benczur (2001), Gelos et al. (2008), and others. Here we only focus on determinations of the yield as a very generic indicator of country's capital market access potential and costs of borrowing.

One year lag was applied. This was based on the fact that at the time of bond issuance, and in particular in the case of the "first-timers" (first sovereign debt issues or market reentry with delay after earlier offerings), the only reliable information available for the investors to assess the risk on sovereign investment is historical data. Thus the yield determinants are found in the year prior to the actual bond issuance. For brevity we skip the detailed formal model and report end results pertaining to the discussion.

Several indicators such as GDP, inflation, current account balance, total reserves, net foreign assets, as well as dummy variables for USD denominated and first time bond issues were regressed against the yield, y_t^i, on country (i) sovereign bond at time period t. In most general form the operational equation for the model can be written as:

$$y_t^i = \alpha^i + \Omega'{}^* Z_{t-1}^i + \varepsilon_{t-1}^i \qquad\qquad (1)$$

where, α^i is a non-zero constant (i.e. avoiding a situation of non-zero yield and coupon rates), Ω' is a vector of coefficients common to all countries in the sample, Z_{t-1}^i is a vector of macroeconomic indicators calculated at one lag period (t-1) and ε_{t-1}^i is the error term specific for country (i) at time (t-1) with normal distribution and zero variance.

Regression results are consistent with the general literature on the subject and in a way complement studies above. Almost identical results of the OLS and Maximum Likelihood regressions, reported in Table 5 of the Appendix, show strong significance for most lagged indicators. The difference between the first-time bond only and all (including first and subsequent) issues samples is shown in columns 1 to 2 and 3 to 4 of Table 5.

Consumer price inflation (INF) has a positive and statistically significant effect on the first-time issues, with a smaller coefficient for the rest. Current account (CA) correlation to yield appears to be logically consistent. Negative strong relationship, as in the case of the first-time issues, corresponds to markets' high risk perception of a country's borrowing position as the negative (i.e., deficit) CA ratio to GDP grows.

Curiously, external debt to GDP ratio (EXTB) does not appear to be significant in the case of first-time issues. It does recover statistical significance in the larger sample with subsequent sovereign bond issues in determining the yield. This is likely due to the basic nature of modern sovereign borrowing and lending practice. Sinyagina-Woodruff (2003) confirms the finding in her analysis of Russian state borrowing. She argues that forward looking financial capital is willing to accept higher risks with every new sovereign bond issuance in promise of yet untapped future returns.

Given the coefficients' magnitude, the Total Reserves and Net Foreign Assets play greater roles in determining the risks of sovereign debt instrument the first time around, with an added significance of the IMF loans. By extension, this applies to total debt outstanding (EXTB) interpreted from the signs and coefficient values of the regression results.

Notably the signs on the TR and NFAssets coefficients on first-time issues are reversed. NFAssets coefficient and sign offer better explanation to the first-time risk dynamics as market participants judge the risk on the new sovereign bond based on the net position, which reflects the immediate ability of the state to repay its debts. We find this as an important finding with strong policy implications.

Coefficient values for GDP per capita were small. However, as dictated by high t-values, that indicator remained statistically significantly in all cases. This can be explained by the rational choice of countries within very similar income group. Therefore, cross country GDP variations are not likely to produce high coefficient values. On the other hand, statistical significance confirms the importance of this variable in any extended econometric studies – a somewhat natural and logical conclusion.

Dummy variables for USD denominated bonds (DFX), political freedom (POLFR) and new/first-time bond issuance (NEW – applies in the all-issues sample only) display relative statistical significance, despite low coefficient value. Low standard errors offer additional support to the analysis.

Implications of the above-cited results for transition economies seeking external sources of finance by means of sovereign bonds are quite important. Good economics matters if a country is hoping to 1) gain access to capital markets and 2) raise low-cost (i.e., lower yield) capital. For smaller transition economies with characteristically high debt shares; persistent current account deficits and low foreign exchange reserves (see Table 2); and that are striving to reduce their high cost debt burdens, the implications are even stronger. A more complex analysis carried out in Gelos et al. (2008) confirms that the main participants with frequent sovereign debt market access are bigger countries, while smaller—geographically and in economic terms—lack that privilege.

Diaspora Bond: Patriotic Discount and Other Benefits

It is then logical to suggest that the "first movers," as in Freinkman (2001) and expanded in Gevorkian and Grigorian (2003)—those willing to loan to a country despite higher risk but lower returns—would come from the Diaspora community. If such a program were institutionalized fiscal authorities would have an opportunity to draw from consistent funding sources while maintaining formal independency in the domestic policy making.

Furthermore the lower yield yet higher risk combination on a Diaspora bond constitutes a more generic notion of a *patriotic discount* mentioned in the examples of Israel and India (Box 1). The patriotic discount may come as a lower than prevailing market return rate or a lower return with part of the principle amount donated to the state. In the case of Israeli and Indian Diaspora, both have been willing to accept such terms becoming the "lender of last resort" in trying times. This evidence solidifies the Diaspora bond approach as a possible alternative to a distortionary tax policy, over reliance on the exports and remittance incomes, conditional aid or even fiscal contractions in chosen sectors.

Due to a greater risk of state defaults in the transition economies case a reverse situation is possible. A limited amount of Diaspora bonds may be offered at a higher premium (but still lower than for a conventional bond). In this case the investor is guaranteed a higher return while the state implements appropriate policies that can lead to an improved sovereign debt rating and economic development. If the program is sustained, this then provides grounds to reintroduce bonds at a lower rate while targeting the Diaspora investor.

In either case lower interest payments free up extra funds for additional development projects with a high social and economic return. At the same time compliance with loan terms and timely interest payments, because of the patriotic discount, establishes a track record that otherwise would not have been noticed by a larger institutional investor (as opposed to being open to speculative trades). This sets a favorable precondition for a subsequent issuance and gradual accession to a more conventional issuance.

While these technicalities seem secondary for larger economies, for the smaller transition economies the importance of such realization is apparent. The "first-movers" phenomenon is magnified as the sovereign issuers tap the international capital markets.

In addition to the patriotic discount, the Diaspora bond is a noninflationary (in the long run since the loans have to be paid out eventually) source of financing developmental projects. Unlike a conventional bond a transition economy's Diaspora bond, precisely due to its nature and purpose, is most likely to be issued with longer maturity than country's macroeconomic indicators would suggest.

The latter observation relates not only to pure monetary cost considerations but also to the fact that Diaspora bonds represent a socially responsible investment that requires safeguards from short-term speculative trades while providing sufficient time for the sovereign borrower to come up with repayment funds.

Finally the Diaspora bond provides the fiscal authorities the much-needed independence in their public investment transactions aimed at development of infrastructure, telecommunications, education, healthcare, and labor migration regulatory mechanisms. Involving greater Diaspora participation in the implementation of these projects builds up stronger links for disunited nations resulting in greater economic returns than would otherwise come with conditional aid or private investments.

Aside from the benefits Diaspora bond programs carry certain risks that must be considered prior a country embarks on this policy.

The True Perils of Diaspora Bonds

For such economies as Armenia, Bulgaria, Georgia, Moldova, Poland, Romania, Tajikistan, and Ukraine—perhaps the likely candidates for Diaspora bond program due to their Diasporas' size and historical links with homeland—the question lies not in the ability of the government to raise the needed funds in the Diaspora. The real question is whether the issuing government can *sustain* its debt program. Will it be able to repay the loans at

maturity in addition to keeping up with interest payments, despite even low yields? What will be the funds absorption criteria?

The answers here lie in a rational and wise 1) sovereign bond program design and implementation and 2) appropriate allocation of funds. Investments should be directed to projects likely to have strong direct or indirect influences on the economy to generate sufficient return rates. Adherence to fiscal rules (as in Serven 2007) preventing over-borrowing and irresponsible spending. We exclude the possibility of Minskyan Ponzi financing (as a state continuously borrows to keep up with past interest payments and piling up debt). Clearly such policies lack prudence and undermine the core economics of the investment project. In the unlikely event of irresponsible fiscal spending and growing debt, chain reaction events are possible.

Unable to meet the creditors' demands, governments may come to, at best, a standstill if become highly dependent in their spending on the Diaspora bond funds. At minimum the sovereign rating will be downgraded. In a worst case scenario relations with the Diaspora may be severed. These situations might also occur if the funds raised via Diaspora bonds are perceived as donations with the hope for an incomplete debt redemption given Diaspora altruism and patriotic sentiments. Therefore the underlying rationale must remain pursuant of the bond as a viable investment instrument initially. Still the Israeli and Indian track record shows with time a Diaspora bond for some may indeed become a symbolic donation.

So to achieve desired austerity, structural changes within a country's economy are needed in terms of identifying key areas for long-term growth and evolutionary facilitation. In fact certain cases may require development from scratch. Projects in the high-tech industry, public infrastructure (e.g., telecommunications and transport), as well as education and healthcare, are first that come to mind in this relation. Hence this paper calls for fiscal responsibility and allocation of Diaspora Bond funds within the long run growth stimulating projects. This requires time, reasonable assessment of national capabilities, determination of primary needs in fostering effective demand, and consistent flow of funds. In short a more proactive fiscal participation is long overdue.

Good governance and establishing good working relations with the principal Diaspora organizations are an added requirement for successful Diaspora bond engagement. Examples of both Israel and India clearly indicate the need for fiscal discipline and accountability to the public and investors. This achieved the dual goal of ensuring regular

foreign currency funds flows for the government and created additional incentives for the expatriates involvement in the homeland.

It may be that a collective group of investors from the Diaspora supply a certain proportion of their capital while entrusting the government's prudence in times of financial and political stability. Yet as relations with the Diaspora may become potentially tense or as the government adopts an unpopular measure the risk of simultaneous withdrawal could persist. For example there is the existence of often divergent attitudes between the home country and its Diaspora where one considers more immediate matters while the other remains largely skeptical of the political, social and economic progress in general. Hence for a nation sustaining sound relationship with its Diaspora would be a challenge in ensuring the success of the Diaspora bond issue. Again both India and Israel developed sets of financial services directed primarily at their non-resident investors.

Can this be replicated in the case of transition economies, especially those that lack resources or wide scale international financial and trade backing? This paper argues the point in the affirmative. Yet a definite prediction on how soon and in what form the potential issuance might come about is not easy to predict due to a variety of reasons. Still the economic preconditions are there and the main stress should be on fiscal responsibility and caution in such a Diaspora bond program.

Some realistically potential candidates for the Diaspora bond issue might be Armenia, Bulgaria, Georgia, Moldova, Poland, Romania, Tajikistan, Ukraine all with large Diaspora and with economies exhibiting lacking infrastructure development, high current account deficits and high migration rates. However such predictions are hasty and must be weighed within specific country's context. It is not the purpose here to pick the actual countries that would implement the Diaspora bond, but to suggest consideration of such analysis within transition economies context outlining a profile of a possible candidate. Therefore our suggestions here are only cursory with further clarification to be developed in future research. After all, local content and country specific considerations matter.

Governance and Regulation

A few words need to be mentioned regarding regulatory framework and management of a hypothetical Diaspora program in transition economies. In light of the above described potential issues and to ensure responsible investment on behalf of all players it may prove reasonable to establish a *State – Diaspora Supervisory Board (SDSB)* in countries

administering the Diaspora bond program. Aside from the administrative task the Board's role would be supervisory in incoming funds allocation, project implementation and fair progress reporting. In many countries that have established formal ties with Diaspora groups (e.g., Armenia, Poland, Ukraine, and others) SDSB creation may be done within already-existing organizational and financial frameworks. Modifications are surely to appear and to account for specific cultural, traditional, and other more general characteristic of each locale. We leave this proposition as an opportunity for future institutional development and case studies research.

It may be argued that some transition economies are not ready to meet high return demands of the international finance but they may be prepared to take a step towards compliance with competitive standards. A Diaspora bond offered at patriotic discount will have higher chances of selling within Diaspora precisely because of its sentimental value for the investor. It offers access to alternative financing under milder repayment obligations to the state than in the case of a conventional sovereign debt. In the end, it is all about Diaspora's participation in restructuring projects and major development efforts in the homeland by way of real investment. It is logical then for Diaspora-like structure to be a participatory member in administering the funds.

CONCLUSION

Is there a need to replicate experience of others? No, but there is a need to study, analyze, and apply within reasonable framework that experience. Implications for the still growing and financially lacking transition economies of the FSU and EE are strong. For many, especially smaller and resource constrained ones, conditional foreign aid and unreliable remittance transfers do not provide adequate financing for developmental projects. Yet issuing a conventional bond at shorter maturities and higher yields, given country's overall macroeconomy, is not that much appealing either. Low cost financing opportunities offered by a Diaspora bond as well as access to international capital markets that comes with it may be a viable option to consider, especially for those with large potential worldwide Diaspora stock, active in the homeland's affairs.

However, aside from securing the funds, individual country's main challenge in the Diaspora bond program would be proper allocation of foreign exchange in the productive sectors of its own, unique, economy. This obstacle is due to the vastness and diversity of economic problems faced by transition economies despite recent growth reports.

Sustainability of such a Diaspora Bond program requires strict fiscal discipline and the development of real economic sectors generating sufficient returns to keep up with the increasing interest payments as bonds become more popular among foreign investors.

While instituting such a Diaspora Bond scheme, invoking a patriotic discount will by no means relieve the issuing state of its troubles, it may give the government an incentive to invest more in infrastructure and other social programs. Such efforts have high returns on human capital and strong feedback into productive activity overall. In turn this stimulates effective demand, prompting healthy domestic investment and solid macroeconomics. Collectively these define modern fiscal policy and go in as fundamentals of economic growth and development. This paper ventures active Diaspora participation in the process, integrating "first-time" issuer states within international capital markets. In the end local content and country-specific considerations complemented by profound macroeconomic analysis matter before a sovereign introduces a new debt instrument even with the best intentions in mind.

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APPENDIX

Table 1: Potential Diaspora Stock, Geographical Spread, Migration and Other Population Data for Transition Economies

Country	National Midyear 2008 Population (in 1,000)	Potential Diaspora Stock [estimated]	Diaspora Spread by Major Countries	U.S. Census: net migration rate (per 1000)	U.S. Census: net migrants (in 1,000)	Diaspora Stock Primary Data Source
Armenia	2,969	5mln - 10mln	Russia, USA, Western Europe [France, UK], Middle East [Iran], Ukraine, Canada, other	-5	-15	MFA; Armenia Diaspora Conference (www.armeniadiaspora.com)
Azerbaijan#	8,178	2mln - 4mln	Russia, Ukraine, Georgia, Turkey	-2	-16	MNS; CIA Worldfactbook; Goskomstat RF
Belarus*	9,686	2mln - 3.5mln	Ukraine, Latvia, Kazakhstan, Russia, USA, Canada, Australia	0.38	4	BelaPan (2005) on the 2005 Belarus-Diaspora press club (www.portalik.biz)
Bulgaria	7,263	2mln - 10mln	US, Canada, Germany, Moldova, Ukraine	-3	-25	MFA; State agency for Bulgarians abroad; Bachvarov (1997); Nacheva (2002)
Georgia	4,631	1.5mln - 2mln	Russia, Turkey, Ukraine, USA, other	-4	-20	MFA; Georgian Diaspora website (www.diasporage); Goskomstat RF; Nichol (2005)
Kazakhstan	15,341	4.5mln - 5mln	CIS, China	-3	-51	Government of Kazakhstan website (www.e-gov.kz)
Kyrgyz Republic	5,357	0.5mln - 0.7mln	China, Kazakhstan, Russia, Tajikistan, Turkey and Uzbekistan.	-3	-14	Media reports (RIFERL 2003; www.akipress.org)
Moldova	4,324	0.5mln - 0.7mln	Ukraine, Russia, Kazakhstan, Baltic states	-1	-5	Rep. of Moldova official website (www.moldova.md)
Poland*	38,501	15mln - 16mln	USA, Belarus, Moldova, Ukraine, Russia, Canada, West Europe	-0.46	-18	MFA Poland (2007)
Romania*	22,247	8mln	Moldova, Ukraine, USA, Spain, France, Germany, other	-0.13	-3	Statement by the President of Romania Traian Basescu (Jan. 26, 2006)
Russian Federation*	140,702	25mln	Worldwide, mainly in CIS, USA, Europe	0.28	39	Heleniak (2004); Goskomstat RF
Tajikistan##	7,212	0.6mln - 5mln	Russia, Uzbekistan, Iran, Middle East	-1	-9	Jones et al (2007); CIA Worldfactbook
Turkmenistan	5,180	2.5mln - 3mln	Russia, Iran, Iraq, Afghanistan	-3	-16	Akiner (1998); Goskomstat RF
Ukraine*	45,994	16 - 20 mln	Russia, Canada, USA	-0.12	-6	MFA via Ukrainian Embassy to Russia (www.mfa.gov.ua)
Uzbekistan	28,268	5.5mln - 6 mln	Tajikistan, Kyrgyzstan, Kazakhstan, Turkmenistan, Russia, Ukraine, Belarus, Lithuania, Afghanistan, Saudi Arabia, Turkey, Iran, China, India, Pakistan, Germany, USA, other	-1	-37	MFA via Uzbekistan Embassy to UK (www.uzbekembassy.org); CIA World Factbook

Notes and Sources: Potential Diaspora stock figures include approximate estimates for the "old" (second and greater generations) and "new" Diaspora. Inclusion by most estimates of the larger shares of assimilated populations in the "old" Diaspora explains the relatively high upper bounds. A conservative approach is to assume the lower bounds as realistic estimates (e.g., Armenian Diaspora being five million rather than ten million). *Net migration rate is from CIA World Factbook (2008); #excluding Iran's native Turkic population [24% of the total] that Azerbaijan considers to be ethnic Azerbaijani (CIA Worldfactbook 2008); ##excluding Tajik population in Afghanistan, where native ethnic Tajiks account for 27% of total country's population (CIA Worldfactbook 2008); MFA stands for Ministry of Foreign Affairs of each respective country; MNS is Ministry of National Security; Media reports refer to various publications that have appeared in the national press of the respective country in the past three to five years; Midyear 2008 population, U.S. Census net migration rate and net migrants are from U.S. Census International Data Base (US Census 2008); IOM net migration rate is from International Organization for Migration country tables (2008).

Table 2: Selected Indicators for the Set of Transition Economies

Country	2006 GDP, current USD bln	2000-2006 average GDP growth. %	2006 GNI per capita	2006 Annual inflation, CPI %	2006 High-tech, as % of manuf. Exports	2008 EST Current account balance, % of GDP	2006 External Debt, current USD bln	Total debt service, % of exports of goods, services and foreign income	2006 Total remittances, current USD bln and % of GDP	Unemployment Rate, 2005, ILO
Armenia	6.39	11.5	1,920	4.9	1.06	-4.2	2.07	7.56	1.18bln / 18%	8.1
Azerbaijan	19.85	16.2	1,840	17	1.59	39.9	1.9	1.62	0.81bln / 4%	4.95
Belarus	36.95	7.6	3,470	10	2.69	-8.1	6.12	3.28	0.33bln / 1%	1.5
Bulgaria	31.48	5.4	3,990	7.9	6.05	-19	20.92	12.4	1.7bln / 5%	10.4
Georgia	7.74	6.9	1,580	8.1	16.27	-15.2	1.96	8.77	0.49bln / 6%	13.8
Kazakhstan	81	10.3	3,870	7.8	20.84	-1.1	74.15	33.73	0.19bln / 0%	4.95***
Kyrgyz Republic	2.82	3.9	500	7	2.85	-15.1	2.38	5.7	0.48bln / 17%	8.5***
Moldova	3.36	5.9	1,080	8.9	4.73	-7.3	2.42	12.18	1.18bln / 35%	4.65
Poland	338.73	3.7	8,210	2.7	3.81	-5.1	125.83	24.69	4.37bln / 1%	17.65
Romania	121.61	5.5	4,830	4.8	4.41	-13.2	55.11	18.44	6.72bln / 6%	7.2
russian Federation	986.94	6.8	5,770	7.5	9.38	3.3	251.07	13.76	3.09bln / 0.313%	7.8***
Tajikistan	2.81	8.9	390	12.6	41.8*	-12.5	1.15	5.12	1.02bln / 36%	2.7****
Turkmenistan	10.5	5.7	650*	9	4.9*	12.5	0.88	22.1**		
Ukraine	106.47	7.4	1,940	10.8	3.3	-6.2	49.89	18.1	0.83bln / 1%	5.75
Uzbekistan	17.18	5.5	610	9.8	3.89	21	3.89			

Notes: *as of 2000; **as of 1997; ***as of 2004; ****as of 1997; 2008 values refer to year end estimates. Blank cells indicate missing data.
Sources: World Bank, WDI (2008); ILO Statistics (2008); International Monetary Fund, WEO, (October 2007); own calculations.

Table 3: Selected Infrastructure Indicators, by Country

Country	Phones (per 100 users)*	PCs (per 100 users)**	Internet users (per 100 people)***	Growth in air traffic (change of total)****	Roads, paved (% of total)*****
Armenia	21.8 (30.2)	5.3	3.3 (5.7)	42.4 / (37.8) / 509.9	90.0
Azerbaijan	23.3 (39.8)	1.8	3.9 (9.8)	-18.3 / (47.3) / 1007	49.4
Belarus	41.8 (75.5)		18.6 (56.5)	-67.5 / (17) / 274.2	88.6
Bulgaria	71.2 (112.9)	5.9	12.1 (24.4)	-33.7 / (53.2) / 476.3	99.0
Czech Republic	111.2 (146.5)	21.6	20.9 (34.7)	202.7 / (24.4) / 4219.5	100.0
Estonia	101 (140.2)	47.4	38.5 (57.4)	242 / (28.8) / 509.6	22.7
France	119 (134.4)	48.7	31.1 (49.6)	12.7 / (-2.4) / 46506.8	100.0
Georgia	25.4 (39)	3.8	3 (7.5)	50.4 / (27.3) / 228.6	39.4
Germany	133.5 (162.4)	48.5	36.1 (46.7)	104.6 / (12.9) / 82099.7	100.0
Hungary	95.8 (125.7)	14.6	19.8 (34.8)	62.9 / (7.8) / 2546.2	43.9
India	6.4 (12.8)	1.2	1.9 (5.4)	78.7 / (23) / 23934.1	47.4
Ireland	126.9 (152)	49.7	26.2 (34.1)	352.6 / (20.1) / 34748.9	100.0
Israel	133 (154.4)	73.4	18.8 (24.4)	34.5 / (35.1) / 4968.9	100.0
Kazakhstan	24.9 (53.5)		2.6 (8.4)	47 / (-17.3) / 834.8	83.0
Kyrgyz Republic	10.8 (19.1)		3.4 (5.6)	-49.7 / (19.5) / 245.6	91.1
Latvia	72.3 (113.1)	21.9	22.7 (46.6)	115.1 / (74.8) / 593.7	100.0
Lithuania	82.6 (151)	15.5	16.3 (31.7)	109.3 / (36) / 447.9	78.2
Moldova	29.2 (52.1)	2.6	6.7 (17.3)	5.6 / (12) / 200.6	86.3
Norway	134.1 (148.9)	57.8	34.7 (58.5)	-3.5 / (-4.1) / 12277.2	77.5
Poland	69.2 (107.4)	19.1	18.3 (28.6)	93.4 / (7.4) / 3493.1	69.7
Romania	47.4 (82)	11.3	13.2 (23.4)	46.5 / (6.6) / 1337.8	30.2
Russian Federation	50.1 (111.8)	13.2	8.1 (18)	17.3 / (14.2) / 25948.9	67.4
Tajikistan	4.8 (8.3)		0.1 (0.3)	-16.1 / (20.8) / 498.5	82.7
Turkmenistan	8.7 (10.4)		0.5 (1.3)	208.3 / (14.2) / 1612.5	81.2
Ukraine	40 (88.5)	2.8	4.9 (12.1)	91.1 / (49.1) / 2200.1	97.4
United Kingdom	140.8 (165.3)	60.0	40.4 (56)	34 / (12.7) / 86054.8	100.0
United States	115.1 (131)	76.2	55 (69.1)	18.5 / (9.9) / 676654.6	65.3
Uzbekistan	7.8 (9.6)		2 (6.3)	1.4 / (8.3) / 1588	87.3

Notes: *fixed line and mobile phone average numbers of users 1999-2005, values for 2005 are in parenthesis; **average number as of 2004; ***average numbers of users 1999-2006, values for 2006 are in parenthesis; data for India, Israel, Norway and Tajikistan is through 2005; ****calculated based on total civil aviation passenger traffic; first ratio is the % total change between 1996 and 2004; the second corresponds to % change between 2003 and 2004; third number is total passengers carried in 2004 in '000s; *****as of 2005; Azerbaijan, Bulgaria, Czech Republic, Georgia, and Romania estimates are as of 2004; Germany, Hungary, Ireland, and Poland as of 2003; India and Norway as of 2002; Kyrgyz Rep., Uzbekistan and Turkmenistan as of 2000; Russia as of 1999; Tajikistan as of 1995. This comparison is offered here as an informative reference to the current state of affairs only, rather than suggesting transition economies catching up to any benchmark levels.
Sources: World Bank WDI (2008); UN (2008); own calculations.

Table 4: Average Fiscal Education Expenditure as Percent of Total GDP

Country	1999	2000	2001	2002	2003	2004
Armenia	3.1	3.2	3.1	3.1		
Azerbaijan	4.3	4.1	3.7	3.4	3.6	3.7
Belarus	6.0	6.0			5.8	5.8
Bulgaria			3.5			
Czech Republic	4.1	4.1	4.3	4.6	4.8	
Estonia	7.0		5.8	6.0		
France	5.8	5.7	5.6	5.6	6.0	
Georgia	2.1	2.2	2.2	2.3	2.3	3.0
Germany	4.6	4.5	4.6	4.8		
Hungary	5.0	5.2	5.4	5.8	6.3	
India	4.1	4.1			3.3	
Ireland	4.9	5.0	5.1	5.3		
Israel	7.5	7.4	7.6	7.8	7.5	
Kazakhstan	4.0	3.5	3.2	3.2	3.2	2.6
Kyrgyz Republic	3.7	3.1	3.2	4.6	4.6	
Latvia	5.8	5.4	5.5	5.8	5.4	
Lithuania			6.0	6.0	5.4	
Moldova	3.9	3.8	4.0	4.5	4.2	
Norway	7.2	6.7	7.1	7.6	7.6	
Poland	4.8	5.0	5.6	5.7	5.9	
Romania	3.6	2.9	3.3	3.6	3.7	
Russian Federation		3.0	3.1	3.9	3.8	
Tajikistan	2.2	2.4	2.6	2.9	2.6	2.9
Turkmenistan						
Ukraine	3.7	4.3	4.8	5.5	5.7	4.6
United Kingdom	4.6	4.6	4.7	5.2	5.4	
United States	5.0	5.8	5.7	5.6	5.8	
Uzbekistan						

Notes: Blank cells refer to missing data. This comparison is offered here as an informative reference to the current state of affairs only, rather than suggesting transition economies catching up to any benchmark levels.
Sources: UN Statistics Division: UN (2008); World Bank, WDI (2008); own calculations.

Table 5: OLS and MLE Regression Results: First-Time and All Sovereign Issues

	Linear regression		Maximum Likelihood	
	1	2	3	4
	First Issues	All Issues	First Issues	All Issues
GDP per capita	small** (small)	small (small)	small** (small)	small (small)
INF	0.37** (0.15)	small (small)	0.37** (0.15)	small (small)
CA	-4.2** (0.92)	0.04** (0.03)	-4.2** (0.92)	0.04** (0.03)
EXTB	0.26 (0.27)	0.03** (0.02)	0.26 (0.27)	0.03** (0.02)
IMF	dropped	0.82** (0.14)	dropped	0.82** (0.14)
TR	0.73** (0.33)	-0.3** (0.03)	0.73** (0.33)	-0.3** (0.03)
NTFAssets	-0.62** (0.17)	0.04** (0.03)	-0.62** (0.17)	0.04** (0.03)
DFX	-0.068** (0.03)	0.02** (0.00)	-0.068** (0.03)	0.02** (0.00)
NEW	…	-0.005** (0.01)	…	-0.005** (0.01)
POLFR	-0.18 (0.16)	-0.014** (0.00)	-0.18 (0.16)	-0.014** (0.00)
ANNLD	not reported	not reported**	not reported	not reported**
No. of observations	21***	582	21***	582
Adj. R²	0.75	0.42		
Log Likelihood			100.50	1,434.30

Notes: OLS and MLE estimations are used with group effects controlled by annual dummy variables (not reported). Standard errors are in parenthesis. ** significant observed t-values (not reported); ***regressions on first time issues only. Sources: yield data from Bondware database by Dealogic; all macroeconomic indicators are from WDI (2008), IMF (2006); political freedom dummy derived from Freedom House (2006).

Box 1. Diaspora Bonds in Israel and India

The case of Israel

In a series of meetings between Israel's government representatives and the Jewish Diaspora leaders in the early 1950s it had been determined that the program would be implemented by the Development Corporation for Israel, created in February 1951 offering State of Israel Bonds to the American public. This action became one of the most significant events in Israel's independence history for it was the first time Israel had asked for a public loan instead of a philanthropic gift. During the first year of operations bond sales totaled $52.6 million, with current sales exceeding $25 billion of which $19 billion has been redeemed on time and in full. The sales have been earning $1.0 billion per year for Israel since 1991. It is estimated that in the year 2003 Israel borrowed a total of $4.6 billion abroad; $2.35 billion of it was under the U.S. loan guarantee program and approximately $1.5 billion was through State of Israel Bonds. The Israeli government has been successful in allocating the received funds in agriculture; industry; shipping; energy; transportation; communications; water resources; and immigrant absorption, contributing to robust economic development and improved handling of internal social policies.

The bonds are now quite diverse and responsive to market conditions and offer various incentives (e.g., tax breaks, guarantees, and repayment terms) albeit at a lower rate than a market risk would suggest—patriotic discount. The government sells the bonds in: North America, South America and Europe through three independent organizations. Each organization is set up in accordance with the local laws. This is often viewed as homeland's first step towards its Diaspora by complying in full with the laws of the Diaspora's adopted country. Israel—that consistently has its debt rated by Moody's, Standard & Poor's and Fitch—has never defaulted on the payment of principal or interest on any of its internal or external indebtedness. Altruism and social responsibility of the Diaspora members, as well as, Israel's accountability for every dollar received via State of Israel Bonds have been the primary factors in shaping the success of the program with strong positive implications for the country's development.

The case of India

Despite some strained relations between official India and its large non-resident Indians stock (NRI) the presence of the NRI's in the country's finance is significant. For example, at the end of 2003 NRIs held 60 percent of India's sovereign debt owed to private creditors. At the time of India's balance of payments crisis of 1990-1991, the government was able to collect up to $2 billion with the help of NRI investment through its India Development Bonds (IDB) program. This success led to the floating of Resurgent India Bonds (RIB) at the time of national crisis in 1998, which raised $4.2 billion, and subsequent India Millennium Deposits (IMD) in 2000, which raised $5.5 billion in the two months between October and November 2000. As in Israel, India's government asked for an investment, rather than a philanthropic donation. The bonds were promoted in the India's expatriate community, explicitly appealing to the patriotic sentiments.

To avoid any prospects of U.S. litigation in case of defaults on bonds sold in the U.S. the Indian government, unlike Israeli, did not create a U.S. SEC registered organization to lead the effort. The bonds were floated as bank instruments representing foreign currency denominated deposits in India and sold through the worldwide network of Indian and foreign commercial banks specializing in dealings with the NRIs with primary distributions in the U.S., Europe and the Middle East. The bonds, maturing in five years, were issued at low interest rates relatively to India's country rating at the time, with the government's guarantee to bear any exchange rate risks. The bonds had been issued at the times when Indian government needed additional foreign exchange resources. The State Bank of India currently runs various financial programs allowing NRI's greater participation in the Indian economy.

Sources: MFI 2003 and Development Corporation for Israel. www.israelbonds.com; Karp (1998), Rekhi (1998), SBI (1998), Indian Express (1998), Sanyal and Krishnan (2000), Gevorkyan and Grigorian (2003), Gordon and Gupta (2004), Chander (2001), and Ketkar and Ratha (2007).