

# DEBT IN TRANSITION ECONOMIES: WHERE IS IT HEADING, WHAT CAN BE DONE ABOUT IT?

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Since the start of the transition, the countries of Central-Eastern Europe and the Baltic States (CEB), South-Eastern Europe (SEE) and the Commonwealth of Independent States (CIS) have experienced a wide variety of debt developments. These range from sustainable debt management to outright default, with debt positions varying widely across countries and over time. Only a few of the countries had high external debts at the onset of transition. Bulgaria, Hungary, Poland, the Soviet Union and Yugoslavia had borrowed heavily from the West during the communist era and by 1989 had accumulated high external public debt burdens relative to GDP, exports and fiscal revenues. Romania had also borrowed abroad during the 1970s, but repaid its Western external creditors, including multilateral lenders, in full during the 1980s through a draconian policy of consumption rationing and import compression.

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A number of countries had to apportion financial assets and liabilities when former states dissolved and new states were created. The successor nations of the former Socialist Republic of Yugoslavia confronted this problem after the federation disintegrated in 1991, although its resolution took many years to complete because of prolonged conflicts. With the break-up of the Soviet Union in 1991, Russia offered the other former Soviet republics the opportunity to start their transition free of external debt. Under the so-called “zero option”, all the external debts of the Soviet Union were assumed by Russia in exchange

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for the other republics assigning to Russia their rights to the external assets of the Soviet Union. The allocation of the debts of the former Czechoslovakia was easier because the amounts were small, due to prudent fiscal and monetary policies followed by the communist regime.

The paper traces the main developments in the indebtedness of the countries in the region and shows how the debt burdens of countries have changed dramatically. While some countries that were heavily indebted at the beginning of the transition have reduced their debt burdens, others that started off debt-free have accumulated debt very rapidly and to very high levels. The paper places special emphasis on the issue of external and public debt sustainability and the build-up of debt between CIS countries and the related energy payments crisis.

### *DEBT DEVELOPMENTS BY SUB-REGION*

#### *Central Eastern Europe and the Baltic States*

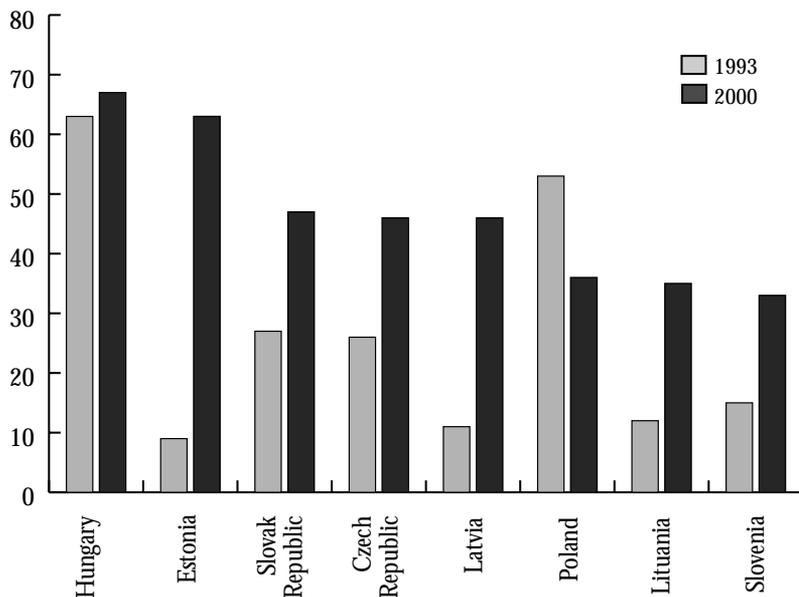
Hungary and Poland came to grips with their debt problems in fundamentally different ways. Despite its sizeable initial debt, Hungary continued to service it in full and sought to grow out of the debt problem by implementing stabilisation and adjustment policies. In contrast, Poland appealed to its Western creditors for debt relief by seeking debt reduction from its official bilateral creditors in the Paris Club and from its commercial bank creditors in the London Club.

In 1991 official bilateral creditors granted Poland a one-third write-down of its debt owed to Paris Club members. At the time, a formal debt write-down by the Paris Club was unprecedented. Later, in 1993, under the auspices of an International Monetary Fund (IMF) programme, Poland negotiated a similar debt write-down with its commercial creditors. This restructuring took the form of a so-called "Brady operation", in which non-performing commercial debt was exchanged at a discount into bonds. A proportion of these was collateralised by US Treasury zero coupon bonds.

With the help of appropriate fiscal and financial policies, Hungary and Poland have been able to improve their credit ratings. During the past decade, Poland has moved gradually towards greater flexibility in its exchange rate regime - from a peg to a broad crawling band and, since 1999, a floating exchange rate. Hungary has been moving in the same direction with its exchange rate regime, adopting a crawling band and recently, in early 2001, announcing a widening of the band to +/-15%. Both countries have thus far weathered the frequent turmoil in international capital markets, from the Mexican crisis of 1994 to the Russian

default of 1998 and the Argentine crisis of 2001. Both have also developed local currency markets for Treasury bills and bonds to help diversify their government funding sources.

**Figure 1**  
**Total Public and Private External Debt of Central Eastern Europe**  
**and the Baltic States**  
(Debt in % of GDP)



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Source: EBRD and Global Development Finance (2001).

As figure 1 shows, Hungary continues to be the most indebted of the CEE countries, a situation reflecting in part its record as a model debtor that has never obtained or sought debt relief. The ratio of external debt to GDP of Hungary stood above 60% at the end of 2000. A high debt burden (external or internal) and volatile conditions facing transition economies in the international financial markets raise questions about the risks to pursuing a rigid “soft peg” exchange rate strategy like a crawling peg with a narrow band. The demise of the Turkish crawling peg in early 2001 gives food for thought. In recognition of this problem, in 2001 the Hungarian authorities took the step of widening the band from +/-2.25% to +/-15%.

Former Czechoslovakia began its transition with small public and external debt ratios. In 1995, as part of the “velvet” dissolution of the federation, about two-thirds of the debt was assumed by the Czech Republic and one-third by the Slovak Republic, roughly in proportion

to their populations. Since then the external debt to GDP ratios of both countries have doubled, largely through government and private sector borrowing from commercial banks and, to a lesser extent, through issuance of eurobonds.

At the time of their independence, the Baltic states were free of external debt. Their adoption of fixed exchange rate regimes and restraints on recourse to Central Bank financing - in the form of currency boards in Estonia and Lithuania - led to a heavy reliance on external financing to sustain fiscal deficits. There has also been an accumulation of private sector borrowing. The outcome has been the build-up of a significant but manageable stock of external debt, particularly in Estonia and Latvia. Given the open nature of these small economies and the vulnerabilities associated with it, these countries need to strengthen their public finances so as to maintain stability.

Slovenia is the least indebted of the CEB countries, with an external debt to GDP ratio of about 30%. As a successor state of the former Socialist Republic of Yugoslavia, Slovenia inherited a share of its external debt. It pioneered the apportioning of Yugoslav debt and the normalisation of its relationship with external creditors.

### *Debt Developments in South-Eastern Europe*

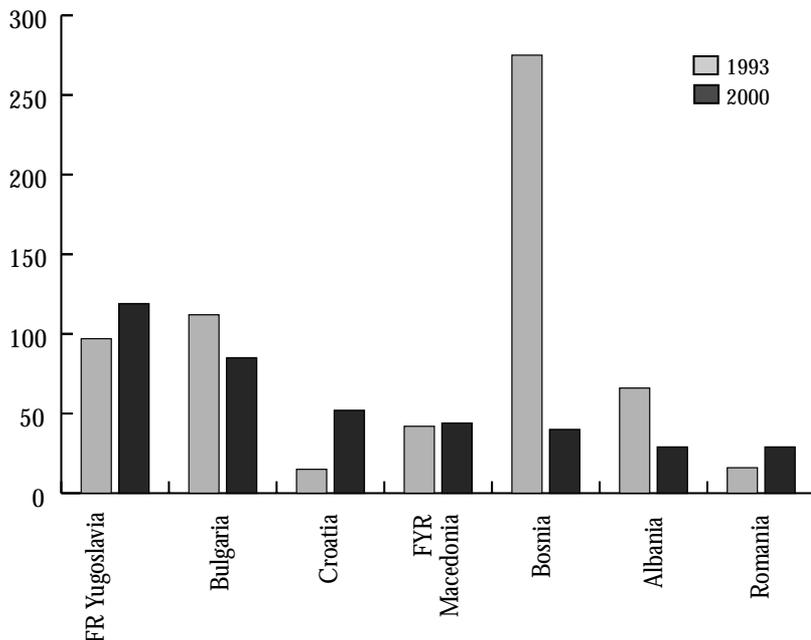
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Bulgaria began its transition with a ratio of external debt to GDP of over 120% (see figure 2). In 1994 it reached a Brady debt reduction agreement, which cut its international bank debt to US\$5 billion from US\$7 billion. It also negotiated rescheduling agreements with official bilateral creditors in 1991, 1992 and 1995. However, in contrast to Poland, it did not receive debt reduction from the Paris Club. Strengthened fiscal discipline, since the introduction of the currency board in 1997, has helped in stabilising the external debt at about US\$10 billion, equivalent to 80% of GDP. Bulgaria's external debt, therefore, still represents a major drain on fiscal revenues and export earnings, more so given that almost all of its external debt is non-concessional.

In Romania persistent fiscal imbalances have led to the piling up of external debt. Heavy short-term borrowing in the Eurobond market in 1996-1998, in particular, contributed to currency and payments crises in 1999 and 2000. However, Romania was able to meet its scheduled payment obligations, defying the odds, in the midst of significant macroeconomic instability. The manageable ratios of external debt to GDP suggest that the problem was essentially one of illiquidity and loss of confidence associated with unsound fiscal policies.

The external liabilities of the former Socialist Republic of Yugoslavia were divided among the successor states roughly according to the

**Figure 2**  
**Total Public and Private External Debt of South-Eastern Europe**  
(Debt in % of GDP)



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Source: EBRD and Global Development Finance (2001).

allocation of the IMF quota<sup>1</sup>. As noted above, Slovenia was the first successor state to regularise its debts with external creditors. Croatia and the former Yugoslav Republic (FYR) of Macedonia followed with Paris Club agreements in 1995 and London Club deals in 1996 and 1997 respectively. Neither obtained debt relief from official or commercial bank creditors. Croatia was subsequently able to raise funds in the Eurobond market. Although the external debt ratios appear manageable *prima facie*, Croatia faces the challenge of large explicit and implicit contingent liabilities that could strain the public purse. FYR Macedonia faces different challenges and budgetary risks as a result of the unsettled security situation on its northern border.

After the Dayton agreements, Bosnia and Herzegovina negotiated its debts, in 1997 with the London Club and in 1998 with the Paris Club. The country reached debt reduction agreements with both.

After a decade of war, isolation and mismanagement, the Federal Republic (FR) of Yugoslavia starts its transition with a substantial debt overhang. Its external public debt at the end of 2000 amounted to over 120% of recorded GDP and over five times both recorded exports and

fiscal revenues. Most of the debt is in arrears. Even allowing for under-recorded output and exports, FR Yugoslavia faces a formidable debt problem. Its arrears include US\$1.8 billion owed to the World Bank. This institution has granted to FR Yugoslavia the status of being eligible to borrow from the International Development Association (IDA) for an initial period of three years. This step increases the likelihood that it may receive significant debt reduction from both commercial banks and official bilateral creditors. These negotiations are likely to begin if the FR Yugoslavia shows compliance with an IMF programme. If the treatment given to Bosnia and Herzegovina by creditors were to serve as a precedent, commercial banks and official bilateral creditors could agree debt reductions of up to two-thirds.

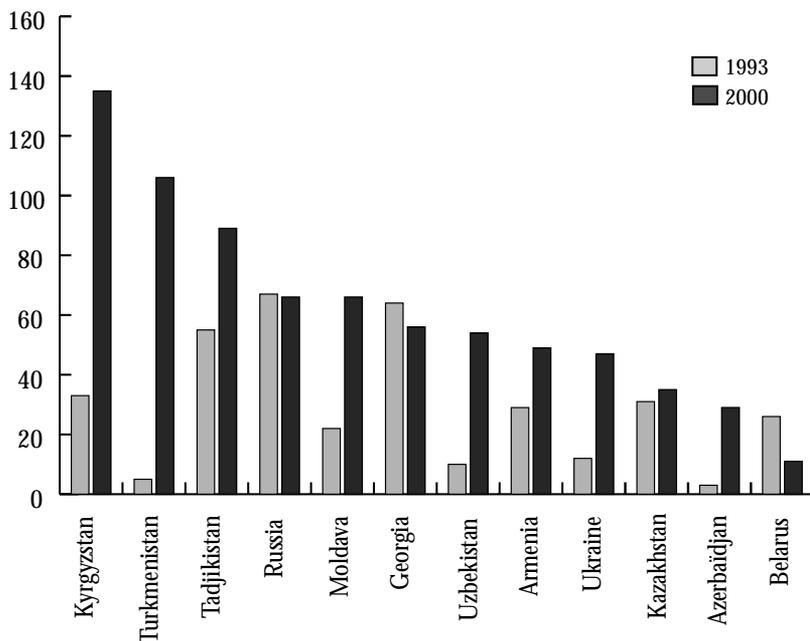
### *Russia and Other CIS Countries*

In 1991, Russia assumed all the financial liabilities of the former Soviet Union. These debts included about US\$50 billion of official bilateral Soviet era debt and about US\$32 billion of commercial bank debt (see figure 3). At the same time, Russia assumed the external assets of the former Soviet Union, including loans to many developing countries in so called "transferable roubles". Those assets have proven to be very difficult to collect, in part because of disagreements with the debtors over the appropriate exchange rate at which to convert those convertible roubles into hard currency.

From the start of its transition, creditors treated external debt problems of Russia as reflecting illiquidity rather than insolvency. Russia officially took over the Soviet debt in 1993. In 1992, 1993, 1994 and 1995 there were short-term reschedulings with the Paris Club. There was a comprehensive rescheduling in 1996, which included previously rescheduled debt as well. A London Club rescheduling took place for the first time in 1995. Despite these reschedulings, it was assumed by creditors that, given the human capital and natural resources of the country, Russia would be able to service any old and new debts in full once the economy had stabilised. This assessment supported continued official and private lending until the financial crisis of August 1998.

The ability of the Russian Government to meet its debt servicing obligations was seriously undermined by its failure to implement adequate reforms of the public finances. Fiscal revenues were significantly impaired by the widespread tolerance of tax arrears and the adoption of an inconsistent model of fiscal federalism: effective control over much of the tax revenues was transferred to the regions while the financial liabilities were left with the Federation. At the same time, lack of competitiveness, liquidity, and fraud in the enterprise sector led to the

**Figure 3**  
**Total Public and Private External Debt of Commonwealth**  
**of Independent States**  
(Debt in % of GDP)



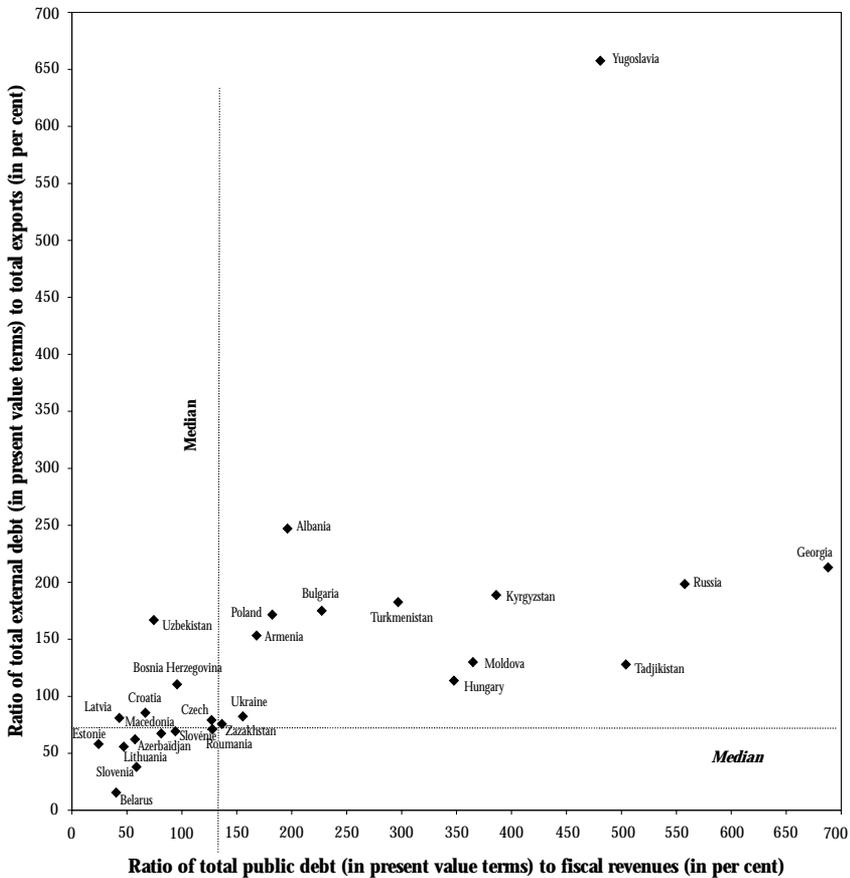
Source: EBRD and Global Development Finance 2001.

proliferation of barter and other non-monetary payments. Lax prudential regulation of banks and of their off-balance-sheet activities encouraged short-term financing by foreign investors. All these factors restricted cash revenue growth and contributed to the build-up of significant explicit and contingent liabilities.

In 1998, debt developments in Russia took a turn for the worse. In January the exchange rate was set at a fixed central parity with an intervention band of +/-10%. The objective was to reduce annual inflation further to single digits by using the exchange rate as a nominal anchor. The problem was that defending the exchange rate against a background of persistent fiscal deficits necessitated increasing issues of Treasury bills (GKOs). The growing stock of GKOs created doubts about the sustainability of this anti-inflationary policy course. GKO holders soon started to demand progressively higher interest rates - reflecting increasing exchange rate and default premia - to roll over maturing Treasury bills. The end result was an outright default on government rouble-denominated debt, a moratorium on the servicing

by Russian banks and enterprises of their external debt and a sharp devaluation of the rouble that took its value in terms of the US dollar into one fifth of its previous level. In 1999-2000, the Government managed to restructure its external debts once again with both the Paris Club and the London Club. It obtained a debt write-down of over one-third on its US\$32 billion London Club debt.

**Figure 4**  
**The Burden of External and Public Debt - 1999**  
 (Debt as % of total exports and fiscal revenues)



Sources: EBRD, World Development Indicators 2000 and Global Development Finance 2001.

Note: Total external debt comprises both public and publicly guaranteed and private non-guaranteed external debt. Public debt comprises external and domestic public debt. For Croatia, Russia and Slovenia the domestic debt consists of the debt of central government only, while for other countries it is the debt of the general government. For Bosnia and Herzegovina, FYR Macedonia and Turkmenistan the public debt figures include only public external debt. Present values are calculated using the ratio of face to present value of external debt for 1998 from the World Development Indicators.

Regarding other CIS countries, three features stand out. First, there has been a rapid accumulation of external debt from a debt-free start in 1991. Second, some of the poorest countries of the region (Armenia, Georgia, Moldova, Kyrgyzstan, Tajikistan) and those who lent to them have allowed the rapid build-up of debt stock, the sustainability of which is now under question (see figures 4 and 5), despite the fact that much of these debts are on concessional terms. Third, a complex web of energy-related intra-CIS debts and arrears has developed, in which Russia and Turkmenistan and the other three oil producers are the creditors and Ukraine is the main debtor.

### *Debt Between CIS Countries and the Energy Payments Crisis*

A web of debts among the CIS countries has emerged since the break-up of the former Soviet Union in 1991. A big share of those debts relate to fuel supplies from the five energy-abundant countries - Russia, Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan - to the other eight CIS countries. Russia is by far the largest creditor. By the year 2000, debts and arrears owed to Russia totalled almost US\$7 billion, of which about US\$5 billion was linked to energy supplies (see figure 5). The largest debtor to Russia has been Ukraine, with up to US\$5 billion in debt and arrears at the peak (estimates differ considerably between debtor and creditor sources). Turkmenistan is the second-largest creditor after Russia; its main debtors are Ukraine and Georgia.

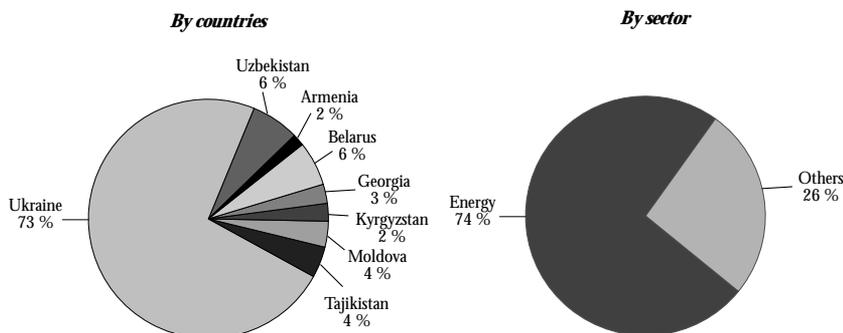
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The dissolution of the Soviet Union was associated with a large terms-of-trade shock against the energy-importing CIS countries. The adjustment of the price they paid for their energy imports from heavily subsidised levels towards world levels may have represented a loss equivalent to a permanent decline of up to 15% of GDP in some countries. Initially, during the short life of the rouble zone in 1991-1993, liabilities accumulated in the correspondent accounts of the Central Banks of the oil-importing new states. Liabilities in correspondent accounts were subsequently restructured in 1993 as inter-governmental debt, with Russia and Turkmenistan emerging as the main creditors.

The regional energy problems and the related debt build-up between CIS countries have not improved since 1993. Energy importers are still dependent on the infrastructure inherited from the Soviet era and are dominated in particular by Gazprom. The opening in 2001 of the Caspian Pipeline Consortium (CPC) from the Tengiz field in Kazakhstan to the Black Sea, along with other initiatives of alternative new pipelines, may help reduce that dependence.

Compounding the problem, the authorities of the energy importers

**Figure 5**  
**Debts Owed to Russia by Other CIS Countries**  
 (Total Debt = \$US6.8 billion - 1999, year end)



Source: IMF Recent Economic Development Reports and EBRD staff calculations.

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have been ineffective in reforming their energy sectors. In particular, they have been unable - and very often unwilling - to impose hard budget constraints on their energy utilities. Non-payment and barter in the domestic deliveries of electricity and other services are among the most serious systemic transition problems in the CIS. Governments have not felt strong enough to enforce payments of prices anywhere near cost-recovery levels, perpetuating the illusion that a scarce resource can be treated as a cost-free entitlement. Enterprises and consumers have been allowed to use the energy utilities as *de facto* soft lenders of "first resort". The restructuring challenge is considerable since in these countries the energy intensity of industry and the access to and use of energy by the population at large are much higher than in developing countries with comparable income levels.

The persistent piling-up of energy debt and arrears to Gazprom and other fuel suppliers has led to the periodic assumption of the debts of both energy creditors and energy debtors by their respective governments. It has also given rise to debt-for-equity swaps and agreements for payments in barter. A recent example of the debt-for-equity payments is the acquisition by Gazprom of an equity stake in Moldova Gaz in November 2000 in exchange for the cancellation of US\$38 million of debt. Likewise, in 1994 Ukraine and Russia restructured about US\$2 billion of existing oil and electricity debt, with Ukraine's debt service payments offset against Russia's leasing payments for the use of the Sevastopol naval facilities by the Black Sea Fleet.

Payments in barter - by domestic users to their utilities and by these

utilities to their foreign suppliers - have often been linked to much-publicised corruption cases. Barter was originally “marketed” as a way to maintain trade between cash-strapped, illiquid enterprises and countries. However, it has become increasingly clear that one of the main attractions of barter has been the possibility of concealing the actual “implicit cash price” at which transactions are taking place. The system of widespread barter introduced in the energy sector of Ukraine by a former Prime Minister - now indicted abroad - has been alleged by some analysts to have been little more than a vehicle for fraud. Itera, an enterprise established originally to deal on a barter basis with Ukraine, has been the subject of close scrutiny by minority shareholders of Gazprom on the grounds of alleged non-transparent transactions between the two firms to the detriment of Gazprom minority shareholders. In view of this, it is not surprising that there have been contentious disagreements over the size of gas arrears owed by Ukraine to Gazprom and Russia. Creditor and debtor have disagreed at times over the size of the debt by as much as US\$1 billion.

The solution to the debt problem between CIS countries is inevitably complex. Some of the debtors are low-income countries that have reached worryingly high public debt-to-tax revenue and external debt-to-export ratios (see figure 4). This is the case for Armenia, Georgia, Kyrgyzstan, Moldova and Tajikistan. Furthermore, all of these countries have experienced either internal or border conflicts, wars, natural disasters and even (as in the cases of Georgia and Moldova) loss of control over part of their territory.

The CIS countries can and should try to put an end to the accumulation of further energy-related external debt by embarking on comprehensive reforms of the energy sector. So far Georgia and Moldova have initiated determined reforms in the power sector by unbundling generation, distribution and transmission and by establishing an independent regulator. In addition, Moldova and Georgia have already privatised - with the help of the EBRD - a large share of the energy distribution networks to strong strategic investors. Georgia has also privatised two hydroelectric power plants. Other countries, such as Armenia and Ukraine, are also taking steps in that direction. The expectation is that following the privatisation of distribution, payments discipline will be strengthened. Progress in reducing barter has already been made by Ukraine through direct policy measures. In turn, the enhanced generation of cash at the point of distribution should allow funds to flow upstream, enabling the generating plants to purchase and import fuels with cash. This policy course will help prevent further escalation of the debt between CIS countries and the energy payments crisis.

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*EXTERNAL AND PUBLIC DEBT MANAGEMENT:  
ISSUES AND APPROACHES*

Effective public debt management requires the simultaneous consideration of the stock of outstanding contractual obligations (the explicit debt), the stock of outstanding explicit or implicit contingent liabilities (such as deposit guarantees or implicit bail-out guarantees for banks) and expected or planned future flows of non-interest outlays and revenues. Investor confidence in the ability of a government to service its contractual obligations can never be taken for granted. There always is some risk of a future period of disorderly markets in which liquidity has vanished and maturing debt cannot be rolled over. For that reason, the debt service profile of the public debt - the details of the future flow of contractual payments - matter to the policy maker (and the creditors) and not just the present discounted value of the future stream of contractual debt payments.

These considerations apply to public debt management, both external and internal, and, similarly, to private debt management. National external debt is best approached explicitly as the sum of its two components: public external debt and private external debt, since the behavioural determinants of these two components are likely to be quite dissimilar. Great care should be taken in being precise and explicit about where the boundaries of the public sector are drawn.

For many public debt sustainability issues, the most informative concept of the public sector is the consolidated general government and Central Bank. However, debt data are often unavailable in that format, because the Central Bank tends to be treated separately or consolidated with the rest of the banking sector. Even data for the general government (the central government, regional and local governments plus all off-budget agencies and funds) tend to be incomplete for many countries of the region. It is therefore necessary to make do in some cases with central government data only, even though this can be misleading both for comparisons over time and across countries.

*Liquidity, Solvency and Sustainability of Debt*

The distinction between illiquidity and insolvency is clear in principle, but often blurred in practice. In the private sector, insolvency is an excess of total liabilities over total assets. Illiquidity is the inability of a borrower to meet current debt obligations out of current resource flows and new borrowing. In a functioning market economy, insolvency implies illiquidity. Illiquidity can, however, occur despite solvency if there is, temporarily, a situation of “disorderly markets” in which access to private finance becomes prohibitively dear even though the opportunity cost of credit or the “normal” market cost remains at reasonable levels.

Illiquidity, which is determined by the actual market cost of credit, can therefore occur despite solvency, provided that assets and liabilities are valued using normal credit costs rather than actual market costs. Of course, the statement that a borrower is solvent but illiquid is very hard to verify in practice.

Even if normal market prices prevail, the “balance sheet” test of insolvency - liabilities in excess of assets - cannot be straightforwardly applied to a government (or to a country). The appropriate test obviously involves more than a comparison of financial liabilities and assets: most governments have financial liabilities that exceed their financial assets, yet are quite solvent. Including other tangible assets is not enough either. For a balance sheet test to apply, all outstanding liabilities and assets have to be supplemented with the present discounted value of all foreseeable future non-debt payment obligations and revenues.

In a functioning market economy, every insolvent borrower will also face liquidity constraints. Fear of insolvency is indeed a cause, and perhaps the major cause, of illiquidity. Solvency of the government is difficult to measure. Any attempt to do so will inevitably involve subjective judgements that can be contested. Because of these considerations, the neat conceptual distinction between insolvency and illiquidity is blurred in practice.

Government solvency and sustainability of the government’s fiscal-financial-monetary programme cannot be measured simply. Commonly used external debt ratios (for the government or for the nation as a whole), such as the ratio of external debt to GDP, to exports, or to fiscal revenues are often used as a first rough indicator of the burden of the debt. Figure 4 shows the ratios of external public debt to exports and of total public debt to general government revenues as simple measures of the public debt burden. It can be seen that, in general, countries that have relatively high ratios of total public debt to general government revenues also tend to have relatively high external public debt to exports ratios. Of course, the relationship is not rigid. This empirical association is consistent with the view that poor management of the public finances lies behind the external debt problem of many countries of the region.

These measures, however, do not fully capture the dynamic factors that affect the extent to which a given level of debt can be sustained. One such factor is the perception of the borrower’s ability to generate resources in the future that can and will be made available for future debt service. Ultimately, for the nation as a whole, it is the future growth of exports (combined with restrained growth in imports) that generates resources for servicing external debt (public or private). Likewise, for a government whose ability to tax is limited by the resource base of the

economy, it is future growth in taxes and GDP (combined with restrained growth in public expenditure) that generates resources for servicing public debt (internal or external).

Another factor is the level of interest rates, including risk premia, demanded by creditors on loans to the private sector in a country or to its government. These premia depend not only on the initial debt ratios, but also on expectations of creditors about the prospects for growth in GDP, exports or tax revenues and for restraint in the growth of imports or in public spending. High risk premia can, by themselves, render impossible a refinancing of moderate levels of debt relative to supporting real resource flows. This suggests the disconcerting possibility of self-fulfilling beliefs. In favourable circumstances, creditors have confidence in the creditworthiness of the borrowing government. Risk premia are low and so are interest rates. At these low interest rates, the current debt obligations are adequately matched by anticipated future tax revenues given the expected future path for non-interest public spending. There is confirmation of the belief that the debt is safe.

With exactly the same underlying fundamentals (initial debt and beliefs about future taxes and non-interest public spending), however, there can be different self-fulfilling beliefs about the creditworthiness of the government. If there is a belief that the government may default on its debt at some point in the future, risk premia will increase. The cost of rolling over the debt will increase and may become prohibitive. A default may occur, validating the pessimistic beliefs.

Debt relief or other negotiated defaults can occur at ratios of debt to GDP, exports or tax revenues that are rather low when judged by the standards of other countries or other times. For instance, the recent agreement between Ukraine and its creditors to refinance approximately US\$1.8 billion of maturing Eurobonds in early 2000 is an example of a negotiated partial default despite the moderate debt ratios of the country and government. In contrast, other transition economies registering higher debt ratios - Hungary is one example - have continued to meet their contractual debt obligations by implementing strong policies that have generated more favourable prospects for growth in GDP, in exports (net of imports) and in tax revenues (net of non-interest public spending). Another example is the bond "default" of Argentina in November 2001; the debt to GDP ratios of Hungary and Poland are not any lower than that of Argentina, but the yields on the bonds of these two countries suffered very little in the wake of the Argentina's default. The next paragraphs demonstrate how a solvency concept for the public sector can be turned into an operational tool for flagging likely future debt problems.

### *Assessing Debt Sustainability*

To determine whether the debt servicing problems of countries are just liquidity and cash-flow problems or whether they also represent more fundamental sustainability or “solvency problems”, analysts often use indicators such as the ratio of external debt to GDP or external debt to exports. In addition, the external debt service to exports ratio is used as an indicator of potential external liquidity problems. Likewise, to assess the sustainability of a government’s fiscal-financial programme, analysts often use the ratios of public debt to GDP or to fiscal revenues. Again, the ratio of debt service to fiscal revenues is often used as an indicator of potential government liquidity problems. For instance the Heavily Indebted Poor Country initiative establishes the eligibility for debt reduction of countries eligible to borrow from the IDA by considering two ratios: external public debt to exports higher than 150% and total public debt to central government revenues higher than 250%.

Two countries registering similar debt or debt service ratios, however, may have very different debt repayment prospects. This depends on their GDP growth and export growth outlook, the real interest rates paid on their debt, their prospective abilities to generate primary (that is, non-interest) surpluses and the perception of risks to their solvency by their creditors. As a result, the simple practice of looking at simple ratios is inadequate.

Servicing the domestic public debt involves an internal transfer between, on the one hand, taxpayers and/or the beneficiaries of public spending and, on the other hand, the government. The government needs to raise sufficient local currency resources (via taxation, spending cuts or new borrowing) to pay for the interest and maturing principal of the debt. Hence, servicing the domestic public debt is fundamentally a fiscal sustainability issue. Servicing the external public debt involves both an internal transfer (between the domestic private and public sectors) and an external transfer (between the domestic economy and the rest of the world). First, the government needs to raise the local currency (internal transfer) and second it needs to be able to convert the local currency into foreign hard currency (external transfer).

One way to assess the sustainability of the total public debt (domestic and external) consists in valuing (that is, estimating the present discounted value of) the sequence of planned or anticipated future primary surpluses and comparing this valuation with the face value of the outstanding stock of debt. The government’s primary surplus is defined as tax receipts minus non-interest outlays. The government is solvent - according to this approach - if its outstanding debt can be serviced, now and in the future, without the government engaging in a public debt ‘pyramid

scheme'. A government engages in a pyramid scheme if it persistently pays for the debt service by simply rolling over the maturing debt and borrowing more to pay the interest. For the government not to be involved in a pyramid scheme the present discounted value of its current and future primary surpluses must be at least as large as the face value of the outstanding debt. If this condition is satisfied, the long-term feasibility of the internal transfer is assured.

Likewise, to assess the sustainability of the country's external debt (private and public) it is necessary to check whether the present discounted value of the current and foreseeable future non-interest current account surplus on the balance of payments - the primary surplus for the economy as a whole - is at least as large as the face value of the total external debt (public and private). If this condition is met, the long-term framework for a successful external transfer is in place.

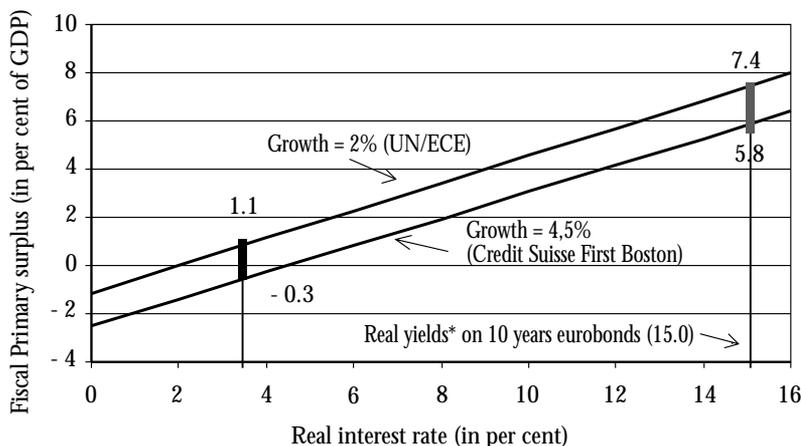
It should be noted, however, that these are not operational rules to assess solvency. They depend on estimates (often guesses) about the future primary surpluses, interest rates and growth rates that may differ among creditors, analysts and institutions. Nevertheless, an operational indicator of the feasibility of meeting the public debt obligations can be derived by calculating the value of the future primary surplus necessary to stabilise the debt-to-GDP ratio (or the debt ratio to any other relevant variable, such as exports or tax revenues) at a level no higher than the current one. For this calculation, assumptions need to be made about the real interest rates on the debt and the growth rate of real GDP. The outstanding stock of debt can be viewed as sustainable if the calculated primary surplus seems feasible in light of recent experience and current and foreseeable developments and policy initiatives. It can be shown that the fiscal primary surplus needed to stabilise the external or public debt-to-GDP ratio is defined by:

$$s_t = \left[ \frac{r_t - g_t}{1 + g_t} \right] d_t$$

Where  $s$  is the fiscal primary surplus-to-GDP ratio (or external primary surplus-to-GDP ratio),  $r$  is the relevant interest rate,  $g$  is the real GDP growth rate and  $d$  is the public debt-to-GDP ratio (or external debt-to-GDP ratio).

An application of this approach to the case of Ukraine is provided in figure 6. While in 1999-2000 the external debt-to-exports ratio and public debt-to-fiscal revenues ratio of Ukraine were both below the median for the EBRD's 27 countries of operations, Ukraine had difficulty in servicing the external debt in 1999. This was because the government contracted commercial debt in 1997-1998 at short maturities and high interest rates, and most debt is serviced out of the central government

**Figure 6**  
**Sustainability of Public Debt**  
(at an initial ratio to GDP of 58%)



Source: EBRD, UN/ECE, Credit Suisse First Boston and Bloomberg.

budget, which faced problems of arrears and barter in the settlement of taxes. This meant that the failure to effect an orderly internal, fiscal transfer impeded a successful external transfer. Figure 6 illustrates the point. It shows the lowest value of the primary surplus that is still consistent with sustainability of the total public debt (external and domestic) for a range of future GDP growth rates and at different real interest rates (horizontal axis). The range for future GDP growth - between 2% and 4.5% - came from the most and the least optimistic blue-chip forecasters<sup>2</sup>. The assumption for real interest rates ranges from 4% (the rate at which Ukraine can borrow from the international financial institutions) to 15% (the yield on Ukraine's ten-year Eurobond as of March 2001). The chart reveals that the ratio of public debt to GDP would decline as long as the primary balance was greater than a deficit of 0.3% of GDP under the most optimistic assumptions. Under the most pessimistic assumptions, the ratio of public debt to GDP would decline only if primary balance were greater than a surplus of 7.4% of GDP. In comparison, the primary fiscal deficit has improved from a deficit of 3.6% of GDP in 1997 to a balance in 1999 and to a surplus of 1% in 2000.

Similarly, one can calculate the range of current account balances excluding interest payments that allow for the sustainability of external debt. This can be assessed again at a range of GDP growth rates from 2% to 4.5% and of real interest rates from 4% to 15%. Although not shown

grafically it can be proven that the surpluses registered in 1999 and 2000, of 3.9% and 3.4% respectively, were significantly higher than the surplus needed at the interest rate of 4% under the slow output growth scenario of 2%. Therefore, if maintained, these surpluses would be compatible with a declining external debt-to-GDP ratio even at the higher interest rates. As a result, it can be said that the current debt problem of Ukraine in 1999-2000 was primarily a fiscal (internal transfer) rather than a balance of payments (external transfer) problem.

### *DEBT MANAGEMENT ISSUES IN THE EU ACCESSION COUNTRIES OF CEB AND SEE*

For the EBRD's ten countries of operations that are official candidates for EU accession, joining the economic and monetary union (EMU) will be part of the *acquis communautaire*. There is no possibility of a derogation from the single currency for new member countries of the EU, as there was for the United Kingdom and Denmark. The timing of their entry into EMU, once they have joined the EU, is, however, to a significant extent at the discretion of the new EU members, as they will have to meet the Maastricht Treaty criteria for EMU. These include the exchange rate criterion, according to which aspiring EMU members will have to be part of the Exchange Rate Mechanism (ERM) for a period of at least two years before they can qualify. They will also have to meet the inflation and interest rate criteria and two financial criteria regarding debt (see below). Their Central Banks will have to be independent in the sense specified in the Maastricht Treaty. Like all EU members, the new members would have to accept continued surveillance by the European Community and the Council of their public finances.

The Maastricht criteria establish a ceiling of 60% of GDP for the total (external plus domestic) gross general government debt. Of the ten candidate countries in the EBRD's region of operations, only Bulgaria exceeded that ceiling at the end of 2000<sup>3</sup>. The second Maastricht financial criterion, that the general government financial deficit does not exceed 3% of GDP, is satisfied by six candidate countries, with the Czech Republic, Hungary, Romania and the Slovak Republic registering larger deficits in 2000. Public debt ratios in all accession countries have increased over the last few years and this calls for tighter fiscal policies and public debt management in the coming years. However, there will continue to be strong expenditure pressures arising from, among other things, under-funded pension liabilities and increased infrastructure spending to meet EU standards in the environmental and transport sectors.

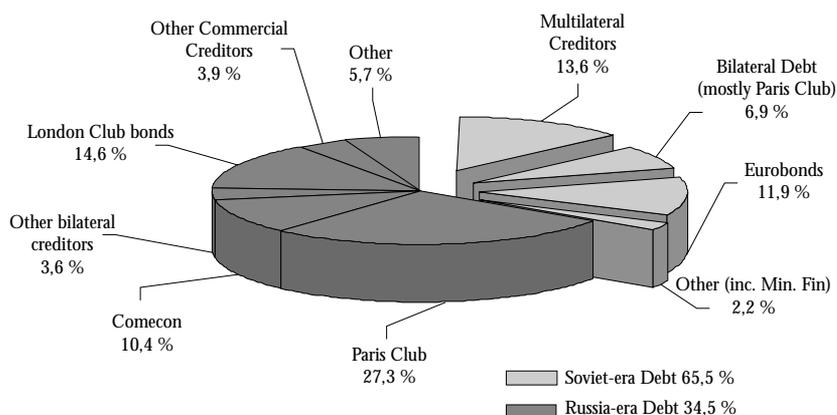
Candidate EU members should adopt (or maintain) exchange rate and monetary regimes that provide the best safeguards against currency

crises and financial crises and the contingent claims on the public purse that often accompany such crises. In particular, countries would be advised to adopt either floating exchange rates with a form of inflation targeting (as in the Czech Republic and Poland) or “hard pegs” in the form of strict currency boards (as in Bulgaria, Estonia and Lithuania).

### *RUSSIAN DEBT PROBLEM*

Distinguishing between illiquidity and insolvency has been especially difficult in Russia. As pointed out already, and the Government defaulted on, and effectively repudiated, its rouble-denominated debt in August 1998.

**Figure 7**  
**Composition of Russia's Public Debt**  
(Total debt = US\$ 140 billion - 2000, year end)



Source: EBRD.

A particularly contentious issue between Russia and its external creditors is the treatment of Soviet-era debt. As figure 7 shows, Soviet-era debt represents two-thirds of the public external debt of Russia. The largest lender category involves official bilateral creditors, which have claims of about US\$50 billion, most of which is owed to Paris Club creditors. Following attempts to kick-start debt reduction talks by the Russian authorities in 2000 and early 2001, it now appears to have been agreed by both parties that Soviet-era bilateral debt will be serviced in full in 2001 and 2002.

Given the importance of oil revenues as a source of Russia's tax and export receipts, servicing the public external debt in full does not appear

implausible at current world oil prices of US\$20 -25 per barrel. The 2000 BOP current account balance was a surplus of over 20% of GDP, with a slightly lower number forecasted for 2001. A problem could arise, however, with a sufficient fall in the price of oil. It is therefore appropriate to consider, at least theoretically, innovative approaches to the Soviet era debt of Russia, for such a contingency. So far, the London Club of commercial creditors has clearly made a good contribution with two restructurings, the second one in 2000 with debt reduction.

Regarding Soviet era bilateral debts, in early 2000 there were discussions between, inter alia, the Russian and German authorities about the possibility of debt-for-equity swaps to tackle the bilateral debt of Russia with the former German Democrat Republic. This debt is in "transferable roubles" and is excluded from the Paris Club renegotiations. This is an important development, not least because Germany is Russia's main official bilateral creditor. The minutes of Paris Club agreements include sometimes the possibility of debt-for-development swaps to be agreed bilaterally with interested creditors. Such swaps have become an instrument for some debt work-outs since Chile pioneered the first debt-for-equity swap and Bolivia the first debt-for-nature swap in the 1980s. So far the Paris Club creditors have not been willing to offer Russia the possibility of "debt swaps".

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Debt swaps can be bilateral or trilateral. They can also take place with or without a debt reduction (that is, a reduction in the present discounted value of future debt service). In a trilateral swap, a third party buys the debt from the creditor at a discount and redeems it at a lower discount for local currency. This third party commits itself to invest that local currency in local productive assets or in the environment in the debtor country. Another example of a trilateral swap is a debt-for-debt swap. In this case, one country cancels a debt claim on another country on condition that the second country cancels an equivalent debt claim on a third country. The objective of the initial creditor may be: (1) to help the second country in the collection of a non-performing claim, or (2) to help the third country in the repayment of an "onerous" debt owed to the second country; or (3) a combination of the first two objectives.

If at any time in the future the Paris Club were willing to consider debt swaps for Russia, two types are of particular relevance. The first is debt-for-environment swaps. The second is debt-for-debt swaps that would make a reduction in Russia's official bilateral debt conditional on the cancellation by Russia of comparable claims on other CIS countries (see below).

Debt-for-environment swaps could include swaps of debt for investment in energy efficiency, swaps of debt for investment in environmental infrastructure, and debt-for-nuclear-safety swaps. The

last type could be of special importance. Some of Russia's 27 operating nuclear reactors (of the RMBK - Chernobyl - type and of the VVER type) are considered by some as a potential global environmental liability. The safe decommissioning of these plants as scheduled would result in enhanced nuclear safety benefiting Russia and the world at large.

Most of these reactors are deployed near the western border of Russia and therefore in the vicinity of present and future members of the European Union. As a result, we want to venture the following hypothesis : it may be in the self interest of European countries - that are also Russia's main creditors - to help Russia in the provision of adequate funding for a "Nuclear Decommissioning Trust". Such a trust could be funded in part by debt swaps . One possibility could be that ,voluntarily and equitably, some of Russia's creditors would surrender a portion of their claims on Russia to the "Trust". The Trust, in turn, would exchange these hard currency debts for long-term (inflation-index linked) interest-bearing, rouble-denominated bonds. Interest payments, grace period and maturities of these bonds could be designed to match the profile of the estimated local costs of the scheduled decommissioning expenses.

Under this hypothetical framework , one way to ensure the effectiveness of compliance with the decommissioning commitment would be to give the original bilateral creditor the option to reclaim the debt that was transferred to the trust fund if any of the key covenants of the trust fund are violated. The Russian Government would make a credible commitment to convert the rouble debt in the trust fund back into hard currency debt using a pre-arranged exchange rate formula. Therefore, in cases of non-compliance with the mandate of the trust, the trust fund would effectively be wound up and its resources (claims on Russia) would be returned to the original bilateral creditor. A trust of this type could be operated by an International Agency or Financial Institution.

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### *DEBT AND ENERGY CRISIS IN THE CIS*

The problem of debts and arrears between CIS countries is primarily the result of unpaid energy deliveries of Russia and other energy producers to cash-strapped CIS energy importers. The claims of Russia on eight other CIS countries total about US\$6.8 billion.

The debt burdens of five of these countries - Armenia, Georgia, Kyrgystan, Moldova, and Tajikistan - have built up rapidly. Even if one assumes that strong and effective reform efforts are undertaken and that the growth of output, exports and tax receipts will respond to these reform efforts, their debt ratios will remain high. In the short term,

the weakening international economic outlook also does not make life easier.

Following the tragic events of September 11, 2001, Central Asian countries have become a high priority for international assistance and aid, given the fact that these countries are front line states in the Afghanistan conflict. As a result, it is not unlikely that the debt problems of Kyrgyzstan and Tajikistan be addressed by creditors result in debt relief.

In the aftermath of the debt crisis of the 1980's economists convinced policy makers that high levels of debt can become a *de facto* tax on strengthened economic performance. A better economic performance by a debtor country benefits its citizens as well as its creditors (the latter by enhancing the prospects for debt repayment). However, if the debt burden is sufficiently high, the benefits accruing to creditors may be viewed as disproportionately large by the country's authorities and citizens. This could reduce the incentive for reform. At the same time, it cannot be assumed that debt reductions automatically lead to new reforms. One way to overcome this conundrum or time inconsistency is to make debt reduction conditional on reform implementation and reversible if the measures are not implemented. This was the essence of the debt reduction under the Brady-Plan in the early 1990's -that benefited Latin America and a few other countries -and also of the HIPC initiative launched by the World Bank and the IMF for the heavily indebted poor (IDA) countries. Debt reduction by all categories of creditors was also provided to Poland in the early 1990's and to Bosnia in the mid 1990's.

The central issue is to make debt reduction as conditional as possible on strong economic policies. The possible debt relief for some CIS countries must be considered in the broader context of the reforms required to advance the transition - including energy sector reforms - and to place these economies on a path of sustainable growth. This will allow them to make a fresh start on the reform of their energy sectors, by moving forward with hard budget constraints and industrial restructuring.

## NOTES

1. The shares were allocated as follows: Bosnia and Herzegovina 13.2%, Croatia 28.5%, FR Yugoslavia 36.5%, FYR Macedonia 5.4% and Slovenia 16.4%.
2. Taken from Chapter 1 of the EBRD Transition Report Update, April 2001.
- 3 Note that figures 1, 2, 3, and 4 do not portray the relevant debt variables for the Maastrich criteria.

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