

László György – József Veress

# *The Possible Causes of and Means of Avoiding External Financial Vulnerability*

## *Hungary versus Singapore*

**SUMMARY:** Difficulties in external debt-financing in the period since the financial crisis of 2008 have shed light on the financial vulnerability of the Hungarian economy. In this study our aim is to reveal the causes of external financial vulnerability, which can be incorporated into economic policy choices. We analyse the case of Singapore to demonstrate an example of those policies which can help avoid unnecessary financial vulnerability. External financial vulnerability is related to the quality of foreign accounts liberalisation, deregulation and privatisation, but in a wider context the direct and indirect public financing means which determine the global competitiveness of a national economy (educational policy, cluster management etc.) can be linked to it as well.

Based on the analysis of Singapore's related policies, the theoretical advantages of economic openness (such as export expansion, employment, management expertise, know-how and technology acquisition) can be achieved at a much lower level of external financial vulnerability than what was experienced in Hungary. Singapore and Hungary are excellent for such a comparison as small, economically open countries which are among the most globalised ones based on globalisation indices.

**KEYWORDS:** financial vulnerability, privatisation, government linked companies, liberalisation, deregulation, monetary policy

**JEL CODES:** E5, E52, L33

In this study we have set out to examine the effects of economic policy decisions on external financial vulnerability in the case of Hungary and Singapore from three distinct aspects. From the perspective of the reactions given to external disequilibrium, changes in operating state assets and the target and instruments of monetary and exchange rate policy.

We are aware of the limited practical usability of our comparison, as well as the distinct geopolitical locations of the two countries, and the compelling force of global political and historical events. This comparison

could be seen as a thought experiment. The comparison is supposed to shed light on the fact that we had other choices than the ones that were made at those strategic decision points, which later largely contributed to the development of Hungary's external financial vulnerability by 2008. Moreover, the Singaporean monetary and exchange rate policy could hold important lessons to be learned today as well, taking into account of course the special characteristics of Hungary.

For the purposes of comparing external financial vulnerability, it can be established that the two countries at hand are, from an economic perspective, small and in the

*Email address:* [gyorgy@finance.bme.hu](mailto:gyorgy@finance.bme.hu)

forefront of advancement on the basis of the globalisation indices (A. T. Kearney, Ernst & Young).

## PROBLEM: LONG-TERM NEED FOR EXTERNAL FINANCING

In this chapter we shall briefly review which items of deficit in the balance of payments increase the need for external financing. *The deficit of the current balance of payments and within that the foreign trade balance deficit, i.e., “overconsumption” of the national economy, are usually cited as the traditional culprits of a balance of payments deficit.* Attracting foreign direct investment (FDI), regarded as a means of traditional financing, is usually recommended as a solution. That is because according to the arguments for FDI not only is it a source of financing, it is also a way to attract technology, management expertise, and know-how into the economy and also contributes to the growth of the export markets and creates jobs. If, however, FDI is not attracted to the country along the lines of these considerations, but follows from an already existing compulsion to finance the current balance of payments deficit and that even companies, which manufacture goods or render services primarily for the domestic market are being transferred into foreign hands, the FDI itself may become an additional source of disequilibrium in the medium- to long-term. In Hungary, this has manifested itself in the income balance amassing a deficit (*see Chart 1*).

*The other traditional cause of a balance of payments deficit is that the income balance runs up a deficit.* In addition to repatriated profits, the interest burdens of the financing of public finances are part of the income balance. According to the traditional approach the scarcity of income flows should be financeable from the foreign trade balance surplus. As

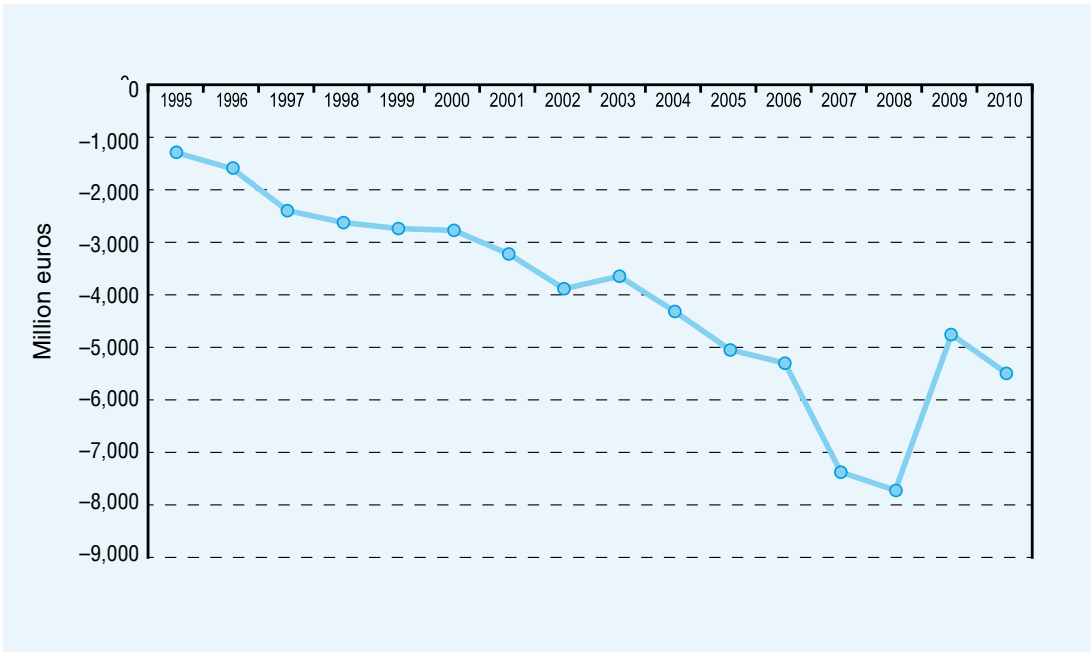
a result of the stabilisation efforts of the Hungarian government in the wake of the 2007–2008 financial crisis as well as the global economic realignment, the Hungarian foreign trade balance started to drastically improve, which allowed Hungary to counteract the income outflows in 2009 and 2010 for the first time since 1995. This was also promoted by a substantial, one billion euro increase in the balance of unrequited transfers.

What is the situation, however, if the incoming FDI (and portfolio capital) does not fully cover the current balance of payments deficit (*see Chart 2*)? In this case there is no other choice but to turn to the last resort. The time and manner of turning to the last resort, due to the excessive extent of external vulnerability, is chiefly determined by external economic effects, namely the situation of the global economy and the risk appetites of financial investors. In so many words: it is dependent upon the “willingness of the players of the world money markets to finance the system”. In 2008, the Hungarian government turned to the last resort, and at the end of 2011 declared the need for a similar loan agreement with the IMF.

The question is always the same: What kind of a balance should be struck? At this point a distinction should be made between two approaches. The first, more generally accepted, approach names overspending as the primary cause of the disequilibrium, on the part of public finances as well as households that have been overheated by public finances (Csillag, 2009; Bokros, 2009; Békesi – Palócz, 2009; Antal, 2004; Kornai, 1992, 1995). This approach describes this state of overspending as “the premature welfare state” (Kornai, 1992). According to the second, alternative approach the problem lies in the insufficient revenues generated by public finances, bad revenue structure and the resulting weak real economic performance of the country (Lóránt, 2009).

Chart 1

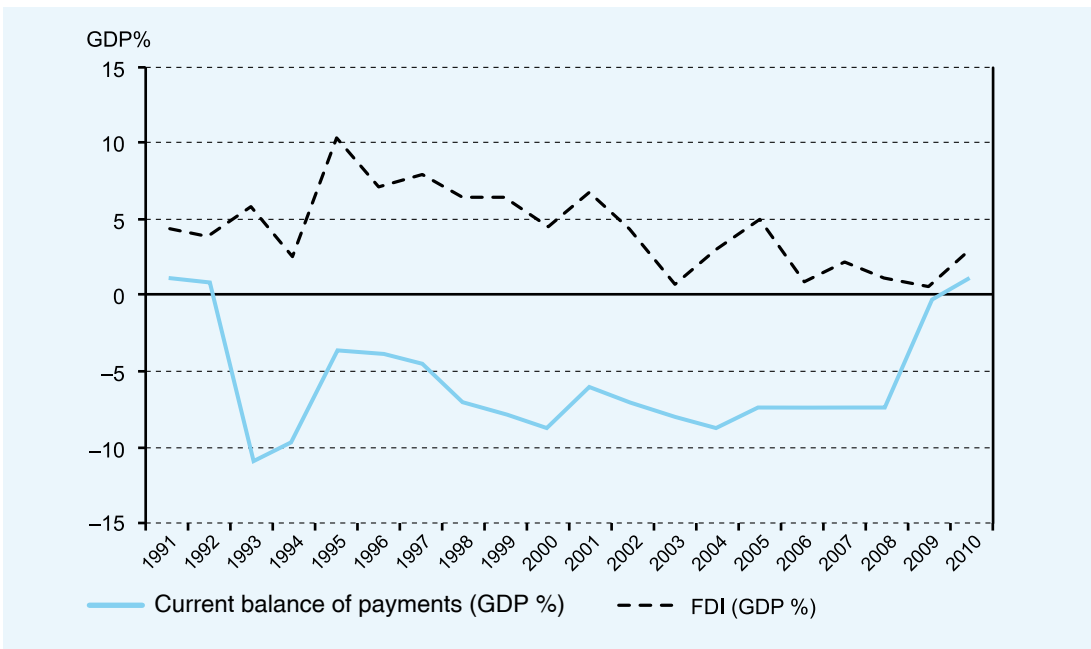
**BALANCE OF INCOME FLOWS IN HUNGARY  
(1995–2010)**



Source: MNB

Chart 2

**BALANCE OF PAYMENTS AND FDI IN HUNGARY (1991–2010)**



Source: World Bank

### Authors' hypothesis

Our hypothesis is that the causes of the long-term need for external financing primarily lie in the weak performance of the domestic-owned real economy, which came about as a result of the economic policy mistakes made since 1974. At the same time, we accept the grounds of the generally accepted approach according to which the problems, and the adverse structure of public finances contribute largely to the external disequilibrium, but it is our opinion that the disruption of the external equilibrium is not due to the mechanisms associated with the “premature welfare state”. The disruption of the external equilibrium, which further deepened the problems of public finances brought about by erroneous economic policy decisions is the original cause in the long chain of causality.

We can draw one important conclusion from the hypothesis. The symptomatic treatment of the problems, i.e. the austerity measures implemented from time to time do not eliminate the external disequilibrium, rather they can only ameliorate its effects temporarily, and as a result of these adjustments, the disequilibrium is simply regenerated at a lower standard of living.

Another hypothesis can be formulated at a higher level of abstraction: the theoretical advantages associated with openness to the world economy (the most important of which are the following: access to markets, management expertise, technology, know-how, and job creation) that Hungary wanted to attain in the course of its economic transformation, may be attained at a much lower level of financial vulnerability, as proven by the example of Singapore. This study will prove the latter hypothesis, which is closely linked to the preceding hypothesis.

The purpose of this paper is to present the decisions of Hungarian economic policy in the 1974–2011 period, which have led to

long-term disequilibrium and have made the country externally vulnerable. This will be demonstrated through the example of Singapore and through a choice of alternative decisions. The diagnosis has been made in order to allow us to recognise Hungary's possibilities and leeway in the world economy.

### REACTING TO EXTERNAL DISEQUILIBRIUM: BORROWING VS. NATURAL ADAPTATION

#### Hungary

The first significant change from the perspective of the disruption of the external equilibrium of the national economy that affected Hungary after a long period of world economic stability came in 1973 in connection with the oil crisis. At this time, thanks to sharp increase in the price of oil and oil products, Hungary suffered a 20 per cent drop in its exchange ratio in the USD based foreign trade arena (Lóránt, 2009). The drop in the exchange ratio led to the disruption of the equilibrium of the foreign trade balance and created a USD 0.6 billion deficit in 1974 as well as in 1975 (the gradual rather than sudden disruption of the foreign trade balance and exchange ratio was the result of the unique raw material pricing under the Comecon, according to which raw material prices were determined on the basis of the average prices of the preceding five years). Economic policy-makers were forced to make a decision, and had two basic options to choose from at that time, according to *Károly Lóránt*, who worked at the National Planning Bureau. One of the options was to restrain economic growth, at 5.4 per cent at the time, until the decreasing imports that followed from the restraint of economic growth re-stabilised the foreign trade balance. The other option was to finance the import surplus by loans.

The policy-makers decided in favour of borrowing *Vietor* (2007) calls this type of borrowing unplanned borrowing, which he considers to be the most risky source of capital]. The decision was prompted by political as well as economic considerations. The political elite was fearful of “breaking the quickly rising standards of living, which legitimated its existence across the board” (Lóránt, 2009), as well as of the consequences of the social tensions that would have presumably ensued. The other reason that propelled politicians towards deciding in favour of financing the disequilibrium from loans was a forming consensus among the economists of the time, which is summarised quite well by *Tibor Erdős* in his analyses prepared for the purpose of long-term planning. According to Erdős (1987), at the time there were no true opponents of increasing external debts in Hungary, and many in the academic arena, especially the more progressive economists, supported the idea of quickly inflating the country’s external debt portfolio. They supported this notion despite the vast number of studies published in Western academic literature on the conditions and risks of capital imports (Erdős, 1987).

In short: apart from a few economists, nobody actually came to say that repaying loans taken out to compensate the effects of the deterioration of the exchange ratio, i.e. to finance import consumption, is an unfeasible task, unless at least a significant part of the loans are used to finance investments. Following the USD 1.2 billion borrowed in loan funds in 1974 and 1975, by 1978 the net external debt of the country denominated in convertible currency rose from USD 0.8 billion to USD 4.5 billion, and although the Hungarian government repaid these loans – taken out to finance the foreign trade balance – in the 1979–1984 period, the debt rose higher due to the high interest rates at the time (Lóránt, 2009). Regardless of the fact that the

accumulated foreign trade balance in the 1971–1989 period was a mere USD –1.2 billion (increasing to –7 billion by 1981, meaning the magnitude of loan funds that were borrowed), due to the continuously increasing debt service created as a result of the borrowing and increased further by rising international interest rates, the net convertible currency-denominated debt of the country rose from USD 0.8 billion in 1973 to USD 14.9 billion by 1989. Of this only USD 1.2 billion was the actual amount of the loan funds received and USD 11 billion was generated entirely as debt service; USD 0.2 billion was invested in Hungary to counteract these effects in the form of direct capital investment in 1989, while USD 2.4 billion was partly accumulated due to the exchange rate losses, and can partly be categorised as statistical error (Lóránt, 2009).

One must add, however, that most other developing nations across the globe (almost all of them, in fact) were thrust into a similar debt trap. Very few countries were actually able to correctly gauge the consequences of borrowing for the purpose of financing consumption. Singapore, however, was such an exception.

### Singapore

In the world economy situation that developed as a result of the oil crisis, the strategic goal of the Singapore government was to *build confidence*. As an oil refinery hub, Singapore could have prohibited export by large oil corporations and could have thus ensured Singapore’s oil consumption for a period of two years. By contrast, *Lee Kuan Yew*, Prime Minister of Singapore, sat down with the CEOs of the large oil refineries and ensured them that Singapore has no intention of limiting export and is willing to waive the proportionate part of oil consumption in the spirit of the

equal sharing of burdens (*equal misery*) (Lee, 2000). According to Lee, this tactical step played a crucial role in strengthening Singapore’s ability to attract capital. By the nineties, Singapore had grown to become the world’s third largest oil refinery centre (after Houston and Rotterdam) and the world’s third largest centre of oil trade after New York and London. The guarantee offered on the positions of oil refineries greatly contributed to the fact that by the end of the seventies, the petrochemical industry, building on the oil refineries, also appeared in Singapore (Lee, 2000, p. 88).

Another important difference between Singapore and Hungary is that Singapore financed the initially very high deficit of the current balance of payments in part with FDI which, as we will see in the chapters that follow, it primarily attracted to export-oriented sectors; while in Hungary, there were no direct capital investments up until 1989.

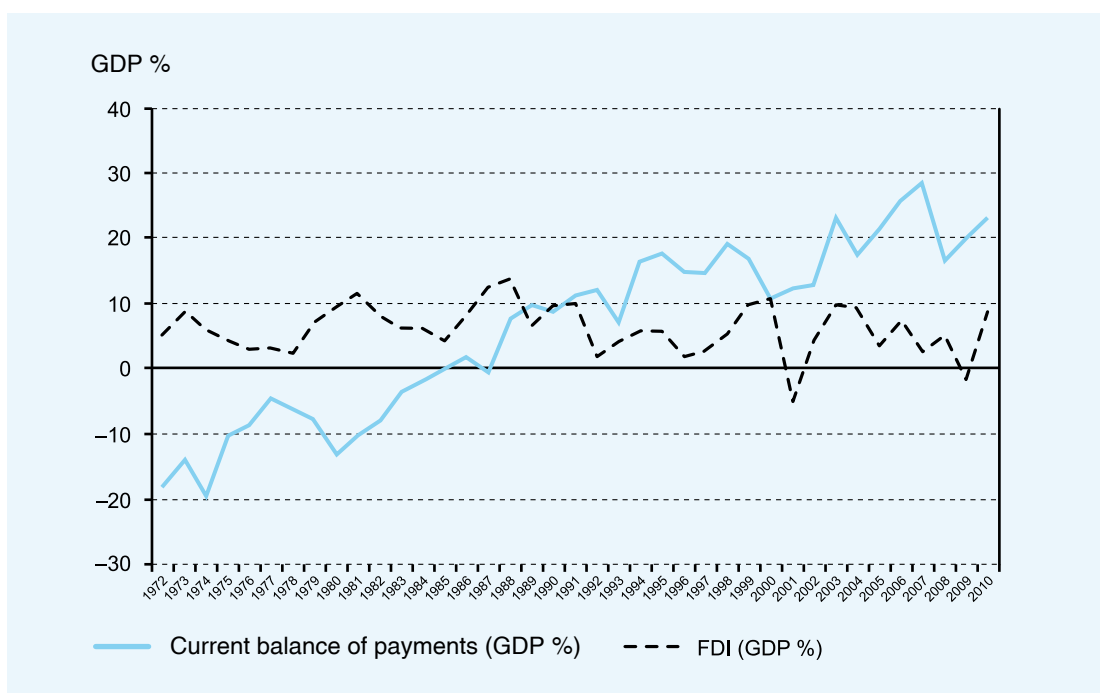
By 1978, Singapore was in essence able to fully finance the deficit of the current balance of payments from incoming FDI (*see Chart 3*). This coincides with the date when it became clear to Hungarian economic policy leaders that consumption financed from unplanned borrowing had led to a debt trap.

### THE QUESTION OF OPERATING STATE ASSETS

Privatisation may occur in line with reasonable arguments, or out of pure necessity. The theoretical basic rule formulated in the Washington Consensus and later incorporated into “mainstream” economics is the following: “*privatisation only if it results in increased competition*” (Williamson, 2000). Meaning that on the markets, where the conditions of perfect competition in the Adam Smithian

Chart 3

**BALANCE OF PAYMENTS AND FDI IN SINGAPORE (1972–2010)**



Source: World Bank

sense are more or less achieved, privatisation is needed, because privatisation in these cases improves efficiency. In contrast with the companies that operate on competing markets, the efficiency of companies operating in a monopoly is primarily determined by the quality of the agent-principal relationship and/or the quality of the regulatory environment.

## Hungary

The political elite, the government parties of the first two administrative cycles advertised a mixed economy in their programmes, meaning that based on Western European examples they intended the state to have a role in strategically important sectors, and also thought that employee-owned companies, and the municipal sector and the private sector would all exist. According to Mihályi (2010), however, although the regime change improved the “peripheral conditions of rational economic management” all at once, past habits exerted a much greater destructive force on performance. That is why there was a need to create an ownership model, which is based on the dominance of private sector players, usually characterising Anglo-Saxon market economies, as opposed to the mixed economic model.

Eventually, Hungarian operating state assets were privatised at an extent that went beyond the reasonable extent formulated in the Washington Consensus, justified by the arguments recommended by Mihályi, which often also included the privatisation of natural monopolies.<sup>1</sup> The balance of Hungarian privatisation will be discussed in the following paragraphs.

In Hungary, the value of operating state corporate assets categorised as privatisable and owned by the ministries was estimated as follows in 1989 at the beginning of the

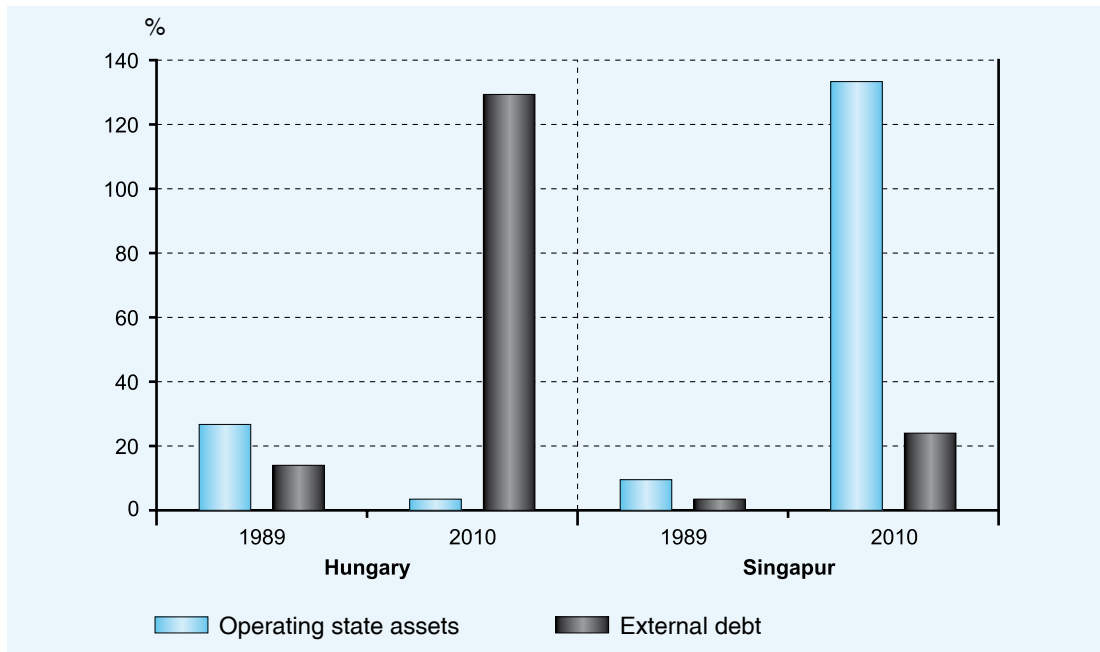
economic transformation: Mihályi (2010) estimated that the value of these assets were HUF 4,100 billion, while author duo Pitti – Varga (1995) estimated it at HUF 4,000 billion in 1991, which roughly corresponded to USD 65 billion at current value. This represented 30 per cent of the total gross domestic assets (HUF 14,000 billion). According to Mihályi (2010) the assets that could be actually privatised amounted to close to two thirds of this amount, which represented around 15-20 per cent of the total assets of the nation.

The estimates of Mihályi and Pitti-Varga on the total domestic assets and the operating assets calculated from those may be supported in other ways as well, provided one accepts the following to be true “*namely, that in a moderately developed country the accumulated domestic assets are equivalent to 2.5–4 times the domestic income that can be produced in one year [see the theoretical explications of Clark (1967) and Jánossy (1975) on the issue] and that in a country like this the purchasing power parity based GDP is at least twice the official data (HUF 2,079 billion in 1990), then depending on the accuracy of the rounding involved we will come back to that same HUF 14 thousand billion Chart (HUF 2,000 billion  $\times 2 \times 3.5 =$  HUF 14,000 billion)*” (Mihályi, 2010, Volume I, p. 146).

For the purposes of this study, the value of privatised state-held assets and proceeds from privatisation were determined on the basis of the assets held by the state asset management companies based on the Charts of Horváth et al. (2008). At 1990 price levels the net privatised assets came to HUF 1,670 billion, which is equal to USD 27.18 billion at their current value. We will arrive at the same Chart even if we use Mihályi’s asset estimate.<sup>2</sup> It is obvious from the calculations that the Hungarian state sold the state assets at no more than 28.7 per cent of their value, according to conservative estimates.<sup>3,4</sup> According to the Transition



**THE CHANGE OF OPERATING STATE ASSETS AND STATE PORTFOLIOS IN HUNGARY AND SINGAPORE (1989–2010)**



Source: Authors' own calculations based on Mihályi (2010), as well as MNB, SingStat, and Temasek Holdings

Report of the EBRD, in Hungary in 2006 the share of the private sector in the production of the GDP was 80 per cent, which is the highest from among the transition countries tied with the Czech Republic, Slovakia and Estonia.<sup>5</sup> The proportion of foreign currency proceeds from privatisation is 44 per cent.

The asset management comparison of the Hungarian and Singaporean state will be illustrated by the changes in the operating state asset portfolios (position of the state) and the changes in the external debt portfolio of the economy. In 1989, in Hungary the state held USD 27.18 billion of operating state assets and the country's external debt was USD 14.9 billion. By 2008, the state had USD 4 billion worth of operating state assets and it had amassed USD 130 billion in external debt (total household, corporate and government). Singapore on the other hand

took a completely different path. The value of state-owned companies (government linked company – GLC) increased from 10 billion to 134 billion dollars, while the country's external debt jumped from 4 to 25 billion dollars (see Chart 4).

**Singapore**

Singapore's operating state assets are managed by Temasek Holdings, incorporated in 1974. Temasek Holdings is an asset management company fully owned by the Singapore Ministry of Finance, which is authorised to make decisions in strategic matters with the approval of the President. Its role is analogous with that of any state asset management company, like for instance MNV Zrt. (Hungarian State Holding Company),



considered a legal successor to privatisation institutions. Temasek Holdings defines itself as follows: *“As an investment company, Temasek owns and manages its assets with full commercial discretion and flexibility under the guidance of our Board, including investment, divestment and business decisions.”*

The relative independence of Temasek Holdings in business matters is guaranteed by the fact that *“Under Singapore’s Constitution and laws, neither the President of Singapore nor the Government is involved in its investment, divestment or other business decisions, except in relation to the protection of Temasek’s past reserves.”* At the same time, the assets of Temasek Holdings – with the exception of 50 per cent of the profit realised on investments – belongs to Singapore’s past reserves. In practice, however, any decisions regarding sales (privatisation) are subject to the approval of the President or the Minister of Finance as are any transactions concerning the part of the given year’s profit exceeding 50 per cent thereof; in other words, the decisions of Temasek Holdings are entirely in line with government intentions.

Based on the credit ratings of Standard and Poor’s and Moody’s, Temasek Holdings has been assigned an overall corporate credit rating of AAA and Aaa<sup>6</sup> and over the past 37 years – in other words since its inception – has realised an average shareholder return of 17 per cent per year.

Temasek Holdings is a good example of how privatisation may be successful and may serve social objectives if not carried out under force – due to capital shortage or some sort of ideological conformity. Furthermore, it is also a good example of how the state can also be a good owner, in other words, a player of a well functioning market economy that demands efficiency (Feng et al, 2004); or going even further, how companies under its ownership may operate even more profitably than similar

privately owned companies (Ang and Ding, 2006). Moreover, it may rationally privatise natural monopolies, and retain majority stakes in monopoly and oligopoly sectors considered to be of strategic importance. In addition, it may also invest in sectors that traditionally belong to the private sector; thereby actually defining and representing the directions of economic development not just through regulation, but also at the level of investments.<sup>7</sup>

Based on the analysis of the Temasek Holdings portfolio, we can draw some fundamental conclusions. The government of Singapore has a considerable stake in the financial sector. Furthermore, it also has majority stakes in companies operating in the logistics, industrial and telecommunications sector that are considered natural monopoly or oligopoly markets. Beyond this, it is a 100% shareholder in the Singapore media company and, though not indicated here, the print press is also fully owned by the state. Beyond stakes considered strategic, it is also present in private sector areas that show considerable growth potential. It defines its investment strategy as follows:

- ① Transforming Economies;
- ② Growing Middle Income Populations: selection of opportunities and companies, the growth of which depends on the increasing purchasing power of the growing middle class;
- ③ Deepening Comparative Advantages: seeking out the business potential of competitor businesses and companies and selecting those with the greatest potential;
- ④ Emerging Champions: selecting the companies that have proved themselves to be the best in their field, both regionally and globally.

Thirty-two per cent of the company’s portfolio is in Singapore, 45 per cent in Asia excluding Singapore, and 20 per cent is in Australia, New Zealand, Europe and North America, with the remaining 3 per cent in

Latin America, the Middle East, Central Asia and Africa.

## PRIVATISATION AND LIBERALISATION PRACTICES<sup>8</sup>

Beyond the above outlined asset management practices, Temasek Holdings's privatisation practices and liberalisation measures serve as viable alternatives for countries that have interests in market economy transitions. We shall illustrate Singapore's privatisation and liberalisation through the examples of public transportation, telecommunications, the energy sector and the banking system.

**PUBLIC TRANSPORTATION** While the Singapore government retained its stakes in profitable sectors it deemed to be of strategic importance, in areas which in Hungary are characterised by state (or municipal) dominance, Singapore is privatised. Singapore Bus Services Ltd. was floated on the stock exchange and citizens were allowed to purchase stocks using social security contributions up to an amount of S\$5,000. The objective was for diverse strata to gain ownership positions in the transport company. If possible, people who actually use its services. According to Lee Kuan Yew's argument, this allows the moderation of social pressure regarding the suppression of ticket prices as well as the rate of government subsidies, since the costs and profitability of public transportation all end up with the consumers who are at the same time the owners as well (Lee, 2000, pp. 124–125).

**TELECOMMUNICATIONS** Singapore Telecommunications (SingTel), the region's largest telecommunications company is still majority owned by the state. At the 1993 initial public offering – as in the case of the privatisation of British Telecom – its stocks were offered to all adult citizens of Singapore at 50 per cent

of market value. They avoided the speculation aimed at immediate liquidation of the stocks, as observed in the case of the British Telecom privatisation, by offering bonus stocks to all who held on to SingTel stocks for at least one, two, four and six years. As a result, 90 per cent of the Singapore workforce owned SingTel stocks at the turn of the millennium. This is how the Singapore government wanted to share the spoils of growth with its citizens (Lee, 2000, pp. 124–125).

**LIBERALISATION OF THE ENERGY MARKET** The liberalisation of the Singapore energy market (electrical energy and gas) began in 1995 as part of a gradual process, where the benefits of the competition arising from liberalisation (price reduction, more efficient capacity planning) were successfully merged with the security offered by state ownership. Until 1995, a large state-owned corporation, the Public Utilities Board (PUB) was Singapore's only vertical, power generation, distribution and trading company. Power generation companies (gencos or energy generator companies) and the commercial division were separated from the distributor which had exclusive ownership of the energy grid (2001). Besides the two large energy generator companies, they established three other state-owned energy generator companies and made it possible for foreigners to invest in energy production (2000). The three largest state-owned gencos together supply approximately 80–90 per cent of Singapore's energy, and together with the other two, they provide capacity that far exceeds Singapore's energy demand. Household consumers can still only enter into contracts with the state monopoly provider (*non-contestable*); at the same time, however, the industrial sector, representing 75 per cent of consumption, can choose freely (*contestable*) between retailers or wholesalers. Since 2003, the National Electricity Market of Singapore (NEMS) has been conducting

half-hourly energy trading and guaranteeing energy security (Embassy Singapore, 2007).

As of 2004, the Energy Market Authority (EMA) has put a capped price on 65 per cent of the supply quantity. The price has been determined to be in line with the long-run marginal cost (LRMC) of the most efficient energy production technology.

According to EMA officials, liberalisation alone helped energy prices drop by 9.5 per cent, which in its entirety was transferred to consumers. According to EMA calculations, the average wholesale energy price has dropped by 10 per cent since 2004, though producers consider the price created as a result of price capping too low and unsustainable.

One of the significant lessons of the liberalisation of the energy market is that the sale and privatisation of the industry is not absolutely necessary to attract technology, know-how and management skills. During the liberalisation conducted with Temasek Holdings at the helm, they brought in business leaders as independent board members, worked with them to build commercially-driven management teams, introduced best industry practices and improved efficiency, so that the companies would be well positioned to operate in a competitive market (Temasek review, 2011).

#### LIBERALISATION OF THE FINANCIAL SYSTEM

Singapore is the banking and financial centre of the South-East Asian region, the foundations of which were laid down in 1968 when Singapore's Asian dollar centre role (Asian dollar market) was planned to duplicate London's eurodollar centre role. Singapore is among the top ten most sophisticated financial markets in the world. Beginning from the 1990s, the Monetary Authority of Singapore<sup>10</sup> gradually deregulated the market of financial operators. Except for prudent regulation of the banking and financial system and money market operations for maintaining liquidity in

the financial system, the MAS does not engage in controlling the interest rates or the money supply (Tilak, 2007).

Singapore's example illustrates well how it is possible to maintain a system ranking among world's top ten most sophisticated and most liberal financial systems, while preserving prudent regulation. The primary reason behind this is the fact that since 1968, there have been two separate, in accounting terms, banking systems operating side by side in Singapore. Most banks in Singapore operate on both markets, i.e. they have a so-called Domestic Banking Unit (DBU) and an Asian Currency Unit (ACU). Within frameworks regulated in accordance with international practice, banks operating in the Asian Currency Unit are allowed to deal in all currencies except for the Singapore dollar, while in the Domestic Banking Unit, banks are allowed to offer services in any currency in the DBU, within limits. The Singapore administration justifies this with the fact that since 1981 it has been following a monetary policy based on exchange rate policy; in other words, as a small, open, export and import-dependent country, it regulates inflation and competitiveness, i.e. two objectives simultaneously, through the exchange rate. It is for this reason that, even though Singapore's balance of payments is fully liberalised, the limiting of trading in Singapore dollars to activities related to real processes guarantees the elimination of speculation against the SGD, and thus ensures the independence of the exchange rate and monetary policy from external impacts (non-internationalisation of SGD) (Tee, 2003).

Speculation against the SGD is made difficult by the following two regulations: firstly, financial institutions may not extend SGD credit facilities exceeding SGD 5 million to non-resident financial entities where they have reason to believe that the proceeds may

be used for speculation against the SGD. This continues to be necessary to prevent offshore speculators from accessing the liquidity in onshore FX swaps and money markets (Tee, 2003).

Secondly, for an SGD loan to a non-resident financial entity exceeding SGD 5 million or for an SGD equity or bond issue by a non-resident entity that is used to fund overseas activities, the SGD proceeds must be swapped or converted into foreign currency before use outside Singapore. This guideline is unlikely to stand in the way of market development, as the SGD is not a currency commonly used for transactions abroad, and non-resident entities will in any case wish to swap or convert the SGD proceeds into a currency of their choice for overseas use (Tee, 2003). The Monetary Authority of Singapore is taking serious steps to ensure that the Singapore dollar does not become an international currency.

Similarly to that of Singapore, Hungary's balance of payments is also fully liberalised; however, the rules that limit speculation, which are in force in Singapore, are missing from Hungarian financial practice. *"Of the regime-changing countries, Hungary, was the first to pass a repatriation act, which guaranteed the convertibility of the forint to foreign currency with respect to incoming capital as well as investments and their returns, while we had to wait until the beginning of the 2000s for the complete openness to capital markets"* (Pál, 2009). In the interest of increasing the country's ability to attract FDI, the liberalisation of the balance of payments also extending to working capital flows is both necessary and desirable, and the early introduction of the Repatriation Act was strategically important for Hungary; at the same time it would have been (or still would be) useful to tie Hungarian forint trading to

activities that are linked to real processes, as the Singaporean example shows. While Singapore was able to weather the 1997-1998 South Asian crisis quite well, Hungary lost USD 2 billion in portfolio capital – which represented 4 per cent of Hungary's GDP at the time – in a matter of hours at the start of the Russian crisis in 1999.

There are a total of 32 banks with full-bank status operating in Singapore, of which six are subsidiaries of three domestic banks and the remaining 26 are foreign banks. At the same time, of the 26 foreign banks, only eight have so-called Qualifying Full Bank privileges, which provide the following opportunities for them.

- ▶ They have the option to share ATMs among themselves, and freely select the geographical locations of their sub-branches. Foreign banks may only offer ATM services for holders of locally issued credit cards within their own networks or networks shared with other foreign banks. In the case of foreign-issue credit cards, foreign banks have no such restrictions. A Qualifying Full Bank status bank can establish up to 25 locations in Singapore, of which up to 10 can be branches, the others ATMs.

- ▶ They are allowed to negotiate with local banks to let their credit card holders enjoy further benefits within the local banks' ATM networks.

- ▶ They are allowed to provide electronic payment services to their customers through EFTPOS networks.

- ▶ They are allowed to offer supplementary (*voluntary*) retirement schemes and compulsory, state-managed social security investment accounts to customers.<sup>11</sup>

- ▶ They may accept deposits from customers which they put in either the Investment Scheme or the Minimum Sum Scheme of the CPF.<sup>12</sup>

There is also another important regulation that protects the Singapore banking system from the dominance of foreign ownership. *“The Minister of Finance must provide specific types of approval for acquisitions of the voting shares of a local bank. Although it has lifted the formal ceilings on foreign ownership of local banks and finance companies, the Singapore government has indicated that it will not allow a foreign takeover of its three major local financial institutions. While foreign participation in the Singapore banking system is comparatively high, with foreign banks holding about 40 per cent of nonbank deposits, the Singaporean government has stated publicly that it wants local banks’ share of total resident deposits to remain above 50 per cent.”*<sup>13</sup>

In Hungary, by 2008, 90 per cent of the banking market and 100 per cent of the insurance market was transferred to foreign hands according to the calculations of Károly Lóránt (2009)<sup>14</sup>, which, on the basis of the Singaporean practice detailed above, includes the distinct possibility of increasing external financial vulnerability. In line with the Singaporean example, the advantages of the appearance of foreign shareholders and banks in Hungary, such as more intensive competition, increasing capital supply, new know-how and management expertise may also be reaped on the Hungarian market, if external financial vulnerability is minimised.

## MONETARY AND EXCHANGE RATE POLICY

### Hungary

First, let us briefly review Hungarian monetary policy.<sup>15</sup> After 1990, in other words following the change of political system, Hungary initially conducted a monetary policy with a

fixed exchange rate system. Considering that full capital market openness only came about in the beginning of the 2000s, Hungary had the opportunity for independent monetary policy with a fixed exchange rate, *“however, the costs of sterilisation were an ongoing problem”* (Pál, 2009, p. 133). The crawling-peg exchange rate policy was in operation between 1995 and 2001, which should be considered a monetary regime based upon a unique exchange rate target. In 2001, the exchange rate band expanded to  $\pm 15$  per cent, the crawling-peg was removed and the overt inflationary targets of the regime were replaced. In 2008, the exchange rate target (fixed exchange rate) that ran contrary to the inflation target was removed (as well) (Pál, 2009; MNB, 2006).

In Hungary, pursuant to the Central Bank Act, the primary purpose of the central bank is to achieve and maintain price stability, while its secondary goal is to support the economic policy of the government, which can only be followed if the first goal is not jeopardised. It is important to mention, however, that price stability has a double purpose, as it includes external as well as internal price stability. The former puts exports competitiveness at the forefront, while the latter foregrounds the importance of preserving purchasing power, meaning that monetary policy has some leeway within the system of inflation targeting. The governing central bank instrument, the central base rate is directed towards restricting liquidity. Since 2007, the central bank has been accepting subscriptions from commercial banks to two-week zero coupon MNB bonds with central base rate yields.

Since the beginning of the 2000s there has been a great research effort geared towards mapping out the Hungarian transmission mechanism. Based on a summary of these “In Hungary, the strength of other transmission channels is comparable to that in other open

countries” (Pál, 2009, p. 126). *“Due to the increased openness of the Hungarian economy the effects of the exchange rate changes are quick to appear in the economy”* (ibid.). According to Vonnák (2006), in Hungary monetary policy is primarily aimed at influencing inflation through the exchange rate channel and not output. It is quite true that by 1992, as a result of the shock therapy, in two years one and a half million jobs had disappeared in Hungary and employment ratios have barely budged since then. The export oriented production realised by the foreign direct investment domiciled in the country is largely import dependent; therefore, the activities of these companies are not substantially influenced by the exchange rate appreciation that serves the purpose of delivering inflation targets. At the same time, the Hungarian forint calculated on the basis of consumer prices, according to the calculations of Lóránt (2010), appreciated by 90 per cent between 1990 and 2010, exerting a negative effect on the competitiveness of potential domestic producers striving to enter international markets. The Eurostat’s REER surveys are also in line with Lóránt’s consumer price based calculations, which show a real appreciation of 51 per cent in 1999-2008, then in 2009, reacting to the weakening of the Hungarian forint due to the global economic crisis, the real effective exchange rate depreciated by 14 per cent.<sup>16</sup>

In addition to the effect exerted by the exchange rate changes on the real economy, which is an operating mechanism of inflation targeting, inflation targeting has another costly effect detracting from competitiveness. And that is – as we have already mentioned – the cost of sterilisation (Balogh, 2009<sup>17</sup>). The larger the capital inflows from abroad, the more compelled the central bank feels to raise the central base rate and encourage commercial banks to subscribe to more two-week MNB bonds. On the one hand

this strains the central bank’s budget and if it incurs losses puts a burden on public finances as well, as according to the Central Bank Act the losses of the MNB are financed by the central budget. On the other hand, sterilisation, through the market interest rates adjusting to increasing central base rates also restrains the willingness of the players of the real economy to invest. One must also mention that Hungary, on account of its financial vulnerability, turned to the IMF and the European Commission in 2008 to replenish its foreign currency reserves. The cost of holding these foreign currency reserves, however, is quite high if the current central bank base rate is high (on the one hand, the Hungarian state has to pay the interest on the loans drawn, while on the other hand it also has to bear the costs of sterilising the increased Hungarian forint quantities stored in the banking system against the foreign currency reserves).

### Singapore

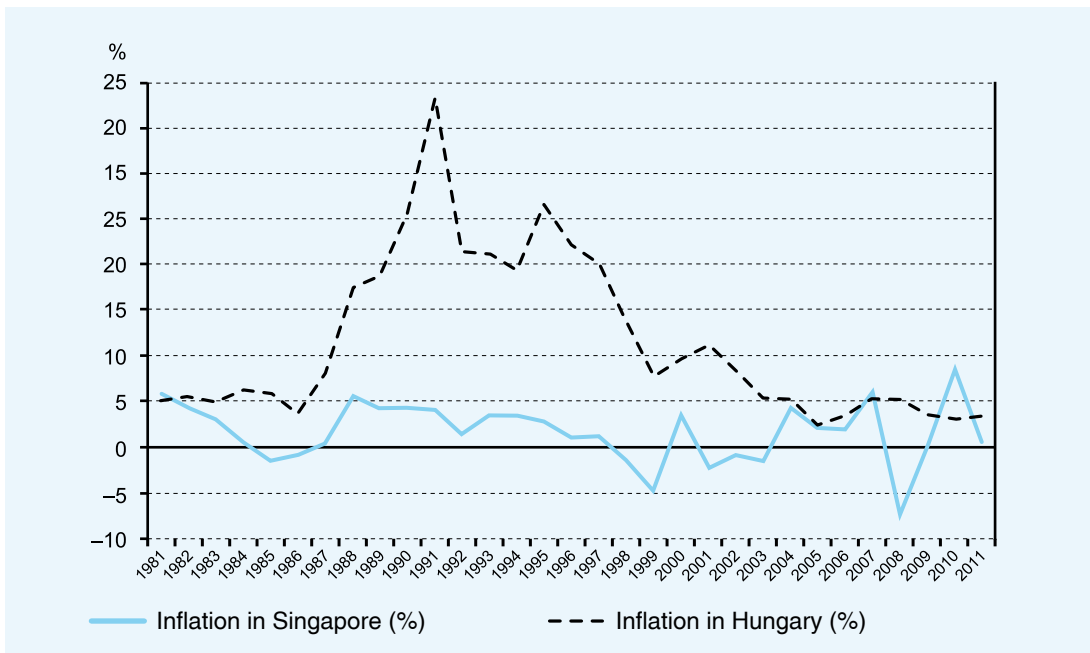
Now, let us review what is being done differently in Singapore. As a small, open country, Singapore initially had a currency board<sup>18</sup> and in 1981 switched to exchange rate policy-based monetary policy which, based on its operation, we may consider a quasi-currency board.<sup>19</sup> Pursuant to the Currency Act still in force today, *“each S\$ currency note must be fully backed by foreign assets”*.<sup>20</sup> The primary objective of Singapore’s monetary policy is to ensure the stability of the price level, while its secondary goal is to ensure, or at least take into account, the competitiveness of the real economy.

One of the important features of the exchange rate policy-based monetary policy in Singapore is that the change of internal market interest rates is not linked to the accomplishment of inflation goals (Tilak,



Chart 5

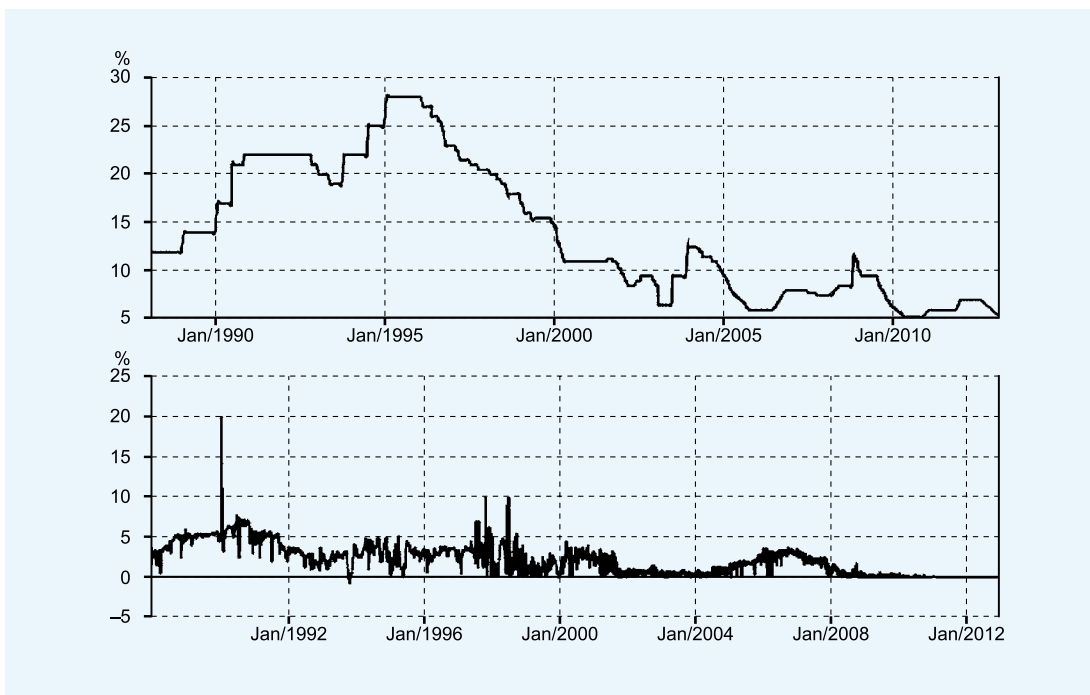
**INFLATION IN HUNGARY AND SINGAPORE (1981–2011)**



Source: World Bank

Chart 6

**CENTRAL BASE RATE IN HUNGARY AND SINGAPORE (1988–2012)**



Source: MAS, MNB



2007): *“the main monetary policy instrument that the MAS uses is the exchange rate to control imported inflation”* and the Singapore monetary policy does not engage in directly controlling the interest rates or the money supply. In other words, in contrast with Hungary, in Singapore the financing of economic investments is not made more expensive by the raising of interest rates to moderate inflation (see Charts 5 and 6).

In Singapore’s case, we are talking about a managed floating exchange rate system, which works as follows. *“The MAS regulates the exchange rate by allowing it to fluctuate within an undisclosed band<sup>21</sup> set against a trade-weighted nominal effective exchange rate (NEER). In general, however, the MAS policy has been to stabilise the fluctuations of the exchange rate and allow the market determine the trend. (...) The powerful tool that the MAS uses to keep the exchange rate within the band is the foreign exchange reserves accumulated over the years. Singapore is one of the top foreign reserve hoarders in Asia. With this reserve position and given the long-standing policy of discouraging the internationalisation of the Singapore dollar, the MAS can inflict losses on speculators quickly through interventions in the foreign exchange market”* (Tilak, 2007). Singapore’s monetary policy prevents the internationalisation of the SGD with the regulations presented in the sub-chapter on the liberalisation of the banking system. *“Market interventions are carried out by buying and selling US dollars against the Singapore dollar. Foreign exchange swaps are the main mechanism that the MAS uses to sterilise the effect of foreign reserve accumulations on the domestic money supply.<sup>22</sup> Excess domestic savings accumulated through CPF savings and government savings also work as a built-in steriliser. Despite persistent balance of payment surpluses and the accumulation of foreign reserves, Singapore’s monetary base has remained very much delinked from foreign reserves”* (Tilak, 2007).

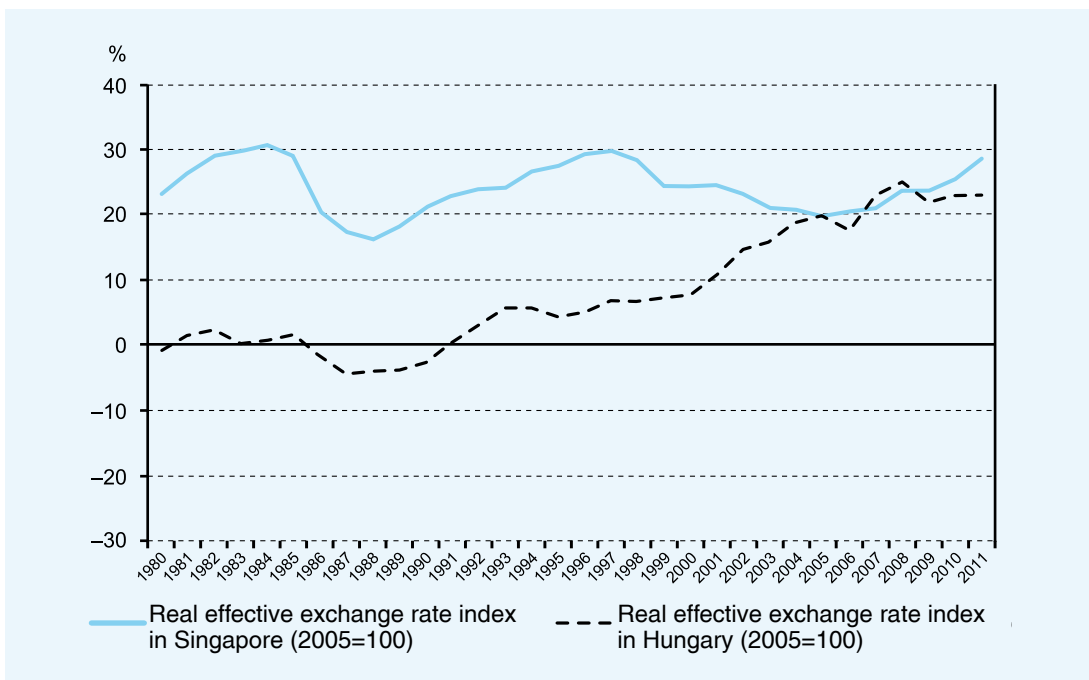
Let us review, with the help of a brief example, how exchange rate policy works in practice in Singapore. By the time of the South-East Asian crisis, the Singapore dollar appreciated to S\$1.40/US\$ from the S\$2/US\$ rate recorded at the beginning of the eighties. Singapore survived the crisis by broadening the exchange rate band and allowing the Singapore dollar to weaken against the USD to a rate of 1.80 S\$/US\$. Following the crisis, the Singapore dollar had appreciated to about 1.50/US\$, but because the US dollar is weighted at 0.6 in the NEER weighted currency basket, the Singapore dollar appreciated against the US dollar and the US dollar pegged currencies (such as the Chinese renminbi), while depreciating against several other important currencies (such as the euro, Pound Sterling, and Australian dollar).

There are two points worth emphasising with regard to the impact of the exchange rate on export competitiveness. First, because of the high import content in merchandise exports and given that Singapore is a price-taker in the world market, the appreciating Singapore dollar does not have much of an effect on merchandise exports. However, the currency appreciation hurts service exports since the cushioning effect on them of import content is low. Nevertheless, the professed monetary policy of the MAS has been that it is better to enhance export competitiveness through reduced business costs and improved productivity than through exchange rate depreciations. Second, the real exchange rate (REER) has remained stable in spite of exchange rate appreciation, without significantly eroding Singapore’s export competitiveness (Tilak, 2007; Yip and Wang, 2001). (See Chart 7)

Exchange rate management is primarily employed by Singapore financial governance to filter out imported inflation and not to influence the competitiveness of real economy. Still, in the long-term, the Singa-

Chart 7

**REAL EFFECTIVE EXCHANGE RATE (REER) INDEX IN HUNGARY AND SINGAPORE (1980–2011)**



Source: World Bank

pore government is able to compensate for the gradual strengthening of the Singapore dollar through the improvement, or more precisely the conscious, deliberate improving of productivity. A world-class educational and industrial policy that is in line with the country’s development policy plays an important role in this. The former two are essential components of the successes of Singapore, but as they are not directly related to the minimisation of external vulnerability, we shall not deal with these two policies in detail at this time.

**CLOSING REMARKS**

In this study we examined the effects of economic policy decisions on external financial vulnerability in the case of Hunga-

ry and Singapore from three distinct aspects. From the perspective of the reactions given to external disequilibrium, changes in operating state assets and the target and instruments of monetary and exchange rate policy.

As we have indicated, we are aware of the limited practical use of our comparison, as well as the distinct geopolitical locations of the two countries, and the compelling force of global political and historical events. At the same time, such economic policy decisions, assuming they are sovereign nation states, are independent of any external impacts, and geo-strategic and world political influence, so in other words, they fall within the powers of current economic policy leadership. We also mentioned that, with the exception of geo-strategic and historical-global political differences, it can be established that the two countries under investigation are, from

an economic perspective, small and in the forefront of advancement on the basis of the globalisation indices (A.T. Kearney, Ernst & Young); therefore the comparison regarding external vulnerability is substantiated in this respect.

#### REACTING TO EXTERNAL DISEQUILIBRIUM

While Hungarian economic policy decision-makers compensated for the foreign trade balance deficit brought about by the dropping exchange ratio that followed in the wake of the oil crisis by borrowing from foreign entities, Singapore curbed its consumption abiding by the principle of “equal misery”. On account of the increasing international money market interest rates after 1979 Hungary paid a steep price for the funds borrowed after 1974.

#### THE QUESTION OF OPERATING STATE ASSETS

Initially, the Hungarian political elite strived to establish a mixed economic structure, based on Western European examples; it intended the state to have a role in strategically important sectors, and also thought that employee-owned companies, and the municipal sector and the private sector would all co-exist. Then, after a turn of strategy a private sector dominated structure – characteristic of Anglo-Saxon countries – was created. In this turn of strategy the accepted economic consensus of the times and the compelling force of having to finance the public debt played a key role. The net operating state assets in the hands of the successive state asset managers has dropped from USD 27 billion in 1989 to USD 4 billion in 2008.

In 1974 in Singapore, Temasek Holdings was established under the supervision of the Minister of Finance, responsible for the management of operating state assets. Since its inception, Temasek Holdings has averaged a shareholder return of 17 per cent per year. Between 1989 and 2008, the portfolio of state assets managed by the holding increased from 10 billion to 134 billion dollars. The

government of Singapore has a considerable stake in the financial sector through Temasek. It also has majority stakes in companies operating in the logistics, industrial and telecommunications sectors that are considered natural monopoly or oligopoly markets. Beyond stakes considered strategic, it is also present in private sector areas that show considerable growth potential.

In the interest of maintaining external equilibrium and compensating for the social deadweight loss generated by companies operating in monopoly and oligopoly markets, during the privatisation of enterprises producing products and services for the internal market, domestic shareholders were given priority; their share purchases supported with incentives encouraged them to hold on to the shares in the long-term. It was in this spirit that the public transportation company and the Singapore telecommunications company SingTel were privatised. Therefore, profits of the operation of these companies go to those who are forced to suffer the social loss arising from the imperfect market operation of these companies. Naturally, redistribution is not entirely equal, but is closer to optimal than in any other privatisation practice. Thanks to this practice of privatisation, external vulnerability decreases as well, because the profits of enterprises producing products and services for the internal market will go to resident players, who will be more likely to keep their savings in the country than non-resident players.

One of the significant lessons of the liberalisation of the Singapore energy market is that the sale and privatisation of the industry is not absolutely necessary to attract technology, know-how and management skills. During the liberalisation conducted with Temasek Holdings at the helm, the energy company that functioned as a whole until that point was divided up, but was not sold off. Business

leaders were brought in as independent board members of newly established companies, commercially-driven management teams were set up with their help, best industry practices were introduced, so that the companies would be well positioned to operate in a competitive market.

The gradual liberalisation and deregulation of the Singapore banking system began in 1998, following three decades of strict regulation beginning in 1968. Foreign stake acquisitions in Singapore banks are subject to approval by the Ministry of Finance and are basically very limited. In the interest of protecting the SGD exchange rate, they distinguish, in accounting terms, between ACU (Asian Currency Unit) and DBU (Domestic Banking Unit) units in bank operations. The strict Qualifying Full Bank regulations and the limits on credit offered to non-residents guarantee that in spite of the fully liberalised balance of payments structure, no speculative instruments may be used against the Singapore dollar to manipulate Singapore's independent monetary and exchange rate policy from the outside. In comparison, the banking and financial market regulations considerably decrease Singapore's external financial vulnerability.

#### MONETARY AND EXCHANGE RATE POLICY

As a small, open country, Singapore initially had a currency board and in 1981 switched to exchange rate policy-based monetary policy which, based on its operation, we may consider a quasi-currency board. One of the important features of the exchange rate policy-based monetary policy in Singapore is that

the change of internal market interest rates is not linked to the accomplishment of inflation goals. In other words, in contrast with Hungary, in Singapore the financing of economic investments is not made more expensive by the raising of interest rates to moderate inflation. Foreign exchange swaps are the main mechanism that the Monetary Authority of Singapore uses to sterilise the effect of foreign reserve accumulations on the domestic money supply. Excess domestic savings accumulated through CPF savings and government savings also work as a built-in steriliser. The costs of sterilisation are therefore offset by returns realised on social security payments and government investments. Despite persistent balance of payment surpluses and the accumulation of foreign reserves, Singapore's monetary base has remained very much delinked from foreign reserves.

Exchange rate management is primarily employed by Singapore financial governance to filter out imported inflation and not to influence the competitiveness of real economy. Still, in the long-term, the Singapore government is able to compensate for the gradual strengthening of the Singapore dollar through the improvement, or more precisely the conscious, deliberate improving of productivity. In this case, however, certain elements of development policy (e.g. educational and industrial policy) also play a significant role, and though they are not directly related to policies influencing external financial vulnerability, they are crucial factors of determining long-term competitiveness.

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#### NOTES

<sup>1</sup> The main argument of those in favour of privatising natural monopolies is that it is often the case that natural monopolies lose their monopolistic positions as technology advances. However, this is

immaterial for the purposes of this paper. What is not immaterial, however, is that at the social level a deadweight loss occurs on monopolistic and oligopolistic markets, regardless of the personality of

the owner. The question is, how the state mitigates the deadweight loss, and how it eliminates its social effects. The deadweight losses generated by a natural monopoly or oligopoly can be eliminated through regulation or direct shareholder control; however, it can also be maintained and even increased using these same tools.

<sup>2</sup> As mentioned before, based on the calculations of Mihályi, the value of the gross, operating state assets categorised as privatisable held by the ministries was USD 65 billion in 1989, two thirds of which – 20 per cent of the total domestic assets, i.e. USD 43.5 billion – belonged to the group of assets that could, in fact, be privatised. Pursuant to the methodology used by the HCSO, there is a constant difference of sixty per cent between the gross and net assets. Therefore, according to Mihályi's estimate, the assets that can be privatised come to sixty per cent of the USD 43.5 billion, i.e. USD 26.13 billion.

<sup>3</sup> This estimate is conservative for at least two reasons. First, the registered assets are far lower than the World Bank estimates; and secondly, we have no information as to the value of new asset items that were included in the balance sheet of the state asset manager.

<sup>4</sup> Mihályi cites 10 interrelated explanations for the impairment of the assets (for more details see pages 202-205, volume 2 of Mihályi, 2010), of which we will only mention one: "The most general explanation for the impairment of the assets, (...) is that during the sales process that spanned several years, the asset managers were unable to compensate for the continuous devaluation of the Hungarian forint by increasing Hungarian forint prices to the same degree. This happened partly because, as of 1990 the state asset management companies measured their own activity using Hungarian forint denominated prices which were determined relative to the registered capital. The decision-makers were mostly concerned by how many forints they would get for – let's say – a share worth HUF 10,000, and paid considerably less

attention to the fact a 150 per cent Hungarian forint price corresponded to a different value in 1990 and in 1997" (Mihályi, 2010, *ibid.*).

<sup>5</sup> In transition countries, Hungary did very well with regard to GDP-proportionate privatisation revenues realised between 1989–2003. After Slovakia's 35 per cent value, Hungary's 31 per cent is the second greatest GDP-proportionate revenue (EBRD, 2005, Mihályi, 2010, p. 234). The study, however, does not aim to compare the privatisation revenues and techniques of the region, rather the practice of managing state assets in Hungary (and by extension in the region) and in Singapore. In our mind, however, mentioning the other side of the story was important as well.

<sup>6</sup> Despite the fact that its sole owner is the Singapore Ministry of Finance, Temasek Holdings has issued Singapore Dollar, British Pound and American Dollar denominated bonds which function as public markets with respect to its credit rating.

<sup>7</sup> For more on gradual liberalisation and government-established external economic strategy, see Chong (2007)

<sup>8</sup> A summary on the early phases of Singapore's privatisation and deregulation practices was published by Yuen (1989).

<sup>9</sup> Social security payments in Singapore are kept in individual accounts and since 1978 citizens have the possibility to make individual investment decisions, within pre-determined limits, on a certain part of these payments.

<sup>10</sup> Established in 1971, the Monetary Authority of Singapore (MAS) is Singapore's de facto central bank and regulator of banking and financial institutional activities.

<sup>11</sup> The Central Provident Fund (CPF), is Singapore's social security system, a contribution-based,

individual account system managed by the state and compulsory for all working Singaporeans, where to limited amounts, individuals have the option to decide where their savings are invested.

<sup>12</sup> [http://www.mas.gov.sg/fin\\_development/Types\\_and\\_Number\\_of\\_Institutions.html](http://www.mas.gov.sg/fin_development/Types_and_Number_of_Institutions.html)(30.03.2012)  
[http://www.ustr.gov/sites/default/files/uploads/reports/2010/NTE/2010\\_NTE\\_Singapore\\_final.pdf](http://www.ustr.gov/sites/default/files/uploads/reports/2010/NTE/2010_NTE_Singapore_final.pdf)(30.03.2012)

<sup>13</sup> [http://www.ustr.gov/sites/default/files/uploads/reports/2010/NTE/2010\\_NTE\\_Singapore\\_final.pdf](http://www.ustr.gov/sites/default/files/uploads/reports/2010/NTE/2010_NTE_Singapore_final.pdf)(30.03.2012)

<sup>14</sup> It is true that the share of OTP on the Hungarian banking market based on total asset values is above 30%, which is unique in the region; however, if one looks at the shareholder structure of the bank it is obvious that at least 52.3% of the shareholders are foreign entities, 29.1% are Hungarian, while the rest are undisclosed according to the public information available on OTP's website. We must also add, however, that since the publication of Lóránt's calculations in 2009, Hungarian shareholders have carved out a share in the insurance sector. However, the sector is still largely dominated by foreign owners.

<sup>15</sup> During this overview, we primarily referred to the comprehensive study by Pál (2009) and MNB (2006).

<sup>16</sup> <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&cinit=1&language=en&pcode=tsdec330&plugin=1>

<sup>17</sup> Balogh's 2009 study delves into a detailed analysis of the inevitable sterilisation effects of the two-week MNB bond on Hungarian monetary policy practice.

<sup>18</sup> Singapore's currency board system was maintained by the Board of Commissioners of Currency, Singapore (BCCS), established in 1967, which merged into the Monetary Authority of Singapore (MAS) in October 2002.

<sup>19</sup> For more on the differences of the model based on Singapore's special exchange rate policy and the currency board, see the study by Lu and Yu (1999).

<sup>20</sup> Monetary Policy Operations in Singapore, Monetary Authority of Singapore, 2007

<sup>21</sup> The point of the undisclosed exchange rate band is to minimise potential speculative attacks.

<sup>22</sup> The social security contribution rates to be paid into the Central Provident Fund (CPF) are shaped by Singapore's economic policy based on sterilisation needs and taking world market recession impacts into account. By the mid-eighties, contribution rate increased from the initial 1955 rate of 10 per cent to 50 per cent, which was then reduced at the time of the global economic crises in order to make the Singapore workforce more appealing.

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