INTRODUCTION

Attention has recently turned again to the vulnerability of emerging economies, due to the credit market turmoil emanating from the United States. As one of the most important underlying factors contributing to the emergence of financial crises in developing countries has been the weakness of their external balance sheets, the degree of and recent developments in Hungary’s financial exposure may be of particular importance. As was discussed in detail in an article in the Spring 2008 issue of the MNB Bulletin, Hungary’s net external liabilities increased significantly over the past few years. Its external liabilities-to-GDP ratio, at above 100 per cent, is very high even by international standards (Chart 1).

There has been a rapid and sharp rise in Hungary’s net external liabilities in recent years. It may be useful, therefore, to examine whether the increase in the country’s external indebtedness is significant in international comparison, to analyse the factors contributing to the rise in the country’s external liabilities and to identify the actions necessary to reduce external liabilities as a percentage of GDP over the longer term.

First, the article provides a brief theoretical overview of the factors driving external liabilities at a longer horizon. It continues by describing, in an international context, the complex relationship between per capita GDP, one of the most important factors, and external liabilities. The article then goes on to decompose the increase in liabilities of regional countries into the effects of external financing requirement, GDP growth and other factors, and places Hungary among high-debt countries on the basis of these components. Finally, the article attempts to assess the increase in Hungary’s external liabilities and to draw some forward-looking conclusions based on the comparisons performed.

The concept of net external liabilities

A country has net external liabilities if the financial liabilities of the national economy exceed its financial assets (also commonly called negative net financial wealth). Furthermore, liabilities exceeding assets significantly and at an increasing pace may reflect a deterioration in solvency and a rise in vulnerability of a given country. Two types of liabilities are distinguished within liabilities: debt liabilities (e.g. bonds and loans) and equity liabilities (e.g. FDI capital, equity).

Basically, changes in external liabilities (\(\text{Liab}_{2007} - \text{Liab}_{2006}\)) can be related to three factors: the external financing requirement of the economy (\(\text{Liab}_{2006} \times \text{return} + \text{primary balance}\)), the effect of exchange rate changes on the value of existing liabilities (\(\text{Liab}_{2006} \times \text{ERchange}\)) and other factors independent of economic fundamentals (e.g. changes in statistical methodology). External financing requirement means that a country spends more (on consumption and investment) than the income it produces over a given period, which it has to fund from external sources. The amount of capital required is recorded in the statistics in two different ways: on the one hand, as the combined balance on the current and capital accounts plus net errors and omissions, and, on the other, on the financing side, as the balance of the financial account and changes in central bank reserves. Later on, in decomposing the increase in external liabilities, we will separate income balance, related to external liabilities incurred in the past (\(\text{Liab}_{2006} \times \text{return}: \text{interest paid on debt, income on equity and dividends}\)), from the primary balance, a record of current external liabilities required for the functioning of the economy.

\[
\text{Liab}_{2007} - \text{Liab}_{2006} = \text{Liab}_{2006} \times \text{ERchange} + \text{Liab}_{2006} \times \text{return} + \text{primary balance} + \text{other changes in statistical methodology}
\]

**Chart 2**

Changes in Hungary’s net external liabilities between 2006 and 2007 (HUF billions)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(1347)</td>
<td>(1855)</td>
<td>(1787)</td>
</tr>
<tr>
<td>(403)</td>
<td>(-105)</td>
<td>(-17)</td>
</tr>
<tr>
<td>(1076)</td>
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\[
\text{Net errors and omissions} = \text{Current account and capital account balance} - \text{Income balance} - \text{Primary balance} - \text{Revaluation and other factors}
\]

Net external liability stock in 2006

23,962

Net external liability stock in 2007

26,789

THEORIES OF EXTERNAL LIABILITIES

The level of external liabilities is strongly influenced by the potential growth rate of a given country and increasing global financial integration. Therefore, although it may seem high at first sight, it is not useful examining Hungary’s external liabilities in isolation, as the size of the country’s external liabilities may be affected by a variety of factors. Analysing these factors may also help to find out whether the level of a country’s external liabilities actually poses a risk to the economy. The academic literature recognises several factors which may influence the size of a country’s external liabilities (Benhima and Havrylchyk, 2006, gives a good summary of this subject).

In cross-sectional comparisons, per capita GDP is one of the most important factors determining the level of a country’s external liabilities: according to theory, relatively poor countries have the highest level of liabilities. However, there is one channel through which per capita GDP, an indicator of countries’ relative wealth, may influence the level of external liabilities: relatively poorer countries are likely to produce higher growth rates than wealthier countries in the future, as a consequence of economic convergence. There are a number of approaches to illustrate the effect of this process on the level of external liabilities. First, from the perspective of the financing requirement, economic agents tend to save less in relatively poorer countries registering faster growth, as their expected permanent income is higher than their current income, as suggested by the classical growth models. Second, one reason why foreign funds may flow into lower-income countries is that invested capital pays off at a significant profit during times of faster income growth generated by higher productivity. This argumentation is based on the notion that non-residents are only willing to fund a country’s financing requirement if future productivity growth in a given country provides coverage for the repayment of outstanding liabilities. And, in turn, it derives from the positive correlation between income and saving that net external assets of lower-income countries will be lower, i.e. their net external liabilities will be higher.

However, a number of studies argue that, in the case of the less developed, emerging countries, changes in external liabilities reflect an opposite effect than that which is revealed by cross-sectional analyses: economic progress entails a rise...
in the ratio of external liabilities to GDP. According to one argument, increasing integration in global goods and financial markets makes it easier for less developed countries to finance their current account deficits, and ultimately causes savings to fall and investment to rise, which, in turn, leads to a rise in their external liabilities (Blanchard and Giavazzi, 2002). According to another argument, an increase in income or wealth may lead to a higher level of indebtedness through an easing in liquidity constraints, which is also reflected in a rise in external liabilities (Lane and Milesi-Ferretti, 2001).

Demographic conditions may also influence external liabilities through the potential growth channel: a higher percentage share of young people within the total population may lead to a higher level of external liabilities over the longer term. Under the permanent income hypothesis, young people’s actual income lags behind expected future levels, which, together with consumption smoothing behaviour, foreshadows lower savings and higher external indebtedness.²

Increasing financial integration has made it possible for countries to finance higher-than-earlier levels of government debt. Theory suggests that a higher stock of government debt increases the probability of higher net external liabilities building up. In addition to an increase in government debt, growth in private sector savings will lag behind growth in government debt, even assuming that economic agents are perfectly forward-looking, which once again presages an increase in external liabilities. It is argued that the sum of tax increases due to a higher government debt is likely to be spread over a longer period, and the current generation is only partly affected by it, i.e. they will have to save less. Nonetheless, a higher government debt may result in technically higher net external liabilities: a portion of government debt is financed by non-residents, and because higher interest payments pertain to a higher debt, this, by itself, may lead to higher external liabilities.

INTERNATIONAL COMPARISON

In view of the above discussion, it may be useful to examine more closely Hungary’s net external liabilities in international comparison. The reason is that the extent to which external liabilities pose a threat to the Hungarian economy cannot be decided by focusing exclusively on the absolute level of liabilities. Past levels of liabilities of countries in the same risk group or neighbouring with Hungary may be a useful guide to assess the risks to which the economy is exposed. Thus, in the following we will attempt to view Hungarian data in an international context and analyse the relationship between Hungary’s exposure arising from the size of its net external liabilities and the imbalances in other countries’ external balance sheets. We will compare Hungary’s external liabilities primarily with data for selected EU Member States, in order to be able to examine broadly homogenous countries in terms of economic systems. The analysis covers all the emerging economies of Central and Eastern Europe.

Available data are consistent with the picture suggested by theory: with the increase in income (or per capita GDP), the net external liabilities of countries falls, and above a certain income level we find those countries that extend lending to indebted nations (Chart 3).² Based on this relationship and the Chart, it is therefore not surprising that Hungary, a relatively poorer country, has a substantial amount of external liabilities. It is also true, however, that, based on the set of points of countries, a 60-70 per cent external liabilities-to-GDP ratio would be in line with Hungary’s level of

Chart 3

Net external assets as a percentage of GDP and per capita GDP in 2007

Sources: IFS, Eurostat and websites of central banks. In the case of countries marked with an asterisk (*), data are for 2006 (due to the limitations of available data).

¹It is important to note that a higher proportion of older generations may also lead to higher external liabilities, as there is greater probability that the given age cohort will run down its assets accumulated earlier.
²Although based on the Chart it may seem that there is a significant imbalance, looking at all the countries (the number of countries with higher net liabilities is much higher than that of those with net external assets), two things are worth mentioning. First, a number of net creditor countries are not plotted on the Chart (e.g. Japan, Arab states). Second, due to the GDP proportionate values, it may happen that, for example, loans from Germany expressed in billion euros covers external liabilities of several debtor countries.
economic development. But it is also clearly visible that the statistics of Hungary and a number of other countries, including not only newly-joined but already euro area members (e.g. Greece and Portugal), deviate broadly in a similar way from the ‘equilibrium value’ suggested by the figures for the remainder of the countries. Presumably, Iceland’s high external liabilities relative to its level of economic development may have also contributed to the recent deterioration in sentiment about the country.

In order to test the theory proposing that emerging countries’ external liabilities will increase as the economies continue to progress, we compared the correlation between the external liabilities-to-GDP ratio and per capita GDP in 1999 and 2007. The shift in the position of individual countries reinforces the view that economic progress in emerging economies is accompanied by an increase in external liabilities: there was a shift towards higher external liabilities in Hungary, in addition to the Baltic states and the euro area peripheral countries, with the linear regression fitted on the set of points of all countries ‘shifting’ lower (Chart 4). In contrast, net external assets as a percentage of GDP of the relatively wealthier countries (e.g. Germany, France and Norway) increased further – or their external liabilities fell. This is consistent with the theory predicting a fall in external liabilities in response to economic growth.

**Chart 4**

**Net external assets as a percentage of GDP and per capita GDP in 1999 and 2007**

![Graph showing net external assets as a percentage of GDP and per capita GDP in 1999 and 2007](chart)

Sources: IFS, Eurostat and websites of central banks. In the case of countries marked with an asterisk (*), data are for 2006 (due to the limitations of available data).

An examination of the relationship between external liabilities and the level of economic development throws light on another important issue – Hungary’s high external liabilities partly originates from the past. More specifically, Hungary had higher external liabilities in the early 1990s, due to its position in the period prior to political transition, which continued to grow gradually as time passed. That is, the country’s liabilities-to-GDP ratio, at 100 per cent in 2007, is in part a feature stemming from the legacy of the Hungarian economy (the next section will discuss in more detail the upward effects on liabilities of interest paid on outstanding debt).

**Components of the increase in external liabilities**

In the above discussion, we compared the levels of external liabilities in a cross-sectional analysis. In the following, we will look more closely at the components of the increase in a given country’s external liabilities. We will seek to measure the extent to which the increase in the liabilities-to-GDP ratio can be linked to income payables on outstanding liabilities and the contribution of external funding to current economic developments (for a discussion of the factors shaping changes in external liabilities, see the Box at the beginning of the article).

Increases in a country’s stock of external liabilities are mainly driven by developments in its external financing requirement. Two variables are distinguished within the financing requirement. It is worthwhile treating the income balance separately, as this item is mainly determined by external liabilities accumulated in the past. In contrast, the primary balance, i.e. the part of the external financing requirement excluding the income balance, is mainly related to economic processes taking place in a given period. If liabilities denominated in foreign currency accounts for a significant share within external liabilities, asset price or exchange rate movements may also be an important factor. For example, during a period of exchange rate weakening, foreign currency-denominated liabilities rise in domestic currency terms even if a country does not undertake new borrowing. Given that generally it is the liabilities-to-GDP ratio which is examined, growth in GDP naturally reduces external liabilities. It is also worthwhile distinguishing actual growth of the economy from the increase in the price level within the effect of GDP growth, as a 7 per cent GDP growth rate may equally result from 5 per cent real growth and 2 per cent inflation, and from 2 per cent growth and 5 per cent inflation.

Despite the fact that Hungary’s liabilities as a percentage of GDP was one of the highest in 2007, over the past eight years...
external liabilities have risen at a faster pace in several countries compared with Hungary (Chart 5). We compared the increase in external liabilities of the newly joined and the peripheral EU countries in the period between 1999 and 2007. A comparison of the factors driving the increase in liabilities sheds light on several interesting developments.

- On the one hand, we would reasonably expect that the contribution from the deficit on the income balance of a country with a higher initial stock of external liabilities is greater, as the economy is likely to face higher interest/dividend payments on its higher existing debt/FDI. A comparison of countries' income balance is broadly consistent with this assumption – the contribution to the increase in external liabilities of the income balance of countries with increasingly higher initial liabilities is progressively higher (Chart 5). Within the countries examined, the contribution of income balance to the increase in external liabilities was highest in Hungary.

- The increase in external liabilities, deriving from the primary balance, was one of the lowest in Hungary, and was associated with a large deficit in income balance. This means that the external liabilities of the Hungarian economy can be related in large part to the outflow of income on liabilities accumulated in the past, and the other items of the external financing requirement – primarily net trade – have only slightly contributed to the increase in the country’s external liabilities in recent years compared with other countries.

- The effects arising from the revaluation of outstanding stocks and from other items increased external liabilities in all the countries examined. Currencies of the emerging, newly-joined EU Member States typically appreciated against the euro, which, in turn, caused a fall in foreign currency liabilities valued in local currency. In addition, however, there were also changes in the valuation of the various equity liabilities, and because the prices of these items have also risen sharply in recent years, the resulting stock of external liabilities has increased significantly. As the amount of equity liabilities is much higher than that of debt liabilities (foreign currency liabilities in particular), movements in exchange rates and asset prices has led to an increase in external liabilities.

- Nominal GDP growth reduced significantly the value of external liabilities as a percentage of GDP. It is important to note that the downward effect on liabilities was smaller in the old member countries and much greater in countries that joined the EU later. Moreover, in the case of CEE countries, higher average growth was coupled with higher inflation. Consequently, the effect of both factors of GDP growth was a slower increase in liabilities than in the old members. The Chart also reveals that, in comparison with, for example, the Baltic states, the contribution of higher inflation in Hungary to the strong downward effect on liabilities was greater, while the downward effect of economic growth was smaller.

**Summary**

The fall in global willingness to take risk due to the effects of the sub-prime mortgage market crisis has drawn attention to Hungary’s external liabilities-to-GDP ratio, which has been growing fast to reach high levels by international standards.

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1 Naturally, the income account is also shaped by interest paid on liabilities, in addition to the existing liabilities stock. Expected return is higher in more risky countries, which may explain, for example, the greater contribution of the income account in Croatia.

2 Due to the limitations of available data (external liabilities in a breakdown by currency denomination is not available for the majority of countries), the effect of exchange rate movements could not be isolated from the effect of other volume changes (methodological changes, etc.).

3 It is very difficult to measure the revaluation of equity-type external liabilities (e.g. FDI capital), and a number of problems may arise in relation to pricing non-marketable assets and liabilities (for more detail see: Svavarsson and Sigurðsson, 2007). Naturally, this problem only causes uncertainty about the reliability of the stock data within balance of payments statistics and it does not affect flow data.

4 It is important to note that inflation not only has a downward effect on liabilities (through higher nominal GDP), but, due to interest paid on existing domestic currency-denominated foreign debt, it also increases a country's net external liabilities, as a result of its adverse impact on the income account.
In this article, we attempted to highlight two important developments by reviewing the theories related to external indebtedness and setting the issue of Hungary’s external liabilities in an international context.

Based on a review of the academic literature, we drew the conclusion that the increase in Hungary’s external liabilities was a natural process explained in part by the initial position of the economy and in part by the gradual easing in liquidity constraints. Although external liabilities are expected to fall over the longer term along with economic progress measured by per capita GDP, it may rise in transition economies even over the short term. This hypothesis was also reinforced by international comparison – external liabilities of Hungary and the newly-joined and peripheral EU countries developed similarly.

A second lesson from our cross-country comparison is that although Hungary’s liabilities-to-GDP ratio has increased significantly in the past eight years it has lagged behind growth in liabilities of several other countries. It is important to emphasise that the increase in Hungary’s external liabilities has been due in large part to its high initial liabilities related to the outflow of income, while the primary balance, linked to the functioning of the economy, contributed only slightly to the increase in external liabilities. This is an adverse development in that, associated with an already high level of debt, the outflow of income is likely to continue to be significant, having an upward effect on external liabilities. It is worth noting, however, that the primary balance of the Hungarian economy reduced external liabilities in 2007 (Chart 2), and consequently, the country’s liabilities-to-GDP ratio is expected to fall in the coming years, despite a high deficit in its income balance. However, a further reduction in the external financing requirement, observed in recent years, is required in order for Hungary’s external liabilities to fall.

Nevertheless, faster economic growth is also needed, in addition to the improvement in the external balance, for the liabilities-to-GDP ratio to fall. The scope for an improvement in the liabilities ratio through a fall in the financing requirement is limited. But apart from that, faster economic growth can, by itself, reduce the vulnerability of the Hungarian economy resulting from its high external liabilities. The current situation, therefore, underlines the need to continue fiscal consolidation along the set path and that the main focus should be on the structural reforms of general government. The reforms, in turn, not only reduce external liabilities through a fall in the general government deficit and an improvement in external balance; they also create the conditions for long-term sustainable growth, and, moreover, would contribute to the reduction in Hungary’s external liabilities-to-GDP ratio through faster economic growth.

REFERENCES


