# András Réz: Public debt management and Asset-liability management – the case of Hungary[1]

## Non-technical Summary

Asset-liability management or ALM – used in developed countries – may be a useful tool in outlining public debt management strategy. The concept of ALM is to match the assets and the liabilities side of a state, to reduce net risks characteristics, and reduce the effects of any financial or market change to the government or the budget.

Due to several reasons however, ALM can be more difficult to be applied in emerging market countries. These problems include the less developed state of the government securities market, which limit the possible steps of debt managers, the less detailed data and more complicated co-ordination needs about government assets and liabilities, which make it more difficult to identify real problems. However using basic ALM ideas the most important problems and vulnerabilities can be identified and the directions of debt management measures can be decided. These measures can be good in decreasing vulnerability of the public debt and consequently of the country, the economy. These problems can be the high foreign currency debt ratio and the short duration of domestic government debt. The paper uses the example of Hungary for providing some idea about the possible form and co-operation of institutions taking part in debt management and the debt management guidelines can be used on the basis of ALM approach.

We could recognize not only vulnerabilities during the last few years but other challenges for emerging market countries. One of the most important of those, the increase of foreign currency reserves is certainly not a case of vulnerability, but a cost factor, and for that reason deserves clever policy actions. Managing those problems involves several institutions, which complicate policy actions.

Monetary policy gained independence in many countries which is an important part of low inflationary environment but the independent activities of several actors of macroeconomic policy makes co-ordination more difficult. The successful balance between those measures which reduce potential risks and vulnerability and those measures which aims to reduce cost for the public is very difficult. Competent and sustainable fiscal and monetary policies are needed and a good co-ordination mechanism between them, which considering the different knowledge and objectives of those policies is not easy.

The first part of the paper gives a description of Asset-liability management, its strength and shortcomings for debt managers. The second part discuss some basic

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ideas about public debt management and external debt and foreign currency reserves. The third part gives a history of public debt management in Hungary during the last 15 years with a special emphasis on domestic and foreign currency debt. The last, fourth part describe the basic rules or benchmarks used by debt management in Hungary on the basis of ALM.

## Introduction

The objective of this paper is to examine some examples of the basic relationship between public debt, the balance sheet of the government and the external balance sheet or the current account in the point of view of public debt management. The starting point is the public debt and how the evolution of the debt affects the external balance sheet. Public debt and public indebtness are important issues for emerging market countries. These countries have usually less developed government securities market, their domestic investor base is relatively weak, and therefore even a relatively low (in comparison with developed countries) public debt level may constitute significant financing problems, leading to austerity programs and unfavourable social consequences. The less developed the local market is, the more public financing relies on foreign currency borrowing, the more difficult problems can arise. In this respect Hungary can be a good example, since it had practically no government securities market in 1989 and with a relatively high debt ratio of around 70per cent of GDP, it had a high reliance on foreign currency borrowing. There were many countries that started to build a market economy at that time from the previous "communist bloc". But most of them, due to their previous economic policy, had negligible debt, therefore their problems were not coming from public debt, but from their economic systems. On the contrary, because of size of its debt Hungary was forced to develop its local capital market.

Developed countries with developed markets and a wide investor base face relatively low and easily manageable risks in debt management. Even high debt levels can be financed in the domestic markets, and while high deficits will only result in increasing spreads, these may be enough for the macroeconomic policy to consider fiscal improvements. Since debt structures are usually good any yield increases are gradual, drastic fiscal cuts can be avoided. With small foreign currency borrowing the temporary extra financing needs could be covered until economic problems are solved. Therefore the public debt managers of a developed country usually have many alternatives and market problems have relatively modest and gradual effects on the budget. Of course in case of excessive fiscal policy even a developed country may face severe consequences but these appear on very high and increasing debt level.

Emerging market countries may face much more difficult situations in public debt management. The reasons for that are widespread. They have first of all small underdeveloped domestic market with few investors. Any additional borrowing requirements of the government do not only increase yields but sometimes the market would not absorb that at all, resulting in unsuccessful auctions. Unsuccessful issuances will not only mean less money for the government, but through decreasing investors confidence maturing short-term debt will not be renewed and a severe financing problem can evolve.

It is not better if the country relies on foreign currency borrowing instead of the weak domestic investor base. Foreign currency debt is usually long term, but the foreign

exchange rate risk can also endanger debt sustainability. With the importance of international capital flows it is not even necessary to have any internal problem to have a declining exchange rate, increasing debt level and debt service and making refinancing more difficult. With a too high foreign currency debt ratio, the effects can be devastating.

There are many risks that the governments and debt managers of emerging market countries are facing, therefore a prudent approach is needed. The usual risk management tools (e.g. derivatives) are not readily available for emerging market countries so the idea of asset-liability management may be used. Asset-liability management is a tool normally used for private companies or financial companies, like asset managers, insurance companies or pension funds. The idea is that market risks or financial risks can be managed or limited on an acceptable level if the assets and the liabilities are maintained with similar risk characteristics. If the hedge is successful, any deviation in the value of the liabilities (e.g. debt) will be followed by a similar movement in the value of assets, therefore the net value of the company will be largely unaffected.

## Asset-Liability Management

The idea of asset-liability management (ALM) is simple for a company having well defined and measurable balance sheet. In the case of a country, the identification of liabilities and assets is much more difficult, as those assets and liabilities may be managed by different agents of the government, and that means that identification of potential risks on the level of government and effective hedging is more difficult if not impossible.

It is easier to identify liabilities. The most important and known part of that is public debt. However even public debt could be managed and issued at many places and institutions in less developed countries at the same time. It makes not only debt and risk management, but even the accounting of the debt is difficult. Besides public debt, the liabilities may include other obligations like guarantees, [programs requiring] future contractual payment obligations of the government and so on. These can be more widespread and difficult to evaluate.

Assets can be determined in several ways. The most obvious ones are in the form of equity and stake in state-owned companies. Their book value may be significant in the balance sheet of the government but their market value can be much smaller than book value and their income stream is usually not comparable to the cost of servicing the debt. State-owned companies are usually not for profit making but fulfilling other public good (providing public services, employment) therefore they can usually make the government’s balance sheet more balanced but not good for hedging purposes. Other state assets, like motorways, national parks, can also be accounted for, but they generate even smaller income.

The more accepted and useful idea for assets is the future (discounted) income streams from taxation. Under stable economic conditions when longterm economic projections can be made, they can be calculated, but usually not in the case of emerging market countries. However it is possible to make risk calculations in their simplified form, when not the exact future discounted revenue flows are estimated, but some proxy variables like the total income of the economy (GDP), or some similar economic variables (exports) to identify possible hedges.

Foreign currency reserves are an important part of state assets. They are liquid, valuable and generate revenues. They are maintained to ensure that the country is solvent in foreign currencies, and increase confidence in government economic policy and in monetary policy. If foreign currency reserves are owned by the government then ALM calculation can be made for the balance sheet of the government. If FX currency reserves are included in the balance sheet of the central bank (in Hungary in the balance sheet of the National Bank of Hungary), in that case both the balance sheet of the government and the central bank should be used for ALM calculation.

ALM calculations are not an easy task for less developed countries. Due to fragmented institutions, problems in co-ordination and lack of data, statistics and reliable financial relationship the most comprehensive methods are difficult to use and even if there are some results, they are not always useful or justifiable. In Hungary there were several projects to improve ALM, the best results were achieved only for a part or a segment of the overall picture or some basic rules could be identified to reduce risks or vulnerability. The paper would like to give an idea what kind of results were reached at in Hungary and what conclusions can be drawn.

## Internal and external debt and balance sheet

*Public debt* serves as a way of funding past and present public deficits or overspending, and consists of domestic debt owed to domestic (households, private companies and institutional investors) and foreign investors and of foreign currency debt. *External debt* of a country consists the total debt of domestic entities (government, households, companies and the financial sector) owed to non-residents, and can be in the form of domestic or foreign currencies. The evolution of external depends on the current account deficit and foreign currency reserve levels, not on budget deficit. *Foreign currency reserves* are the property of the government but their main purpose is to ensure that a particular *country* can serve its *debt* in the future. That means that it is possible to make ALM calculation for public debt and foreign currency reserves but their origin and rationale are completely for different reasons and that results problems during actual management or co-ordination.

In the case of less developed countries the difference between public and external country debt can be less important. Local government securities market or capital markets are less developed, therefore public debt management may rely mostly on foreign currency denominated funds from International Financial Institutions or

foreign commercial banks. And the less developed state of the local capital market may result that private companies get debt related funding directly from the government or funding from [foreign] financial should be supported by state guarantees. That means that the debt of the country may actually be the very same as the public debt and public debt may mostly consists foreign currency debt.

With the development of local capital markets and the private sector we can expect that the total public debt and the external debt of the country diverge therefore the relations between them get weaker. There are many reasons for that process. First of all, to improve public debt management policy, governments develop the domestic government securities market, which increases the domestic investor base. That means that a growing proportion of public debt becomes domestic debt and the ratio of external public debt shrinks. With developing the local capital market and higher domestic savings, not only the financing of public debt improves but also the local financing of the private sector and that decrease the demand for external financing. With new domestic lenders both the government and the country's balance sheet will change.

## The Development of Debt Management and Co-ordination in Hungary

To discuss Asset-liability management in more detail let us see the example of Hungary during the last 15 years. This era can be divided into 4 different periods: in the early years until 1991, while deficit financing, debt management and foreign currency reserve management were basically the same as before, a new institutional set-up was created, however it still had limited effect on the everyday life. Until 1997 during the intermediate system of the new institutional framework and laws were created and the government deficit financing was already ensured from the developed domestic market, however foreign currency debt management was still under the authority of the central bank. After the liability swap transaction between the government and the National Bank of Hungary the 3rd - co-ordination with a strong emphasis on FX reserve levels - period began, when the foreign currency debt management was done by the government, but the foreign currency debt management strategy was a result of strong co-ordination between the government and the central bank resulting in a direct link between foreign currency reserve needs and issuance. Since 2003, a more balanced co-ordination period started and today actual foreign currency issuances are determined considering the objectives of public debt management strategy and FX currency reserve needs evenly. These four periods give four different possible institutional and operational framework for ALM, therefore this chapter would like to provide the details of those.

### *Early years until 1991*

In 1989 when Hungary started the transition from a centrally planned economy to a market economy its economic system and capital market was quite underdeveloped.

Monetary policy was directed by the government and the National Bank of Hungary was practically the bank of the country (actually a two tier banking system was established in 1987, but the commercial banking system needed some years to develop). The local capital market was also underdeveloped, however the first important measures were already taken like the establishment of the Budapest Stock Exchange, and issuances of the first bonds and shares, but the size and activity of the capital market made local public debt management a mere wish.

At that time budget deficits were financed by the National Bank of Hungary at favorable terms by monetary financing. In order to fulfill its obligations the National Bank of Hungary managed foreign currency sovereign debt. That meant that the current account (and foreign currency reserve) financing and the deficit financing were done together and by using mostly foreign funds. The deficit of the budget was approved in the budget law and authorization was given to the National Bank of Hungary to finance the deficit. Actually under those arrangements the National Bank of Hungary was given some flexibility to ensure the financing for the budget deficit and current account deficit. By accepting the competence and expertise of the National Bank of Hungary the government granted them a relatively important say in the actual way how foreign currency debt management was carried out.

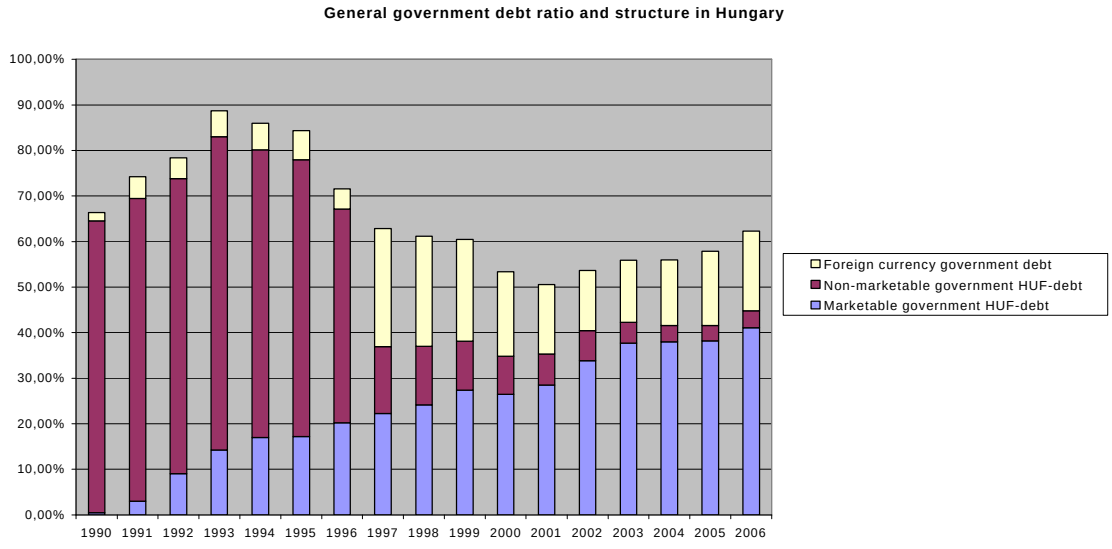
The importance of the funding of the budget by the National Bank is shown by the fact that 90 per cent of public debt was financed by long term loans by the National Bank of Hungary in 1990 and the remainder was mostly foreign currency loans by the World Bank and the IMF.

In the early 1990s an important government decision was taken, that monetary policy should have more independence and budget deficit financing should be done on market basis. Originally that only referred to domestic financing, therefore the idea was that the local government securities market should be developed to ensure deficit financing and gradually eliminate direct central bank financing. That change did not effect foreign currency public debt management, since it was maintained at NBH. However due to the limitation of new loans to the government, foreign currency public debt management became more an instrument of current account deficit financing and foreign currency reserve management.

During these years government deficit and maturing debt was almost exclusively financed with medium and long term Hungarian forint loans from the National Bank of Hungary. Government securities issuance only started. Loans provided by the NBH were either monetized or were funded from foreign currency borrowing. External debt and foreign currency reserves were in the balance sheet of the National Bank of Hungary. Since the net foreign currency debt was high, devaluation losses due to high inflation rate were not accounted for in the budget deficit but a special loan facility was operated to maintain the balance of the balance sheet of the National Bank of Hungary. Aimed to be a “costfree” instrument having no maturity and interest rate, during the years this debt became the most important part of total debt, undermining both debt management and the balance sheet of the NBH.

*Intermediate system*

Due to the limitation of direct central bank financing of budget deficits in the middle of the 1990s the domestic financing of budget deficit turned to market based financing. By the late 1990s the domestic government securities market reached a relatively developed stage. ÁKK, the debt management agency was established in 1995, which outlined a strategic approach to debt management. A longterm yield curve was established and a regular auction calendar was created for securities from the 1 month discount Treasury-bills to the 5, later to 15 year fixed T-bond. In order to develop the secondary market of government securities a Primary Dealer System was established. Together with the development of local and foreign investor base, like the fostering of pension fund and insurance companies, the market for government securities developed substantially, which made it possible to completely turn to market financing and eliminate the role of the National Bank of Hungary by 1997. The National Bank of Hungary did not buy any debt even on the secondary market. Another important development was the acceptance of the sole debt manager agent of the government. During previous years different subsystems of the government could issue public debt, like the social security funds, extrabudgetary funds. Those activities meant that the domestic public debt could hardly accounted for, the estimation of risks characteristics was very difficult and a need emerged to integrate or co-ordinate activities. First the debt management agency was approved to be an agent of other sub-sectors and later all other domestic debt issuance was prohibited and on-lending was provided.



External debt was still managed by the National Bank of Hungary. According to the approved institutional framework foreign currency debt had been separated from the public debt management (deficit financing) except project financing loans from International Financial Institutions, making less than 8 per cent of total debt at the time. Foreign currency securities were issued frequently by the National Bank of Hungary but only to manage foreign currency reserves and funding associated with current account financing. Even the financial activity related to project financing was done by the central bank, the Ministry of Finance and its agents had only planning and accounting functions. Under that framework domestic and foreign currency debt management were practically separated, and co-ordination was limited. That separation was not only applicable to denomination but also due to the central bank's authority of regulating international payments at that time foreign ownership of domestic debt was also limited.

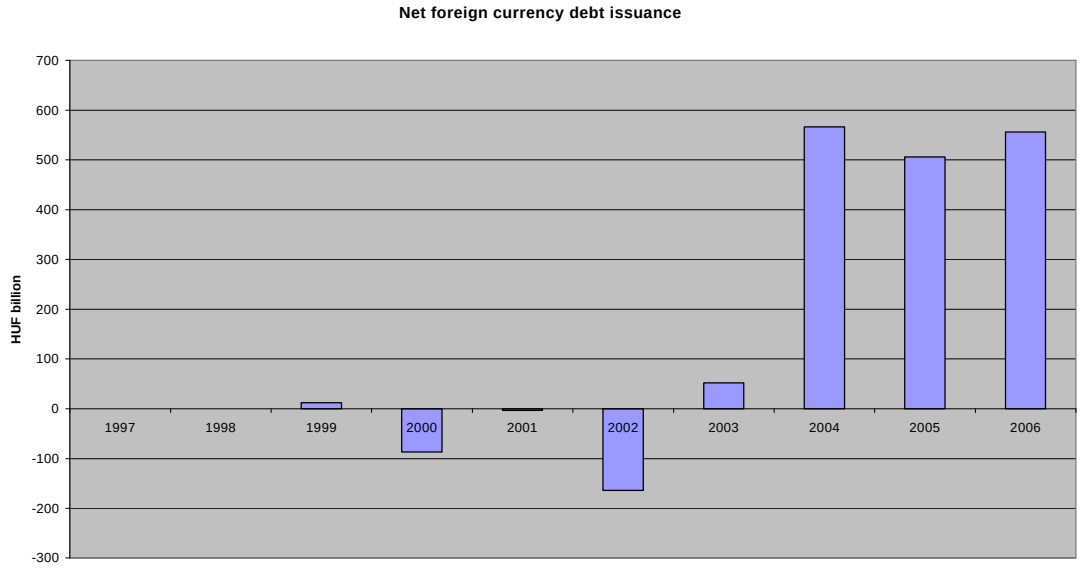
The dual public debt structure (domestic debt at ÁKK, foreign currency debt in the balance sheet of the National Bank of Hungary) was not sustainable. Officially there was no financing relationship between the government and the central bank, but due to "original sins", the burden of past debt in the form of net foreign currency debt in the portfolio of the NBH and the permanent devaluation of the Hungarian forint resulted a permanent increase of the non-interest bearing, non-maturing loan. As a result of that the balance sheet of the National Bank of Hungary contained a large volume of non-yielding asset practically limiting its operational capabilities of performing monetary policy. In order to improve monetary policy framework, and the better separation of fiscal and monetary policy it was decided in 1996 to transfer foreign currency sovereign debt and debt management from the National Bank of Hungary to the government. Due to technical limitations it was effected by a debt swap transaction by which foreign currency debt was transferred to the balance sheet of the government and the non-interest bearing Hungarian forint loan from devaluation losses were redeemed. Since after a few years of transition the responsibility of foreign currency debt management became those of the government a strong co-ordination mechanism was drafted to ensure a compromise between the needs of fiscal policy and FX currency reserves.

*Co-ordination with a strong emphasis on FX currency reserve levels until 2002*

According to the new arrangement all debt (foreign and local) become the responsibility of the government and the National Bank of Hungary maintained its role in foreign currency reserve management. Therefore the role of foreign currency debt issuance changed from current account financing to public debt and deficit financing. According to the previous arrangement the National Bank of Hungary decided annual foreign currency debt issuance upon the projected current account deficit, its financing pattern (market based, non-debt creating sources) and targeted reserves level. Its annual gross borrowing target could be easily and regularly changed if short term capital flows required additional reserves or less, it could be easily understood by the capital market. Within the new framework borrowing transactions were proposed by

the debt management agency and by using a more stable strategic approach the debt management agency was less willing to alter announced amounts due to short-term changes.

The debt management strategy targeted new foreign currency issuance equal to the maturing foreign currency debt. Any foreign currency revenue or outlays were converted at the National Bank of Hungary having no domestic monetary and FX effect. However the National Bank of Hungary calculated the gross foreign currency issuance needs as the last part of total activities determining its FX reserve levels (after inter alia money market interventions to maintain announced exchange rate). Any unwanted or lack of reserves were expected to be managed by altering gross FX debt issuance. That approach usually resulted in different FX debt issuance target levels for the debt management agency and the NBH. To reduce frictions however a regular coordination started between the government and the National Bank of Hungary and the actual foreign currency debt issuance was a compromise between policy suggested by the debt office and the National Bank of Hungary.




In order to avoid interference of the exchange rate policy of the National Bank of Hungary by debt management, it was decided that debt management agency should not make any conversion on the market, and all exchanges between HUF and foreign currencies must be done at the central bank at market rate. That means that the net foreign currency debt issuance of the government directly changes the net FX position and reserves of the NBH and the monetary base.

*Balanced co-ordination from 2003*

In 2003 debt management strategy was revised: Hungary was about to become a member of the European Union, and had to prepare for the European Monetary Union (EMU) membership, which changed its economic and financial prospects. On the basis of a sophisticated portfolio model simulating future EMU accession new guidelines or benchmarks were identified for future debt management policy. These changes altered the domestic-foreign currency composition of the debt as well. After several years of reducing the share of foreign currency public debt from 41 per cent to a mere 24 per cent, according to the analysis the foreseeable EMU membership and convergence was better prepared with a stable foreign currency public debt ratio about 28 per cent. Right before the revised strategy a new institutional framework for debt management was established simultaneously with the enforcing central bank independence, which aimed at a better separation of monetary policy and debt management.

It was decided that the National Bank of Hungary will provide its views about debt management policy (especially in issues effecting foreign currency reserves), however debt management decisions are made on the basis of the debt management strategy and the opinion of the National Bank of Hungary. Since than foreign currency public debt issuance was according to the guidelines of the strategy and no deviation like during previous years could be observed. The previous system of co-ordination exists, however any deviations from the strategy should have been better founded. Due to the change in the investors' sentiment and the need for increasing FX currency reserves of Hungary, no major difference in foreign currency borrowing needs emerged during the last years between the government and the National Bank of Hungary

## The Practice of Asset-Liabilities Management in Hungary

As it was discussed before, governments may use different ALM approaches. The actual ALM calculations are rather difficult in countries having less mature institutions and shortcomings in data availability. For these reasons ALM is used not in a general form, but for special issues or segments of asset and liabilities. In Hungary at present all public debt (except the debt of local governments) is managed by the debt management agency. For reason of simplicity we use the debt of the government as a proxy for total liabilities. During ALM different sets of assets could be used namely (i) state companies, (ii) future revenues which are estimated by GDP or exports, and (iii) foreign currency reserves.

*ALM using state-owned companies as assets*

State owned companies can be important assets of the government. That was especially true for previous centrally planned economies, where state ownership had a decisive role. One of the first measures to develop market economy was to sell state companies to private hands. In Hungary there was no coupon privatization, most of

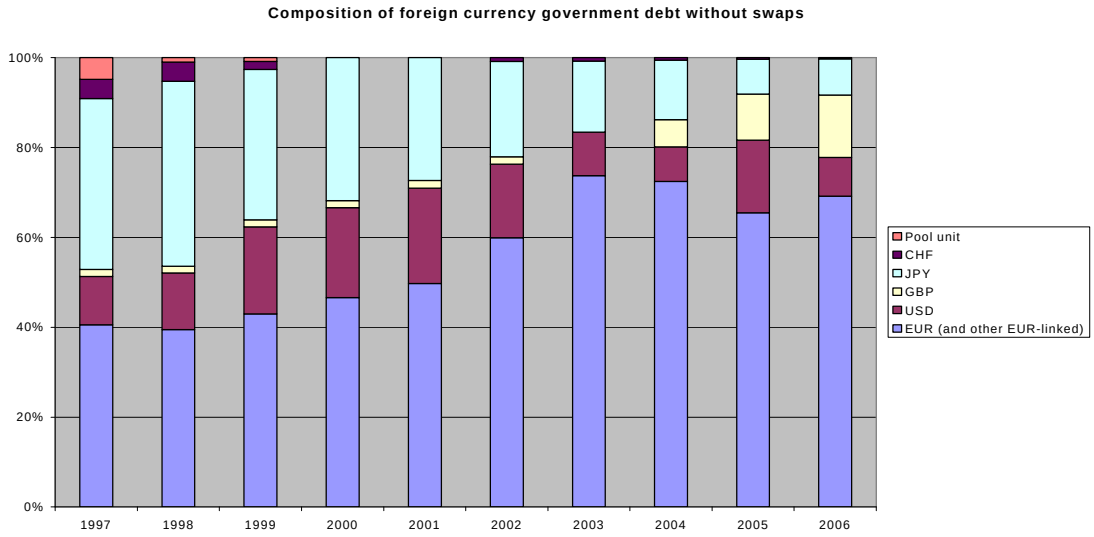
state companies were sold for cash. A large part of privatization was done after the economic and fiscal crisis of 1995-6, when the debt ratio reached almost 90 per cent of GDP, a very high level. As it was mentioned before state assets are not really for generating profits or stable revenue flows due to the fact that the state is usually not good in running companies and prefers to run business for fulfilling public good. Therefore a government balance sheet containing large debt as liabilities and large state companies as assets has many shortcomings. At 1996 it was decided to change the priority of privatization: the priority from employment and future investments and budgetary use of proceeds shifted to high cash proceeds, which were required by law to be used to repay debt. Between 1996-7 about HUF 450 billion of privatization revenues was used to pay debt which alone decreased public debt by more than 5 per cent of GDP.

*ALM using future revenues as assets*

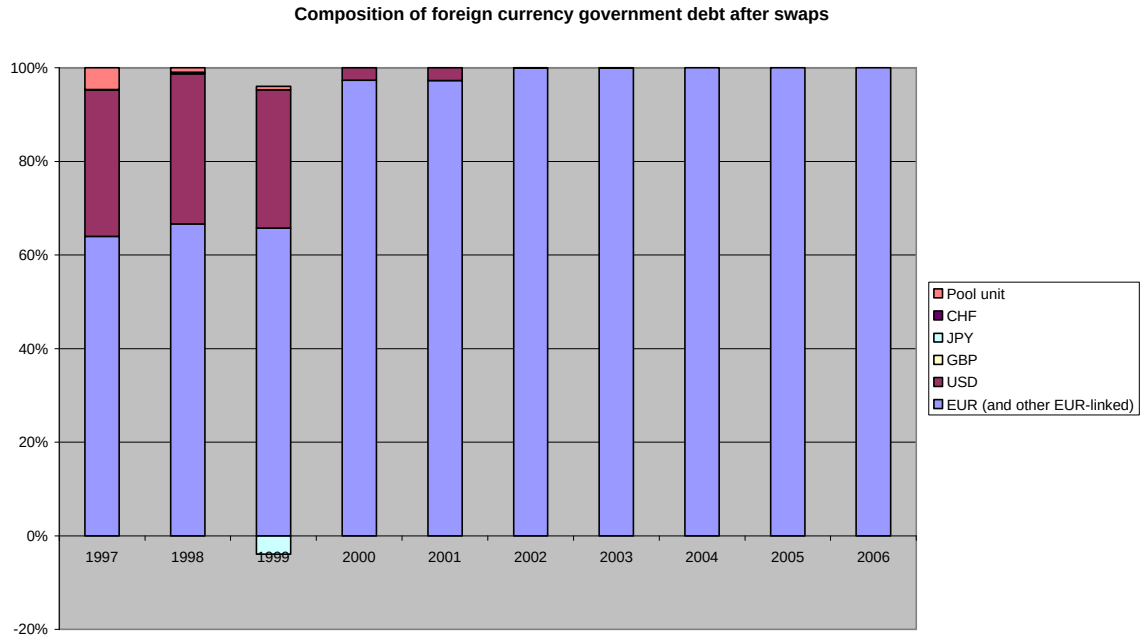
The logical outcome of using future discounted tax revenues in the ALM framework is the concept that public debt should be denominated in the domestic currency. The government levies tax on the incomes and wealth of domestic households and companies, whose incomes and wealth are denominated in the domestic currency. If total liabilities (debt) and assets (tax revenues) are denominated in the same currency, that is the perfect hedge, there is no risk associated with exchange rates. In the case of emerging market economies, the problem is more complicated, since they usually have foreign currency debt (due to underdeveloped local markets). Hungary also started the 1990s with foreign currency debt reaching very high level on a consolidated basis.

One of the debt management objectives was the target for the composition of domestic and foreign debt. ÁKK recognized that the 41 per cent share of foreign currency debt at the beginning of 1997 was too high, meaning too high foreign currency risk for public debt. The asset side (GDP) was basically in Hungarian forint. For methodological reasons complete ALM calculation could not be completed, therefore it was decided to reduce the share of foreign currency debt and the development of the domestic market was targeted by financing the total deficit from the domestic market. By that way the high foreign currency risk of the liability side was gradually decreased.

The second objective was the cross currency risk of the liability. Since the currency basket of the Hungarian forint was approved according to the trade composition of Hungary and monetary policy targeted the Hungarian forint exchange rate versus the basket, it was accepted that the least risky liability structure is identical to the HUF basket.




To minimize risk therefore it was decided to maintain the currency composition of the foreign currency debt accordingly, first it was 70 per cent DEM, 30 per cent USD, and now it is 100 per cent euro. That rule could be managed not by issuance pattern, but using derivatives (swaps).




From 2003 the domestic-foreign currency mix of debt was modified. The reason for that was mostly the result of a sophisticated cost-risk analysis, which modeled the future EMU accession of Hungary. During that process the present domestic currency will be replaced by euro which is officially a one-time measure, however due to

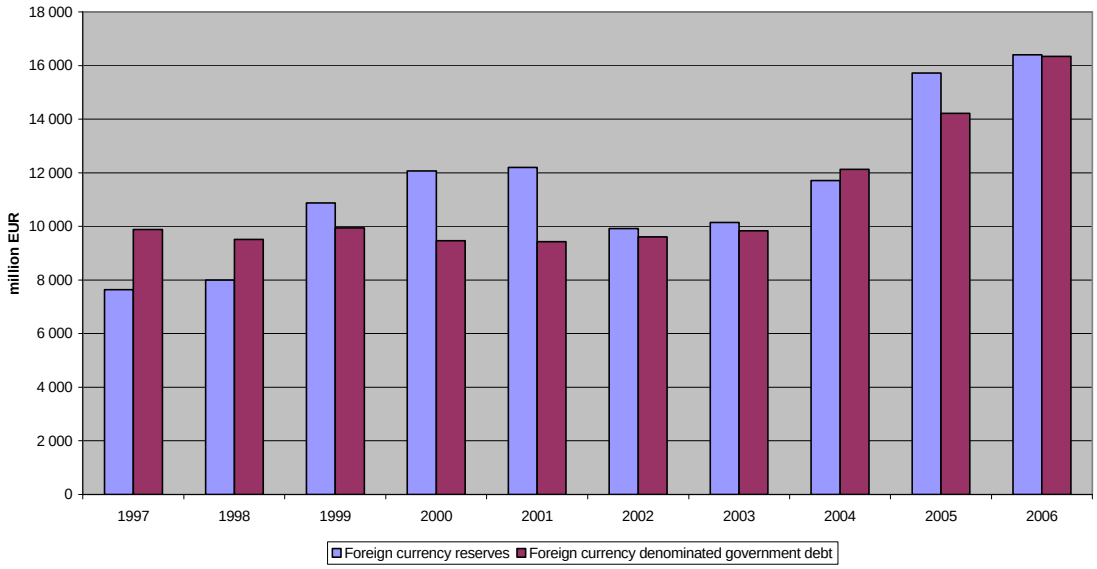
convergence the actual process is a gradual one with continuous alignments of financial and economic factors. Therefore the normal (100per cent own currency) rule is not necessarily the best and smaller costs and risks can be reached with a mixed portfolio. That is one of the rationale of the present rule of stable composition of local and FX debt.

*ALM using foreign currency reserves as assets*

The third approach to asset-liability management is to examine the balance sheet of the government and the central bank, which consist the foreign exchange reserve of the country. The rationale for that approach is that, however they are different institutions of the state, with different obligations and objectives, they both serve the public good and the efficiency of their job improves the other system's room to maneuver and the total costs of their operations effect public finances.

There are two points to ALM with foreign currency reserves. First foreign currency debt and FX reserves are assets and liabilities both having exchange rate risks therefore if they are similar size and in similar structure their net risks for the government can be small. That actually was the case for Hungary and in order to make that natural hedge working in a better way, special accounting rules were put in place to manage associated changes in values of liabilities and assets to avoid the loss of value of the National Bank of Hungary.

**The stock of gross foreign currency government debt and foreign currency reserves of the NBH**



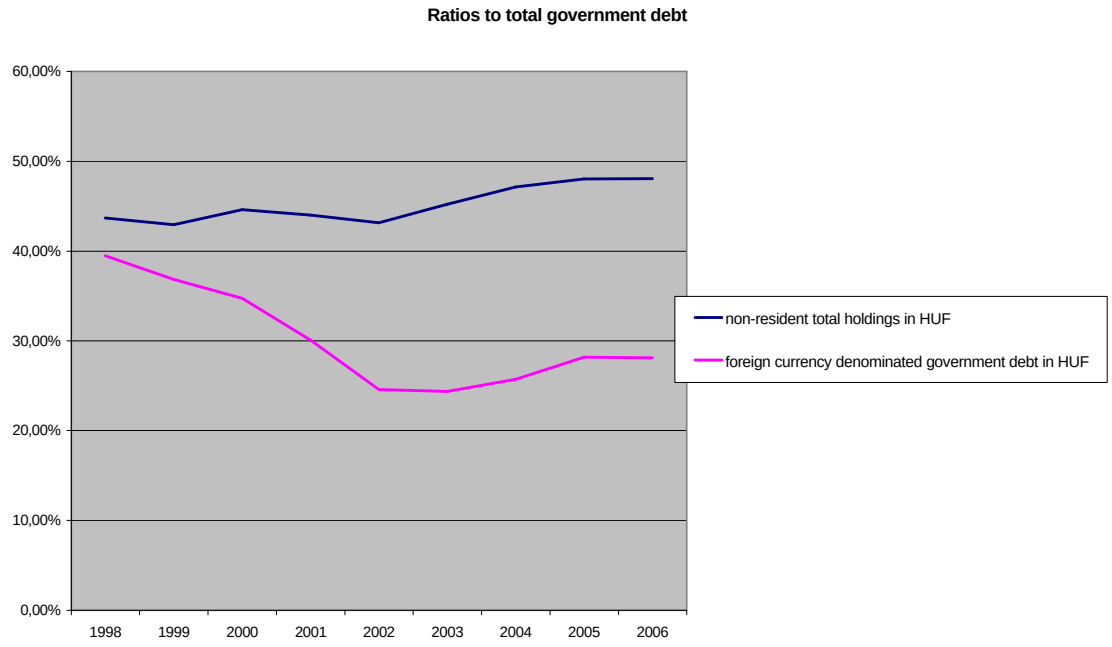
The second points is the cost of foreign currency reserves. Foreign currency reserves are costly. In the case of emerging countries foreign currency reserves may be the result of any foreign currency bought by the central bank from the government or the private sector (purchased or non-borrowed reserves) or borrowed directly from abroad (borrowed reserves). If funds were originated from loans or other types of debt the debtors have to pay market interest rate – directly or maybe in a hidden form. Since we consider the example of an emerging country with ratings below prime rate that interest rate includes a substantial spread or yield differential versus the benchmark yield. Since the central bank invests foreign currency reserves according to prudent investment rules (short term and good quality instruments) the achievable yield will be much less. The yield difference between the funding and the investment of the central bank can be in the magnitude of even some percentage points (in Hungary it is 30-40 basis points). That calculation stands for all foreign currency reserves held by an emerging market economy.

More foreign currency reserves mean more costs for the country. However foreign currency reserves reduce borrowing costs. Since reserves reduce international vulnerability higher reserves make sure foreign investors that the country can fulfill its future obligations in foreign currencies and with more reserves local capital markets can be better safeguarded as well. If investors are certain that authorities have the necessary level of foreign currency reserves (and they would use that accordingly) that means lower foreign currency spreads and even local yields. The spread lowering effect of reserves lasts until investors consider reserves as completely satisfactory, and over that level we cannot expect more beneficial side effects of any additional unit of reserves.

Therefore one can argue that the size of foreign currency reserves should be limited at the optimal level (not exceeding level required by investors). To achieve this an asset liability management calculation using the balance sheet of the central bank and the government may be used to maintain or target the optimal level of foreign currency reserves. However that is not an easy task for many reasons as the present time examples show: many emerging market economies are having very high level of foreign currency reserves, and reserve levels keep rising. There are two important problems we want to stress which explain the difficulty of ALM: one that the level of foreign currency reserves is depends on many reasons, not only on the foreign currency borrowing decision of the government but on borrowing decisions of other sectors as well, and short term foreign capital movements and monetary policy (most notably exchange rate policy) decisions. On the other hand monetary policy and foreign currency reserve management is usually done by the central bank. Central banks are getting more and more independence from the fiscal policy during the last years. The separation or independence of monetary and fiscal policy may improve the effectiveness and accountability of both part of economic policy, but since both are working under different circumstances (time horizon, responsibilities) the goals they pursue are quite different that may make successful cooperation more difficult.

There are several ways of reducing unnecessary foreign currency reserves. In case of borrowed reserves, the solution is easy: with the decrease of borrowing and using existing reserves to repay debt, reserve levels can be easily decreased. The reduction of reserves is much difficult in case of non-borrowed reserves. Buy-backs of outstanding foreign currency debt by using local funding can be one of the way. however its potential is limited by the availability and cost of local funds. Local funds can be used only if domestic savings or the foreign demand for local assets are strong enough. A forced domestic funding can have many side effects, like increasing local yields and increasing domestic vulnerability, which may eliminate expected positive effects of smaller reserves.

The substitution of foreign currency funding for domestic debt held by non-resident may eliminate exchange rate risks, but may maintain vulnerability. A strong domestic debt issuance program can decrease the duration of domestic debt thereby increasing interest rate risk and the larger portfolio of foreign investors may increase domestic market volatility in case of international capital market shocks. Both event may increase the vulnerability of the economy, therefore a balanced and gradual approach of foreign currency debt may be advised.




## Conclusion

Asset-liability management – used in developed countries – may provide useful hints in outlining a possible public debt management strategy. Due to the less developed

state of the government securities market in emerging market countries, the lack of deep and stable investor base, and the less detailed data about government assets and liabilities the sophisticated financial methods can hardly used. However using basic ALM ideas the basic problems and vulnerabilities can be identified and the directions of debt management measures can be decided. These measures can be good in decreasing vulnerability of the public debt and consequently of the country, the economy. These problems can be the high foreign currency debt ratio and the less developed domestic government securities market.

On the other hand during the last few years other challenges developed for emerging market countries. One of the most important of those, the increase of foreign currency reserves is less likely a problem. It is certainly not a point of vulnerability, but a cost factor, and for that reason deserves clever policy actions.

Many countries work for independent monetary policy, which is an important part of low inflationary environment but the independent activities of economic policy makes co-ordination more difficult. The successful balance between those measures, which reduce potential risks and vulnerability and those measures, which aims to reduce cost for the public is very difficult. Competent and sustainable fiscal and monetary policies are needed and a good co-ordination mechanism between them, which considering the different knowledge and objectives of those policies is not easy.

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