Privatization by Local Governments in Reforming Economies:

A Net Worth Perspective

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Privatization by Local Governments in Reforming Economies:

A Net Worth Perspective

April 1993

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I. INTRODUCTION

In many reforming socialist economies privatization of government owned assets and decentralization of governmental functions to local governments are fundamentally linked. In many instances, the ownership of previously state-owned assets has been devolved not to individuals, but to newly-established local governments for them to select the appropriate privatization strategy. As a result, many aspects of privatization are essentially local government decisions, decisions that are now being made by new local governments in most of the cities of reforming economies, including the twenty European cities with populations in excess of one million and the major cities of China and Vietnam.[1]

This paper demonstrates how the application of a measure of the changes in public sector net worth, as developed by Buiter (1983) and Bean and Buiter (1987), can help clarify the decision-making process confronting these new governments. This method can provide an important complement to traditional accounting, or cash budget, measures for several reasons; indeed, a central point of this paper is that cash budget measures can for a number of reasons give an erroneous picture of government policies. First, the ubiquitous devolution of assets with underpriced services -- such as housing, transport, and public utilities -- to local governments is a balance sheet activity that can have important implications for the sustainability and solvency of the newly created governments, implications that are not obvious in cash budgets. Second, in most reforming economies the privatization and decentralization programs are contemporaneous with stabilization programs that emphasize budget austerity. As we will show,

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1 The public housing stock has been given to local governments in Bulgaria, Czechoslovakia, Hungary, Poland, and Russia. Similarly, in China, enterprises and housing boards are owners of most of the housing stock, but the linkages of these enterprises to local government decisions are very strong. See Prud'homme (1990) for one of the first analyses of the role of local governments in reforming economies, and the importance of their assets to their functioning.

when fiscal austerity is combined with such far-reaching changes in ownership rights, cash budget measures can give misleading, if not perverse, impressions about the effects of various policies. Finally, this approach helps to show the kinds of principal-agent problems that can emerge from the structure of the intergovernment grant system that is adopted.

In particular, this paper shows one way in which the Buiter (1983) and Bean and Buiter (1987) approach to measuring the "permanent deficit" can be structured for a local government or public body undertaking privatization decisions; it also provides an estimate of what they refer to as a "perpetuity equivalent measure" of the effects on local government net worth of government spending, pricing, and ownership plans. The estimates are made for the local governments of Budapest. The objective is to demonstrate both the usefulness of undertaking such analyses and the ease with which the basic information can be arrayed to use the framework. At present, to our knowledge, such information is neither being collected nor used in Hungary or any of the other reforming economies.

We use the approach to highlight two issues whose details are specific to Budapest but whose broad effects also apply to many local governments in other reforming economies: (1) the effects of the transferal of ownership of half of the city's housing stock, over 400,000 units, to local governments on the viability and competitiveness of these newly-formed government bodies, and (2) the impact on the incentives for the efficient pricing of public utilities implied by the interaction of the changes in ownership rights and in intergovernmental grants. The approach suggests that current plans pose either serious solvency problems for the governmental units involved, or they result in non-optimal investment and pricing decisions. Furthermore, these problems are not the result of the general fiscal austerity that must necessarily reduce the role and level of government, as might be inferred from a traditional cash budget; rather, they are the

result of policy design that may well be motivated by a myopic attention to cash budget decision-making by the central government.

The plan of the paper is as follows. In the next section we present background on the general economic reform program in Hungary and on the decentralization program as it applies to Budapest. In section III we review how the privatization program affects the city of Budapest. Then, in section IV we consider how these changes could be analyzed within the public sector net worth perspective. In a final section we discuss how a local government net worth perspective could complement a traditional budget perspective. We also offer some conjectures about how the lack of clarity about the net worth implications of various policies might interact with the "soft budget" constraints that have traditionally plagued resource allocation in socialist economies (Kornai 1986).

II. BACKGROUND ON THE REFORMS

A. General Economic Policy

Hungary has made a great deal of progress on its economic restructuring program while simultaneously pursuing an aggressive stabilization program.[2] Consider how the various policy changes affect Budapest and the environment within which the city functions.

(a) The stabilization program has resulted in large reductions in central government transfers to the city. Transfers have fallen by 2 percent of GDP over the 1989 to 1991 period, a real revenue cut of over 40 percent. The program has also eliminated subsidies for publicly owned housing, and contributed to five consecutive years of declining per capita GDP.

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[2] See Dervis and Condon (1992).

(b) The price decontrol program increased consumer prices on most products, and contributed to a sharp jump in the inflation rate from about 8 to over 30 percent. However, publicly owned housing and transport are still two of the most underpriced services in Europe.

(c) The decentralization program shifted the responsibility for housing and transport subsidy obligations to the city, and gave the city government very wide discretion as to how to deal with both the fiscal responsibilities and reduced resources.

(d) The privatization program transferred ownership of 410,000 housing units, the public utilities, and an unknown amount of commercial real estate to the local governments, the values of which are largely unknown.

In sum, Budapest was simultaneously put under severe cash-flow stress and given ownership of a significant stock of wealth. It was given virtually complete authority about how to address its problems, and is under very little supervision as to how it does so. Lastly, It was given little capacity and incentive to raise revenues out of current income.[3]

B. Local Government Policy[4]

A central part of Hungary's restructuring involves the role of local governments. Under the previous government, local governments (or "councils") had no real identity, or mandate of their own. The councils operated under control by higher levels of government; they did not make their own independent tax or expenditure decisions; budgets were subject to approval by others; revenues from the central government were determined primarily by their skills in

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3 For example, see Bird and Wallich (1992) for a discussion of how the new intergovernmental grant system provides little incentive for local governments to mobilize revenues. Note also that Hungary is the first reforming economy to introduce an income tax and a two-tiered banking system.

4 Much of this discussion is based upon Gyulavari, Semjen, and Toth (1991) and Davey (1991).

negotiation; and the councils could be combined with other local councils without their own consent. In effect, local councils performed primarily a transmission role. This subordinate role was reflected in the revenues of local governments. For much of the last ten years, local own revenues were less than one-quarter of total local revenues, so that the vast bulk of local expenditures was financed by central government transfers. This rigid system was somewhat relaxed in the last five year plan in 1985, before being completely revamped in 1990 and 1991.

Overall, these recent reforms made local governments independent and autonomous units of government responsive to the wishes of their citizens.[5] The reforms have transferred numerous spending and revenue powers from the central to the local government, and have specified the election process for local officials. In response, the number of local governments doubled, to nearly 3100. Local governments are required to provide water, primary education, health care and social services, public lighting, roads, and minority protection; other duties can be performed at their discretion. They are allowed to impose six new taxes to finance these expenditures;[6] at the end of 1991 only 45 of the 3100 local governments imposed any of the new taxes.

These reforms are significant and far-reaching, and clearly lead toward greater local accountability. Nevertheless, there are serious potential difficulties in the process that has begun. For example, although local governments were given numerous expenditure responsibilities and

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[5] The major pieces of legislation in these reforms are the Law on Elections of Local Self-Governments (Act No. LXIV of 1990) and the Law on Local Self-Government (Act No. LXV of 1990); the first law specifies the details of the election of local officials, and the second creates a system of independent local governments to replace the old council system.

[6] These taxes include two types of property taxes (on buildings and on land), three types of per capita taxes (on individuals living in buildings, on employees, and on tourists), and a tax on business turnover.

tax sources, these taxes are unlikely to generate significant amounts of revenues in the near future, and few local governments are availing themselves of the opportunity to impose new taxes. In addition, although local governments now have substantial discretion over their spending decisions, they remain almost entirely dependent on the central government for their revenues. Finally, while there is widespread support for reducing the scope of government, it appears that local governments intend to use their newly acquired assets to begin various types of enterprises; it also appears that many localities may sell their assets to finance current expenditures. Some of these tendencies are not sustainable in the long run, and are not consistent with the goals of decentralization and privatization. We turn now to a discussion of Budapest.

C. Local Government Finance in Budapest

Budapest consists of 22 geographically distinct "districts," each of which has its own district government and mayor. There is also a single city government (the "capital") and its mayor, which manages various city-wide administrative units and responsibilities (e.g., public transport, water and gas supply).

The governance of Budapest is organized largely along the lines of "jurisdictional fragmentation," in which the responsibility for the same functions lies with the independent district governments.[7] Jurisdictional fragmentation has some advantages over other methods of urban governance. The most obvious is that it may be more responsive to citizen demands because the smaller governmental units are closer to the people; it is also likely to offer the

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[7] Note, however, that some services (e.g., public transportation, gas supply) are provided for the entire urban area by a single government enterprise controlled by the capital. Whether the current structure will remain in its current form is a matter of some discussion. In fact, there was a proposal by Dr. Peter Szegvari, General Secretary, Municipality of Budapest, to change the structure of governance in Budapest toward greater centralization. See also Davey (1991) for a discussion of consolidation and the reform of local government in Hungary.

greatest potential for local autonomy from central government control and interference, and may well make it easier to control the growth of government spending. However, there are also some significant disadvantages from jurisdictional fragmentation. It is unlikely to deal adequately with the benefit or cost spillovers that arise in urban areas or to realize scale economies, which require large service areas. It may lead to unequal treatment of individuals in different jurisdictions, if the fiscal capacities of the local governments differ significantly, and planning and coordination of urban services may be more difficult in the presence of independent governmental units.

Expenditures. The 22 districts generally provide primary and secondary schools; cultural, youth activity, and sports centers; road and bridge maintenance; and various social service programs for the poor, handicapped, elderly, and unemployed. Districts also are responsible for maintenance of the state housing stock whose ownership has been transferred to them. On average, the largest proportion of the district budgets goes to education, often roughly two-thirds of the budget. The main responsibility of the capital is to provide several public services to all districts, such as public transport, water supply, gas supply, sewage treatment, street cleaning, garbage collection, and heating for housing estates. Police protection is still provided by the central government. Over three-fifths of total Budapest local government expenditures are made by the capital. The total budget of Budapest in 1991 was projected to be 80 billion forints.[8]

Revenues. The capital and the districts are like other local governments in Hungary in their heavy reliance upon central government transfers. In 1990 and 1991, shared personal income tax revenues, state subsidies, and transfers from the Social Security Fund to accounted for over 70 percent of capital and district revenues. The dependence of the capital itself on transfers is even

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8 In 1991 this figure is equal to approximately US$ 1 billion or almost 3 percent of GDP.

greater than the districts; nearly eighty percent of the total revenues of the capital in 1991 are projected to come from the central government. The capital and the districts make little use of their own tax sources, either old or new. In 1991 one-fourth of the own income of the governments came from taxes, and only one of the 22 districts planned on imposing one of the new taxes. Of course, the taxes are still quite new, and it is possible that local governments will begin to introduce the taxes over time. However, there are few indications that this will soon change.

In sum, in 1991 local governments in Budapest experienced a significant decline in their real revenues; the capital bore the brunt of this decline. In large part, this decline is due to the reduction in the share of personal income tax revenues returned to the local government, as well as to an increase in the role of equalization in the state transfers. Such a cutback in government spending is certainly consistent with a stabilization program that seeks to reduce aggregate demand while simultaneously laying the groundwork for a less intrusive role of government in the economy. Still, the ability of the capital and the districts to deal with this reduction in revenue is rather limited. The new tax sources are largely unproductive. In many respects, an underlying assumption of the new system of decentralized local governments is that capital-rich areas like Budapest will either finance their revenue shortfall out of asset sales or will reduce expenditures. Either strategy will lead to less government. The transfer of ownership will in turn redistribute the capital stock to private entrepreneurs, thereby turning assets over to more motivated and more productive managers. Clearly, then, the privatization decisions made by local governments are a key element of both the stabilization and the decentralization programs.

We now turn to a discussion of the details of the major aspects of Budapest's new balance sheet and the way the privatization program affects them.

III. PRIVATIZATION IN BUDAPEST

In a process parallel to the decentralization program, the government has distributed a significant portion of national wealth to the capital and the districts of Budapest. Ownership and responsibility for the state-owned housing stock -- some 410,00 units, or roughly one-half of Hungary's public housing stock and one-half of the city of Budapest's total housing units -- has been distributed to the 22 separate districts of Budapest in which the housing is located. Ownership and responsibility for the Transportation Department and six other public utilities (Water, Sewer, Garbage, Gas, Central Heating, and Public Baths) has been transferred to the capital. Also, the districts will own the small shops (or enterprises occupying less than 1000 square meters). Hence, for the city the two key privatization issues relate to housing and the public utilities.[9]

A. Housing[10]

In the older districts of the city (e.g., districts V, VI, VII, VIII, IX), virtually all publicly owned housing is in the form of council flats, or large multi-family housing units. Although in several of the newer districts (e.g. districts XV, XVII) most of the housing was built during the 1970s, the bulk of these flats is generally quite old. Over two-thirds were built before World War II, half were built before World War I, and about one-fifth were constructed before the turn

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9 The local governments have also been given ownership of a variety of other assets, such as construction companies, vacant land, and the small shops mentioned above. Cumulatively, these assets are no doubt important balance sheet items. However, in the absence of an inventory we have for simplicity ignored them.

10 See Daniel (1985), Hegedus, Struyk, and Toscis (1991), and The World Bank (1991) for discussions of the Hungarian housing market.

of the century; in the older districts especially, most flats were constructed in the last century. While this heterogeneity of the stock makes it very difficult to make generalizations regarding the age or quality of a particular district's housing without a detailed inventory, two things are clear. First, this transfer of housing to the districts represents an enormous share of national wealth. Second, most of the substandard units are heavily concentrated in a relatively few closer-in and older districts. For example, more than half of the approximately 100,000 substandard units are located in five inner city districts.

The true market value of the housing stock is difficult to determine after so many years of administrative allocation and the operation of a "grey market" in housing. Nevertheless, under the present constrained conditions it is clear that the value of the housing is very high.[11] For example, previous studies have noted that the market value of Hungary's 800,000 state-owned housing units exceeds the total assets of the financial system. The units in Budapest should be worth 30 to 50 percent more than units elsewhere, due to their superior location. If so, then the stock of housing transferred to local governments in Budapest is worth about 70 to 80 percent of the nation's monetary assets. To put this value in perspective, it represents roughly 40 percent of Hungary's gross domestic product. Even with conservative assumptions, the value of the public housing stock in Budapest is at least four times larger than the entire city's annual budget of 80 billion forints. It would therefore appear that there is considerable wealth available to fund budget shortfalls of the types confronting the capital and the districts.

While privatization of public housing has been legal in Hungary since 1969, there were few sales during the first 20 years. By 1990, however, a sales program was in full swing. About

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11 See Renaud (1991) for a discussion of relative house prices across reforming socialist economies.

37,000 units were sold, and applications were pending on another 150,000 units. Under the sales process, the houses are sold at steep discounts, the size of which depends upon how long ago the unit has been renovated; on average these discounts lead to a purchase price of only 15 percent of the market value of the unit. In addition, these sales are financed by local governments through installment sales discounted at an interest rate of 3 percent, and the down payment requirement is only 10 percent of the purchase price, so that the effective down payment is only 1.5 percent (or the 10 percent down payment times a sales price of 15 percent). These financing terms make the effective discounted sales value of most of the housing equal to a complete give-away of the house. The 1.5 percent effective down payment is slightly greater than the 1.0 percent closing costs, and the 3 percent installment sales terms allow household payments to remain at their current extremely low level, a level that is insufficient to cover maintenance costs and one that yields a 90 percent subsidy relative to the costs of such installment purchase finance offered by the financial system.

Even at these prices, a very large number of units -- on the order of 100,000 to 150,000 -- will not sell. Most of these are substandard, older units that are both beyond repair and located in central city districts. For instance, in district VIII, which has 36,000 public units or twice the average figure for a district, it is estimated that more than 10 percent of the units are beyond rehabilitation and that more than 44 percent are substandard; districts V, VI, VII, and VIII also contain in total more than 50,000 units in need of renovation, as well as some of the more conveniently located land in the city. It is quite possible that the value of these units derives only from the land on which they are located and that the housing units themselves have a negative value. In this case, realizing the underlying value of the house requires a complicated

change in land-use that involves coordinating the interests of a large number of often poor tenants who have few other housing options and strong but ambiguous legal protections. Thus, this source of income is much more limited then might appear at first glance.

B. Transportation and Other Public Utilities

Transportation. The capital has been given the Transportation Department (or BKV). This department is by far the largest utility in the city of Budapest, and probably one of the largest in the world. A comparison of balance sheet data with similar information on intercity transportation systems in the United States, for example, indicates that BKV is larger than any such American system.[12] It employs approximately 24,000 people and operates extensive subway, trolley, and bus networks for the city. The subway is the oldest in continental Europe. Overall, the quality of transportation is superb.

Transportation Department income statements indicate a modestly profitable company, and the company collects about 5.4 billion forints annually in revenue. In fact, however, its fares are low by international standards, and fare revenues cover only about one-fourth of total costs. Most of the difference is made up by state subsidies, amounting to 10 billion forints per year or about 1/2 percent of gross domestic product. The balance sheet of BKV does not offer a potential financing solution to the huge imbalance in the operating account. The current book value of the BKV capital stock is 35 billion forints. The bulk of this net worth is in transportation plant and equipment, and the company has some profitable subsidiaries that could be liquidated. Although the state currently controls pricing policy, this responsibility is changing to give more discretion to the city to set prices.

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12 See the Almanac of Business and Financial Data (1991).

Other Public Utilities. The capital has also received ownership of the public works utilities and responsibility for the management and operation of the Water Department, the Sewer Department, the Gas Department, the Central Heating Department, and the Sanitation Department; the mayor of Budapest acts as a corporate "Chairman of the Board" of these corporations. There is little financial information of the type normally provided by the typical investor relations department to stockholders, corporate chief executive officers, or boards of directors. Nevertheless, we have constructed income statements and balance sheets at an aggregate level for these utilities. The historic book value of all the assets of the six utilities plus the Transportation Department was almost 100 billion forints in 1990, a figure equal to 125 percent of the city's cash budget and about 4 percent of gross domestic product. Like the Transportation Department, little of this capital can be used to finance the revenue shortfalls of the companies, much less that of the city. In 1990 the six utilities of the capital received 3 billion forints in subsidies from the central government; including an additional 10 billion forints received by the Transportation Department, total subsidies to the capital were 13 billion forints. Aggregate income of all the companies was about 2 billion forints in 1990, inclusive of all central government subsidies. Hence, other than the noted subsidies, on a cash budget perspective the companies appear to be operating on a balanced and sustainable basis.

IV. THE NET WORTH OF LOCAL GOVERNMENTS IN BUDAPEST

The difference between a net worth and an accounting or cash budget perspective can be summarized simply. With a net worth perspective, the market rate of return immediately capitalizes losses into changes in net worth but preserves the rate of return at market rates; under the standard accounting or cash budget perspective, the recognition of (unrealized) capital losses

is delayed but the current rate of return is therefore depressed. More precisely, under the net worth perspective, flows are converted into stock values by the formula

$$(1) \qquad P = (R-O)/(i+d),$$

where P is the present value of some property or of some tax policy, R is the revenue of the property or the policy, O is the annual expenses of managing and maintaining the revenue flow, i is the rate of interest, and d is the depreciation rate. Besides the application of this notion by Buiter (1983) and Bean and Buiter (1987), this "mark-to-the-market" measure is commonly used in the evaluation of the financial integrity (or lack thereof) of financial institutions (Merton 1977).

The measures of net worth with which we are concerned are the transferal of housing and public utilities to the municipality and district governments of Budapest, and for simplicity we ignore other changes. We take the present value of current spending and pricing policies of these assets as if they were permanent policies (i.e., perpetuities), in order to provide a measure of initial government net worth.

A. Housing

Consider the situation in 1990 before the recent housing privatization occurred. Net rents of the housing stock in 1990 (or R-O in equation (1)) yield an "income" equal to a negative 3 billion forints. If this accounting income flow is considered either as a permanent or a slowly changing flow, and is discounted at a 3 percent real interest rate i plus a 1 percent depreciation rate d, then the present value P to the districts of the housing stock is negative 75 billion forints,

a figure that ignores the accelerated loss of value due to accumulated lack of maintenance expenditures.[13] Consequently, in the aggregate, the city's net worth position is actually improved by giving away the entire housing stock.

However, it should also be recognized that such an aggregate privatization program did not in fact take place. Instead, the distribution that occurred gave ownership to district governments who could then privatize or not as they saw fit. This distribution has had a capricious effect on the districts' net worth positions. To illustrate, it is helpful to trace the impact of the current approach on two extremely different districts, districts VIII and XVII. Both have similar taxpayer income levels that are slightly below the average of the entire city. However, district VIII has over 36,000 public housing units and is located in the central city, while district XVII received only 4,100 units and is on the outskirts of the city.

At least 16,000 of district VIII's housing units are substandard, whereas only approximately 100 of district XVII's are in similar disrepair. If these substandard units cannot be given away, and if the units are not allowed to depreciate any further from their already run-down condition, then the subsidy per unit needed to cover the costs of maintenance will be on the order of 5 percent of household income, or about 10,000 forints per unit annually.[14] The

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[13] The assumption that the income stream can be viewed as perpetuity is a simplification that amounts to assuming that we want to estimate the present value of current policy. The income stream can then simply be divided by the discount rate. Instead of viewing policy as continuing forever, we could alternatively view it as changing slowly over, say, 15 years. Then with a 4 percent discount rate the value of the income flow would be about half the value implied the perpetuity perspective.

[14] The estimate of 5 percent of income needed to cover maintenance expenses is derived in the following way. Public housing tenants in Budapest spend on the order of 5 percent of their income on rent, and this figure covers less than half the expenses of maintenance and upkeep. Hence, doubling this figure yields an increase equal to 5 percent of income.

present value of these subsidies for VIII is negative 4 billion forints, while for XVII it is only negative 25 million forints.[15]

Thus the 16,000 substandard units in district VIII would be worth negative 4 billion forints. Similarly, the 100 substandard units in district XVII would have a value of negative 25 million forints. Hence, if district VIII sells its 20,000 units that are not substandard for 25 percent of an average estimated market value of 800,000 forints per unit, the net worth of its housing stock is zero.[16] Of course, at any price less than 25 percent of value, district VIII's net worth from the transfer of housing stock would be negative, and the transfer of the housing stock to district VIII would then create more financial demands on the district than value. For district XVII, on the other hand, if the housing stock is sold at any price in excess of 2 percent of value, no net resource demands on local government will be created.

If the districts follow the "almost" give away privatization program of the last two years, in which the entire non-substandard stocks is sold at a discounted price equal to 5 percent of the estimated values and keep the substandard stock, district VIII's housing would have a value of negative 3.7 billion forints, and district XVII would have a housing net worth that is just positive (or 30 million forints). To offset the 3.7 billion forints loss in net worth, the 37,000 taxpaying residents of district VIII would each have to confront a 1 million forint obligation.[17] Such a large obligation is obviously not sustainable. To give some sense of its magnitude, assume that

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15 These estimates derive from the assumption that either policy does not change or it changes very slowly.

16 This calculation assumes district VIII owns 20,000 units worth 800,000 forints each, and 16,000 substandard units worth negative 250,000 forints each; the latter assumption uses the unchanged policy assumption noted above. If the former units are sold for 25 percent of their value, it will generate 200,000 forints each, enough to pay for the loss on the smaller number of substandard units.

17 Gulvari et al., Appendix 5, on the Income Position of Population report that in district VIII 40.6 people per 1000 residents were taxpayers and there were 92,000 residents, implying 37,000 taxpaying units.

district taxes must be increased to amortize this obligation. The amount of the per taxpayer tax increase, over and above the taxes required for ongoing expenditures, is nearly 40,000 forints per year, and equals an additional tax rate of about 28 percent of income. Clearly, this rate of increased taxation would be sufficient to induce residents to "vote with their feet" to avoid the tax, thereby continually decreasing the tax base.

B. Transportation and Other Public Utilities

It is important to note that the effect of the transfer of utilities ownership on net worth is completely dependent on future pricing policy, which is a responsibility concentrated in the capital, while the obligation for the pricing policy is borne by taxpayers throughout the country through central government transfers. While Budapest received a significant volume of assets in the transfer of ownership rights, under current pricing policy the country received a liability; the deficits in funding the utilities' operations are equivalent to about one-fourth of the personal income taxes paid by residents of Budapest.[18] Moreover, because the city's pricing policies shifted the costs to the rest of the country, the city has little incentive to change the pricing structure.

The problem with this approach to the distribution of costs is that with restructuring there is no reason for the continuing insolvency for these firms. Over time, they should be able to provide the services demanded by their users on a self-sustaining basis. However, because their deficits can be shifted to non-beneficiaries rather than imposed as a cost solely on the residents

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[18] This estimate is based on the following assumptions: (1) Transfers of 13 billion forints to Budapest from the income tax which yielded 122 billion forints in 1991; (2) If Budapest accounts for 20 percent of taxpayers and they pay 100 percent more than nonresidents as they did in 1988. (See p. 30 Annex 2 World Bank (1992)); (3) The contribution of Budapest residents to personal income tax payments is therefore 40 percent of 122 billion forints, or 48 billion forints; and (4) If Budapest residents paid for the city's total utility companies' deficits, they would have to pay 13/48, or about 25 percent, of their tax payments for utility underpricing costs.

of the city, there is little incentive to restructure these firms in ways that are responsive to the effectively constrained demands of the city's residents.

The immediate results of the present way of financing utilities are twofold: little action is taken on restructuring the firms to operate as more effective service providers, and the municipality uses all of its intergovernmental grants to fund utility companies. As a result, the city has no discretionary resources with which to deal with district governments. The ultimate results are also twofold: little is obtained in the way of potential efficiency gains from the devolution of authority for the utilities to the city, and no pressure is created to reduce the role of government in funding activities that could eventually be funded by the private sector.

If the present value of the current utility pricing policies is estimated by applying the net worth approach to the income statements of the utilities, the 13 billion forints in annual net subsidies represents the annual flow of income earned by the utilities. At a discount rate of 4 percent, the net value of the utilities is negative 325 billion forints, a figure roughly equal to the market value of both the "sellable" housing stock of the 250,000 units worth 400 billion forints, plus the inferred value of the unsellable 150,000 housing units, worth negative 75 billion.

Hence, under current pricing policy, the net transfer of ownership rights over housing and utilities in Budapest has in the aggregate left the entire city with approximately a zero net worth. The gains in wealth due to housing are either matched or offset by the losses realized on the utilities. However, the disaggregated story is a quite different. The capital has been given only the utilities (a liability), while the districts have been given only the housing (an asset); also, districts have also been given widely different housing stocks, with inner city districts (with large numbers of substandard units) treated more adversely than outer districts. It therefore appears

that the various transfers have given the city and inner districts more liabilities than assets, while giving the outer districts the opposite. Finally, the capital has been given a cost-sharing arrangement for its utilities that does not encourage greater cost recovery or efficiency.

V. SUMMARY AND CONCLUSIONS

Our application of the concept of changes in public sector net worth to the newly created local governments in Budapest raises a number of issues that are not obvious from the analysis of traditional cash based budgets. Three issues, in particular, are of concern.

A. The Importance of "Balance Sheet" Effects

A continuation of some of the privatization policies now being pursued will effectively decapitalize some of the nascent local governments. When local governments privatize housing by selectively giving it away -- as may be perfectly appropriate to facilitate the rapid development of markets -- but simultaneously take financial responsibility for large numbers of run-down housing units of which they cannot dispose, the net worth approach shows clearly that governments may well be incurring a liability that exceeds their net worth. In this case, fulfillment of the privatization objective undermines the decentralization objective by bankrupting local governments that are unable to carry out their responsibilities.[19] In contrast, the use of the cash budgeting approach suggests no such financial dilemma because any revenue flows from the installment sales of housing privatization would be measured as income. Such an approach is seriously misleading.

B. Principal-agent Problems in Pricing Utilities

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[19] As Dhanji and Milanovic (1991) argue, when the objective of privatization is rapid market development, it may be appropriate to give away assets to those who in some sense already own them.

The costs of the prospective insolvency of the public utilities are now so diffused that there is no incentive to restructure these companies. Recall that the six public utilities under the city's control have a combined annual operating deficit of 13 billion forints, equal to about 11 percent of total income tax collections. A continuation of the current means of financing their deficits implies that the costs of the continuing insolvency of these firms (the "agents") will continue to be shared by all taxpayers in Hungary (the "principals"). The latter receive little or no benefit from the operation of the utilities in Budapest. They also have no realization of the costs they are bearing from the utilities' inefficiencies, and so they have little incentive to place controls on the agents to improve performance. The principals, the taxpaying population in Budapest, receive the full subsidy and bear only a portion of the costs, which are equal to 25 percent of their income tax payments, so their incentives for seeking improvements in operational efficiency are also minimal.

The public sector net worth perspective suggests an alternative means of financing utilities that would create a constituency for higher user fees for Budapest's public utilities. The perspective suggests that the utilities' capital stocks are the net worth of the residents of Budapest. Thus, it follows that ownership shares in these companies should be distributed to taxpaying residents of the city. In principle, a share distribution program could be developed in which the average shareholder of a newly formed "public utility company" would receive the same amount of dividend from the companies as he or she must pay in higher user fees from market-based provision of services. Poorer shareholders, such as low income pensioners who are heavily concentrated in the central city areas and who use utilities relatively less, would receive

a higher dividend from their ownership rights than they would pay in increases in user fees. In fact, the higher utility fares were increased the better off they would be.

Of course, these owners should also be responsible for the taxes now paid to subsidize the utilities. Accordingly, residents of the city should be able to reduce their personal income tax payments as the profitability of the new "public utility company" increases. If the company was able to eliminate the need for transfers to fund the deficit, the tax on city residents would also be eliminated. This type of policy would place significant inducements on the utilities to improve performance and to implement real user fees on a permanent basis. In short, effective use of these assets requires the development of "ownership rights" to: (1) the net worth embodied in these companies, as well as (2) the current losses on implied by the pricing of the services.

C. The Stabilization Program and the "Soft Budget Constraint"

The macroeconomic rationale for placing the city under a cash flow restraint and simultaneously devolving asset ownership to the city is straightforward: the cash constraint reduces government spending, and asset sales have either no macroeconomic effect or an efficiency-enhancing one. Consequently, selling assets to the private sector to address a cash deficit is at worse innocuous and could in fact help the long run adjustment process. However, consider how a net worth perspective can change how this processed is viewed.

Although our estimates suggest that a number of the new local governments are already bankrupt they still have access to significant intergovernment grants. They also have powers of regulation, taxation, and risk-taking with which to address their budget shortfalls; in fact, as mentioned earlier, with their new assets many governments seem intent on engaging in various entrepreneurial activities. However, if these newly entrepreneurial governments cannot exit from

operation, they become examples of entities operating under what Kornai (1986) describes as the "soft budget constraint": they are immune from bankruptcy and therefore unconcerned with covering costs. The economic distortions created by the actions of such governmental units are unlikely to be supportive of the adjustment program.

In conclusion, measures of changes in public sector net worth are difficult to operationalize, particularly in economies that have long relied on non-price allocation mechanisms. Nevertheless, they can provide insights not afforded by traditional cash budget measures, particularly when the newly created governmental body is asset rich and cash poor, as appears to be the case in Budapest and most of the major cities in reforming economies. For the immediate term, the most important questions faced by these new governments pertain to these stocks rather than to the flows of cash budgets. Hence, this kind of measurement can be an important complementary framework to traditional budget documents.

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