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Privatization in Central and Eastern Europe

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Summary

This paper assesses policies of mass privatization in Germany, Czechoslovakia, Hungary and Poland. A central concern stemming from the analysis is that, in view of the fiscal crisis facing economies in transition, it is crucial for governments to try to maximize the proceeds from the sale of state assets. Because of the low initial level of private wealth, it is important, in this respect, to let potential buyers borrow from the government or issue claims on future revenues (obtained with the privatized assets) to the government in order to pay for the privatized firms. Allowing for such non-cash bids removes the government's incentive to delay privatization for fiscal reasons, reduces its ability to squander immediately the proceeds from privatization and improves the decentralization of control by allowing less wealthy but more able bidders to buy the firms they are best suited to run.

Privatization policies in Central and Eastern Europe

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1. Introduction

The transformation process of the previously centrally planned economies of Eastern Europe has been under way for over two years. In Czechoslovakia, East Germany, Hungary and Poland most prices have been freed and reforms aimed at achieving macroeconomic stability have been implemented. While these four countries have rapidly converged towards similar macromanagement, some of them have taken longer to design their privatization plans and all of them have devised radically different strategies. During this gestation period, a voluminous literature has appeared, aiming to advise the new governments on how to proceed with the unprecedented challenge of privatizing most of the nation's wealth.

Because of the sheer size of the privatization programmes, the new governments could not rely solely on the privatization experience of the West[1]. The plans now crystalized have also adopted recommendations of this literature. Our paper addresses the issues of mass privatization policies. Although our analysis has many features in common with the more influential studies to date, our conclusions are at odds with their recommendations.

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[1] See Vickers and Yarrow (1988) for an excellent overview of the issues raised by privatization in the West.

A central concern of many early studies has been to accelerate the pace of privatization and their main recommendation has been to organize mass give-away schemes of state firms as a means to transfer property most rapidly (see Lipton and Sachs, 1990, and Blanchard *et al.* 1991, among others). We recommend (for both microeconomic and macroeconomic reasons) that state assets not be given away, but sold – possibly through auctions.

Auctions achieve an efficient resource allocation in situations where the seller (of a state asset) does not know which buyer has the best use for it. In addition, individual bids provide information about the underlying value of a firm to be privatized, which can be of great use to future potential private investors in those firms. Perhaps more importantly, sales of state assets provide the government with revenues at a time when it has major difficulties raising revenues through taxes. Auctions have already been used successfully in privatizing small firms. We argue that privatization through auctions ought to be expanded and even applied to large firms.

Even if the government tries to maximize the cash proceeds from the sale of state assets, there will be a serious revenue shortfall problem, since the flow of savings cannot quickly absorb the massive stock of state assets. Therefore we recommend that both cash and non-cash bids (such as debt and equity) be allowed in the auctions for state assets. When non-cash bids are allowed the constraint imposed by the small flow of savings can be removed: privatization need not be slowed in order to increase the revenues from sales. Also, if buyers can borrow from the government on the basis of the future revenues generated by the newly privatized assets, then even wealth-constrained buyers can participate in auctions. Thus, state assets will not end up entirely in the hands of the wealthy happy few; cash and non-cash bids are then more likely to reflect bidders' *willingness* rather than merely their *ability* to pay. In short, greater productive efficiency is achieved with the introduction of non-cash bids, since the bidders' willingness to pay reflects their ability to run a newly acquired firm profitably.

In the case of large firms, the winning bidder (who typically has limited wealth) is likely to obtain control over the firm without owning a very large fraction of its future cash flow. Most claims on future cash flows are likely to remain with the state for some time, since the government would excessively drive down the price if it sold too large a fraction of claims too quickly. Whether or not claims remain in state hands, there will be separation of ownership and control in those firms. In the absence of well-functioning capital markets, it may then be necessary to provide for some form of supervision of the activities of

managers. We discuss the kind of supervision to which managers should be subject.

Section 2 provides an overview of the current situation in the four countries. Section 3 assesses how the existing privatization plans meet the long-term objectives of building a market economy based on private property, given the macroeconomic and microeconomic constraints of the transition period. Section 4 discusses auctions with cash and non-cash bids. Section 5 deals with important related issues such as the financial restructuring of state firms and the necessary reforms in the remaining state sector. Section 6 offers concluding remarks.

2. Background

As we are dealing with economies in transition, the picture of the economies of the four countries drawn here can only be seen as snapshots at the time of writing. Undoubtedly, many aspects may have changed by the time this paper is published. In addition, as data collection in those countries is itself in transition, some of the figures reported here should be taken with a grain of salt.

2.1. What has been achieved?

In this section, we briefly describe how far East Germany, Hungary, Czechoslovakia and Poland have gone in privatizing their economies. For a detailed account of privatization see Carlin and Mayer (1992) on Germany; and Grosfeld and Hare (1991) on Poland, Hungary and Czechoslovakia.

2.1.1. East Germany. Compared to the other post-socialist countries, privatization in East Germany has been very rapid. Table 1 summarizes the recent data provided by Treuhandanstalt, the East German privatization agency.

Measuring privatization by the number of privatized enterprises is an inaccurate measure of the extent of privatization, since it does not take into account the size of firms. Unfortunately, the only alternative measure available is promised employment, so far representing only 9.2% of the existing labour force. In other words, less than 10% of the labour force has been 'privatized' so far. This estimate of privatization is in sharp contrast to the estimate of Treuhand – based on numbers of firms privatized – according to which more than half of all Treuhand firms have been privatized.

By end-February 1992, there had been 1,041 management buy-outs. Only 243 sales were made to foreign investors, representing 9.4% of promised jobs and 8.3% of promised investment.

Table 1. Privatization in East Germany

	In 1991	Total at end of February 1992
Number of privatized enterprises	5,210	6,068
Revenues (DM bn.)	19.5	21.1
Promised jobs	930,262	1,013,085
Promised investment (DM bn.)	114	120.7

Source: Treuhandanstalt.

The DM 21 bn. of revenues generated from privatization are very low, compared with initial expectations. The late Treuhand president Rohwedder declared in october 1990, that sales would generate revenues of DM 600 bn. (Sinn and Sinn, 1991). On the other hand, Treuhand spending is expected to increase from DM 25 bn. to DM 30 bn. in 1992, mainly due to a reluctance to close down firms; indeed, only 700 companies have been closed so far.[2]

Treuhand opted from the beginning for selling public assets rather than giving them away, but many assets have been sold for a symbolic price. Sales are mostly the result of bilateral negotiations with an interested buyer. Auctions are rare, except for smaller enterprises. The decision to sell depends not only on the price offered (or the highest cash bid in an auction), but also on restructuring plans, and especially on promises of investment and job creation which play an important role in the selection of the acquirer. One drawback of these restructuring plans is the significant rigidities they may impose on future management. Treuhand generally favours sales for cash and is unwilling to accept deferred credit payments. It also opposes selling to buyer consortia (Sinn and Sinn, 1991).

2.1.2. Hungary. Table 2 gives a quick overview of what has been achieved so far. These figures should be treated with caution as they are based on asset values which are likely to be highly inaccurate given the absence of a capital market which might generate an estimate of these values.

Commercialization, giving the enterprise a legal status like that of a joint stock company before privatizing it, has been rapid since mid-1990. The share of fully-privatized state assets, however, remains very small. But unlike the other East European countries (with the exception of Poland whose agriculture is mostly in private hands), Hungary started the post-communist era with a reasonably large and active private sector,

[2] *Financial Times*, 7-11-91.

Table 2. Privatization in Hungary
(% shares of the book value of state assets)

	May 1990	March 1991
Commercialized firms	1.7	20
Privatized state assets	0.5	2.5
Foreign capital	1.1	5
Hungarian private assets	22.2	25

Source: *Barometer of Privatization*, October 91.

including an embryonic private financial sector. This explains in part why foreign capital is playing an increasingly important role: Hungary received over 50% of the total foreign direct investment in the whole of Eastern Europe in 1991. Admittedly though, this total inflow of capital is not very large.

The initial goal of the programme was privatization of 50–60% of state assets within three to five years. Mass give-away schemes were rejected at the outset. Some free distribution has taken place, distribution of shares to the Social Security fund. In addition, 10% of company shares have been made available to workers at a preferential rate. But the Hungarian authorities have been reluctant to pursue further a policy of mass distribution of shares.

A useful distinction in the Hungarian approach is between privatization from below, initiated by the enterprises themselves or by a potential acquirer, and privatization from above, called 'active privatization', initiated by the State Privatization Agency (SPA). The latter includes the SPA's 'privatization programmes' as well as 'preprivatization', the privatization of small-scale family businesses and shops. Privatization from below includes the company-initiated transformation of state-owned firms into joint stock companies, association with private partners and sales. Transformation requires prior approval of the SPA which also supervises sales, in accordance with the Law on the Protection of State property. Table 3 gives an overview of the activities of the SPA.

Privatization from below has until now primarily involved small and medium-sized companies in processing industries. It usually occurs when a strategic foreign invester appears. By end-September 1991, 104 transformations had already been approved, concerning assets valued at 267 bn. forint. There has thus been a noticeable acceleration between March and September.[3] At the time of writing, 616 cases of transformation were still in progress. Direct sales are rarer than association with

[3] *SPA Newsletter*, October 91.

Table 3. The Hungarian State Privatization Agency (March 1991)

	Number of enterprises	Value of assets (bn. for.)	% of book value of existing state assets	SPA partici-pation (%)	Foreign partici-pation (%)
Approved transformations	45	68.7	3.6	64.5	19
Approved associations with foreign participation	40	37.9	2	—	45.3
Approved associations with domestic partners	35	34.7	1.8	—	—
Sales under property protection	54	6	0.3		
First privatization programme	20	90.4	4.7	36	42
Preprivatization	95	0.8			

Source: State Property Agency, *Annual Report*, August 1991.

a foreign or a domestic partner. Up to September 1991, 43% of the sales contracts approved by SPA involved contributions in kind, the rest being sales contracts.

'Preprivatization' of small businesses takes place through auctions, and bidders may receive a 'livelihood loan' for the purchase of assets. This programme has, however, not been well prepared and its implementation has been constantly delayed: it is not clear how many shops are to be included in the auctions, no credit structure has been set up, and initially only leasing rights were to be auctioned off. By 15 June 1991 only 203 shops had been sold for 800 mn. forints (less than 11 mn. dollars).

As for privatization from above, the first programme initiated by the SPA included 20 enterprises. Additional programmes are under way. However, in September 1991 – a year after the announcement of the first programme – not one of the 20 enterprises of SPA's first privatization package had been fully sold off. SPA revenues from sales and rental fees amounted to 9.4 bn. forint in September 1991, sharply below the 40 or 50 bn. initially projected. This method of privatization thus does not appear to have been as successful as initially anticipated.

2.1.3. Poland. After months of parliamentary debate the first Privatization Bill was passed by Parliament in July 1990. Workers organized in Solidarity – whose power in enterprises strongly increased with the end

Table 4. Privatization in Poland (end-1991)

	Changed into state treasury companies	Privatization through liquidation	Individual sales
Number of enterprises:	308	950	24
less than 200 workers	25	561	
between 200 and 500 workers	68	243	
more than 500 workers	215	146	
Total (as a % of the number of state enterprises)	3.7	11.5	0.3

Source: *Prywatizacja przedsiebiorstw panstwowych*, March 1992.

of the communist regime – have resisted attempts to reassert state ownership of enterprises through their transformation ino joint stock companies. The law of 1990 represented a compromise. It simply provides a legal framework for privatization, without favouring any particular method. The transformation of state enterprises into joint stock companies is not a necessary step towards privatization. The Polish authorities have also undertaken so called privatizations through liquidation, which by-pass the commercialization stage.

Only a small fraction of SOEs have been transformed into state treasury companies so far. In contrast, privatization through liquidation seems to work fairly well, mostly for smaller enterprises. Of the 950 privatization cases accepted through liquidation, 466 involved cases of asset sales, 20 inclusion in joint stock companies, and 340 cases of leasing; the remaining 124 have adopted a mix of the three procedures. Most of the sales (339) concerned enterprises with less than 200 employees. Most of the leasing contracts have been signed with worker collectives. (See Table 4.)

Individual sales have so far generated 2,086 bn. zloty revenues for the government, much lower than expected. In August 1991, the Bielecki government had a deficit of 20 tn. zloty, partly due to the shortfall of 14 tn. zloty expected from the sale of state assets (Slay, 1991).

Prepared for June 1991, the mass privatization programme of Minister of Ownership Lewandowski involves 400 enterprises (25% of industrial output and 12% of the labour force). The plan provides for five to 20 'national wealth management funds', which would receive 60% of the enterprises' shares, with 33% of the shares in any given firm going to a single fund; this fund would then have a controlling interest in the firm. In addition, 10% of the shares would go to the workers and 30% to the state treasury. The directors of the funds are appointed by the President, and the funds will be managed by Western managers. Many of the important details of the plan have not yet been finalized,

in particular the important question of how the controlling blocks of shares in the firms ought to be allocated to the various funds.

The mass privatization plan, however, has met important difficulties. When proposed in parliament in August 1991, the plan was halted. Many criticisms were formulated, the most important being concerns about budgetary revenues, the dangers of concentrating economic power and its administrative complexity (Slay, 1991).

Small privatizations have taken place mostly through auctions at the municipal level. In some cases, employees received preemptive rights and preferential rates for leasing. This part of the privatization package has been successful. More than 75% of shops have been privatized this way, amounting to about 100,000 small and medium retail and wholesale shops (Grosfeld, 1991).

In contrast to the slow pace of privatization expected, the growth of the private sector through the creation of new private enterprises has been very impressive. Private activity accounted for roughly 40% of GDP in 1991, and 45% of employment.[4] One should recall that in Poland, about 85% of agricultural production was kept private. But even outside the agriculture sector, private employment in 1991 had risen to an estimated 2 mn. people. Data from March 1991 show that private activity accounted for 22.1% of industrial output, 43.9% of construction and 16.3% of transport. At the same time, joint ventures grew rapidly, from 1,645 at the end of 1990 to 3,512 in September 1991. Foreign investment is around 700 mn. dollars.

2.1.4. Czechoslovakia. Privatization in Czechoslovakia has taken place along two tracks: 'small' privatization, according to a law passed in October 1990 and 'large' privatization, according to a law of March 1991. Small privatization is run by local committees through auctions. Foreigners are excluded from the first round. Roughly 10% of all small firms have been sold through this method in 1991, generating revenues of about Kcs 10 bn. in Czech lands and Kcs 5 bn. in Slovakia. These funds are transferred to the National Property Fund, the agency responsible for privatization.[5]

The Law of April 1991 on large privatizations specifies two methods: direct sales and the voucher system. The latter system has attracted most attention so far. These two schemes are roughly organized as follows: in a first stage, 1,700 Czech and 700 Slovak firms had to prepare privatization plans, submitted to their ministry. In the next stage, the assets of these enterprises are transferred to the Czech and Slovak

[4] Sources for figures in this paragraph: Grosfeld (1991) and *die Zeit* no. 45, November 1991.
[5] *Financial Times*, 8-11-91.

National Property Funds. Direct sales are allowed if there is an offer for purchase of equity. Foreign investors are not excluded. All equity not sold is to be included in the voucher programme. On average, enterprises are expected to offer about 60% of their equity to the voucher programme. For a flat fee of Kcs 1,000, any citizen over 18 can purchase a booklet of vouchers worth 1,000 points, with which to bid for shares. At the time of writing, 8.5 mn. people have purchased booklets. The book value of the counterpart of a booklet of vouchers has been evaluated at more than Kcs 30,000. The Czech scheme is thus essentially one of free distribution. Before bidding starts, all voucher holders are given basic information about the firms to be privatized. Individuals can then bid either directly – through one of the many computer terminals to be set up across the country – or indirectly through a financial intermediary. The actual bidding game is rather elaborate; up to six rounds of bidding are planned and complicated price updating rules are specified. It is not clear that these pricing rules cannot be manipulated through strategic bidding. Perhaps as a result of these complications as well as a total lack of information about the values of these firms, many individual buyers will let financial intermediaries bid for them.

Indeed, most vouchers will probably be concentrated in the hands of a few investment funds like *Provni Investicni* or *Harvard Capital Consulting* (which had accumulated over 500,000 voucher-booklets by the end of March 1992). More generally, over 60% of all booklets have already been put in the hands of the financial intermediaries, of which Caseka Sporitelna (the Czech savings bank) alone has gathered over 10%. These investment funds could play an important role monitoring the recently privatized firms. There are 450 investment funds to date, but the bulk of vouchers is concentrated in the 10 biggest investment funds (*Financial Times*, 25-5-1992). Thus, one of the main differences between the Czechoslovak mass privatization plan and the Polish plan is likely to disappear. The Polish plan has been designed specifically to meet the problem of the separation of ownership and control. One of the main purposes of the Polish holding companies is to monitor the activities of the newly privatized firms (the other important function of these companies is to act as interim privatization companies by gradually divesting most of the firms in their portfolios). It is ironic that an important unresolved issue in the Polish plan – how to allocate firms to holding companies (see Frydman and Rapaczynski, 1990) – has found an unexpected solution in Czechoslovakia.

Finally, it is worth noting that the government is opposed to debt write-offs for public enterprises, but banks will be allowed to exchange bad debts for equity in the privatized enterprises.

2.2. What remains to be done?

Except for East Germany, privatization in Eastern Europe has been much slower than expected. In contrast to the success in the privatization of shops and small businesses, privatization of bigger enterprises is still in an initial phase, more than two years after the demise of communism. Early expectations were that 50% of public assets would be sold within three years.

However, if one takes into account the rapid growth of the private sector, the task of mass privatization in Eastern Europe appears less formidable. Reducing public ownership from say 90% to say 25% does not require the privatization of 65% of public assets: we must also take account of the parallel creation of new private firms and the closure of inefficient public firms. Accordingly, Kornai (1990), Murrell (1990) and others have emphasized the important role of 'organic' spontaneous growth of the private sector in completing the massive reallocation of labour and investment to the private sector.

Some simple back-of-the-envelope calculations may give a rough idea of the fraction of state assets to be privatized once one takes into account the parallel growth of the private sector. Privatization may involve only about half as many state assets as was initially estimated, when the independent growth of the private sector was not taken into account.

Centrally planned economies have been characterized, among other things, by two important biases: first, a bias in favour of heavy industry, and second a bias in favour of large firms. As a consequence, the service sector has been seriously underdeveloped and there hardly exists a network of small and medium enterprises. The introduction of the market and the opening up to the world economy is thus likely to lead to an important economic restructuring that corrects these biases. To take this into account, we made the following simple calculation. We looked at the actual distribution of labour, across sectors, and across firms of different sizes in industry, and compared this with the distribution of labour in comparable Western economies. In the absence of meaningful prices for capital and for marginal productivity, and because of the uncertainties surrounding value-added statistics, labour is a meaningful indicator of economic activity. The added advantage of focusing on labour is that we get a picture of the extent of labour redeployment in the economy. Assuming that economic restructuring will lead to the adoption of a Western *sectoral* and *size* distribution, and assuming full employment, one calculates the part of the labour force that will leave industry for the service sector and the part which will move towards smaller firms. In our scenario we make the extreme assumption that most of the labour redeployment from manufacturing

Table 5. The potential extent of privatization in industry and services

% of labour force potentially concerned by privatization decomposed as:	GDR	CSFR	Hungary	Poland
% of industrial labour	31.1	23.9	45	44
(as a share of total labour)	(13.7)	(11.2)	(16.3)	(15.9)
(same, but excluding the size effect)	(21.4)	(21.4)	(21.4)	(21.4)
% of labour in service sector	47.7	42.3	48.3	34.2
(as a share of total labour)	(21.9)	(17.6)	(22.4)	(12.5)
% of total labour, excluding agriculture	35.7	28.8	38.7	28.4
(excluding the size effect)	(43.3)	(39)	(43.7)	(33.8)

to services and from large firms to small firms will take place through the spontaneous emergence of a private sector with smaller firms, mostly in the service sector but also in manufacturing. This part of the labour force will therefore not be affected directly by privatization.

The basis of comparison chosen for the size effect in industry is the Federal Republic of Germany, which is more concentrated than France or Italy. This would tend to underestimate the redeployment towards small firms. We assume that only the structurally 'excessive' part of bigger enterprises will be closed down; this also tends to slightly exaggerate the extent of required privatization. The basis of comparison chosen for the sectoral effect is the average of the eight poorer OECD countries, where the secondary sector and the service sector represent respectively 29.5 and 52.6% of the labour force, with 27.5% of industrial labour in public industries and 45.6% of service labour in public services. We have left out agriculture because cross-country variations in its share are too large, and concentrated on the labour force in industry and services that is potentially concerned with privatization of their enterprise. The results are shown in Table 5.

This simple calculation reduces the importance of privatization in industry and services to slightly more than 32% of the labour force. This means that all the rest of the growth of the private sector happens through direct redeployment of labour from state-owned firms to newly founded private firms. Table 5 also suggests that privatization in the service sector is likely to be more important than in industry, except in Poland. Of course, our calculations reflect our assumption that labour redeployment will mostly take the form of closure of old firms and creation of new firms. We believe that this is a plausible assumption.

If the extent of privatization is to be smaller than initially thought, because of the closure of many state firms, then concern about the slow speed of privatization appears somewhat misplaced. An equally important concern is the creation of well-functioning labour and capital markets that facilitate the movement of labour from the state sector to the private sector. Roughly half of the working population is likely to change jobs during the transition period.

3. What privatization process?

The previous section reveals that each country is adopting a different privatization programme. Two countries have opted for a strategy of piece-meal sale of state assets (Germany and Hungary) while the two other countries favour mass privatization programmes with give-away schemes. This is only one among many distinctions one can draw between the four programmes. Naturally this diversity raises the question of which programme is likely to perform best, and more generally whether there exist more suitable programmes than the four described above. To some extent the answer to this question depends on country-specific factors; the important differences between the German experience and the experiences of the other three countries are obvious. It is, however, less clear that the economies of Poland, Czechoslovakia and Hungary differ enough from each other to call for such radically different privatization programmes.

In Bolton and Roland (1992), we develop a simple general equilibrium model in which the main tradeoffs can be analysed and the costs and benefits of the various privatization plans can be assessed. In this section, we briefly report the main policy conclusions of that analysis.

Speed is the main advantage that has been claimed for the Polish and Czech mass privatization plans favouring give-away schemes. But it is not clear how much time such schemes can save. Even if the valuation stage can be by-passed, it is still necessary to take inventory of what is given away, otherwise property rights are not well defined. Taking inventory, producing opening balance sheets, transforming enterprises into joint stock companies and other decisions which should be taken before privatization, such as allocating environmental liabilities or restructuring financial debts, are time consuming and make plans of overnight privatization impossible. Moreover, the option to give away state assets increases the potential rents various interest groups can obtain through lobbying, thereby reinforcing the political fight for those rents, possibly leading to stalemate and delay in decision-making. Evidence to date does not indicate that privatization in countries that have opted for give-away schemes is taking place at a faster pace.

Free distribution schemes also have the important advantage of creating a large constituency in favour of privatization and market reforms.

If every voter receives an equal share of the spoils of the communist state, everyone is concerned with the problem of improving the efficiency of the system. This general concern may be a useful counter-thrusting force against vested interests opposed to the privatization process, such as trade unions and management lobbies (see Roland and Verdier, 1991, for a detailed discussion).

The main drawback of give-away schemes is their budgetary impact. All economies in transition are in the process of restructuring their tax base, introducing new tax systems and setting up tax administrations. This process takes time. In the meantime the existing tax base of these economies is eroding (see Bolton and Roland, 1992). Tax revenues in 1991 in Poland for example were 20% lower than expected, with an accelerating budget deficit in the last months of the year, despite temporary success of the 1990 stabilization measures emphasizing cuts in expenditures. Macroeconomic stability is a key condition for the success of reforms and a revival of growth. This objective would clearly be jeopardized by giving away state assets, at a time when revenues from state firms are the only substantial source of revenue for the state.

Another drawback of give-away schemes is that incumbent management is left in place at the moment of privatization and no satisfactory procedure is set up to remove inefficient management or to replace existing managers – whose skills are mostly those of coping in a command economy – by new managers – who are better acquainted with Western commercial, accounting and financial practice. Better matching of managers with firms is achieved by policies of auctioning state firms, since the sales price serves as a screening device, sorting out unsuitable potential acquirors and to attrating efficient ones.

A policy of sales of state assets as in Eastern Germany and Hungary, however, is not likely to meet the fiscal constraint since the revenues generated by a massive sale of state assets would be low. The main reason is what we refer to as the *stock-flow* constraint. Briefly, in a closed economy without preexisting private wealth or capital markets, the most the government can get from selling the *stock* of state assets is a *flow* of savings.

Note that this stock-flow constraint may also apply to financial intermediaries in Czechoslovakia, when they must honour their hasty promises to pay individual voucher-booklet holders ten times the initial purchase price of a booklet after one year. In order to meet those promises, they may have to sell part of the shares acquired with the vouchers. But sales on the massive scale required to meet the bulk of the promised payments are bound to result in a substantial fall in stock prices, so much so that some of these intermediaries may not be able to meet their promises. Clearly, a chain of such failures may

discredit the entire scheme and the functioning of the future stock market.

An important consequence of privatization is that the government gives up the right to the residual returns generated by the privatized asset. As the price at which the asset is sold to private owners is likely to be substantially below the Net Present Value of the asset (unless this value is close to zero) privatization implies a *net* intertemporal revenue shortfall for the government on all assets which have a strictly positive value. Indeed, even if the government can cut subsidies to the newly privatized firm, the Net Present Value of the firm – and therefore the price at which the firm is sold – will be lowered commensurately with the cut in subsidies to that firm.[6] Moreover, the assets most likely to find a buyer are those that generate a net return to the government before privatization. Despite reduced revenues, the government is likely to be unable substantially to reduce total subsidies to the remaining state-owned sector and to cut its other expenditures on public goods.

The stock-flow constraint can be relaxed by letting foreigners purchase state assets. However, foreigners are often less well informed and more importantly in the case of Eastern Europe they face exchange rate risk which is difficult to hedge: it is not surprising that so far foreign capital has been only trickling into Eastern Europe. Finally, the stock-flow constraint creates an incentive for governments artificially to delay privatization to increase the revenues generated from sales.

4. Breaking the stock-flow constraint

In principle it is straightforward to eliminate the stock-flow constraint. It suffices to introduce securities which allow the government to sell state assets in exchange for claims on future cash-flows generated by the asset. Suppose that every year the total stock of government land produces 100 mn. bushels of wheat and that the discount rate in the economy is 10%, so that the net present value of the aggregate stock of land in terms of wheat is 1,000 mn. bushels. If the government sells the entire stock of land within one year in return for wheat, the most it can get is 100 mn. bushels and, taking into account minimum consumption and investment constraints, probably much less than that. But if the government can sell the stock of land in exchange for a claim on future yearly production of, say 50%, then it can get a return from the sale of the entire stock of land of 500 mn. bushels in net present value. An important added benefit of this privatization method is that

[6] There may be exceptional circumstances where the sale of state assets may actually increase the government's net revenues because of the sharp increase in profitability resulting from privatization.

the government can in principle accelerate the pace of privatization without substantially reducing the total proceeds from the sale of state assets. This solution was identified by the Chilean authorities when they faced a similar mass privatization problem. To quote Hernan Buchi, the Chilean minister of finance from 1985 to 1989:

> 'Especially, from our experience, it was very clear that if you want to privatize, you have to realize that all the assets are currently in the hands of the government. If you want some of those assets, or a large proportion of those assets, to be in the private sector, you have to realize that you have to transfer those assets. If you sell those assets, then you are not transferring net property, you are transferring an asset, normally, plus a debt. The private sector has to incur debts in order to pay for assets, because the wealth is not in the private sector, the wealth is in the public sector. You have to be conscious that to do something like this, you have to make a transfer of assets, and you can do it in a stock way, or in a flow way, and probably you have to do it in both ways. What we did was both ways – stocks, plus designing our macroeconomic policies in such a way that there was a permanent flow in the way we changed our taxes and in the way we changed our pension schemes, that allowed year by year, an increase in the capital base of the private sector.' (Buchi, 1991, p. 11).

Besides debt, another standard type of security that could be used for this purpose is equity. Several analysts of the Eastern European privatization process have also emphasized variants of this basic method. Most notably, Sinn and Sinn (1991) have suggested that Treuhand ought to sell only a fraction of a firm to be privatized commensurate with the size of the pledged investments by the new acquirer, instead of selling the entire unit in exchange for cash. The remaining fraction of equity would then provide the Treuhand or government with future revenues. They also suggest that the recent deal between Volkswagen and Skoda – where the German acquirer receives a larger and larger fraction of equity in the Czechoslovak firm as it commits higher and higher investments – could be seen as a model for other privatizations. Similarly, Blanchard *et al.* (1991), Bauer (1991), Borensztein and Kumar (1991) and Bös (1991) have suggested that in order to guarantee a minimum source of income to the government in the future, some fraction of equity (in the form of preferred or common stock) ought to be retained by the state.

In this section we go further and propose that the government or privatization agency ought to organize auctions where (potential) buyers could submit both cash and non-cash bids. Such auctions would not only resolve the revenue shortfall problem but also achieve better

matching between firms and managerial teams. This scheme differs significantly from the above proposals that privatization should be in stages (that is, the government distributes only a small fraction of the shares in state-owned firms at a time. First, the latter scheme does not allow for the creation of a market for managers: only cash-flow claims are privatized, not control (under the staged privatization scheme, incumbent managers remain in place). Second, the staged privatization process does not allow for a system whereby the share of the claims in state hands varies from firm to firm, the state maintaining a bigger share in the more efficient firms. This has adverse effects both on the government budget and on the government's ability to insure potential acquirers against the uncertainty about the underlying value of the firm. It is useful to distinguish between two phases in the privatization of state firms: the phase of transfer of control (which can be achieved by auctioning state assets in exchange for non-cash bids) and the phase of transfer of claims (which can take place in stages). This section deals mostly with the first phase.

We focus here on the microeconomic issues raised by the organization of auctions with non-cash bids. We would draw attention to one macroeconomic property of this scheme. The use of non-cash bids implies that the government transfers productive assets to the private sector in exchange for, say, nominal debt or equity claims. This introduces an anti-inflation bias into the economy, since inflationary policies would erode the real value of the claims on the private sector held by the government (see Lucas and Stokey, 1983; Persson, Persson and Svensson, 1987 and Obstfeld, 1990). In addition, if the government receives rights to future revenues rather than cash it will not be able to dissipate immediately the proceeds from privatization.

An important aspect in the evaluation of the bids concerns the effects on the new acquirers' incentives of pledging a fraction of future revenues to the government. Basically, by allowing buyers to submit non-cash bids one allows then to design their post-privatization capital structure. Therefore one has to address the question of how the capital structure affects the (new) managers' incentives.

4.1. Sales with non-cash bids

To simplify matters we only consider three types of non-cash bids: standard debt, voting shares (or common stock) and non-voting shares (or preferred stock). Other related types of non-cash bids that have been suggested are leasing contracts and management buy-outs (see Sinn and Sinn, 1991). While it is easy to see how the introduction of debt or equity can increase the government's revenues from the sale

of state assets, it is less obvious how these non-cash bids affect the future owners' incentives and how these bids allow the privatization agency to screen buyers who can make efficient use of the asset from other (potential) buyers. Accordingly, this section discusses mostly the incentives and informational issues related to privatization.

One important advantage of non-cash bids is that many (potential) buyers with little current wealth can bid for state assets by committing either to sharing future revenues with the state or to fixed future debt repayments to the state. In this way, a team of managers or workers with little initial wealth but with the expertise to run a given firm efficiently may be able to outbid a wealthier but less efficient bidder. To put it differently, privatization based on sales only for cash may produce bids that mostly reveal the *ability to pay* of the bidder. This is likely to be the case when the expected price of the asset is substantially below the net present value of the asset in its most efficient use. In that case, even an inefficient but wealthy management team can make a profit from the acquisition. In contrast, when non-cash bids are allowed, the winning bid reveals the willingness to pay of the bidder; that is to say, the bidder's ability to run the business efficiently. Thus, with non-cash bids better matching can be achieved. In addition, incompetent but wealthy *nomenklatura* members will be in a less favourable position to outbid other less wealthy buyers. An additional advantage of non-cash bids is that better insurance can be provided, as well as better screening between inefficient and efficient acquirers (see McAfee and McMillan, 1987).

One risk of allowing non-cash bids, however, is encouraging frivolous bids: some bidders may offer very high future payments to the state which they will not be able to meet but, before they are called to honour their commitments, they will be able to enjoy the private benefits of running the firm. To the extent that frivolous bids are made, the introduction of non-cash bids could potentially induce worse matching than if they were not allowed. To discourage such bids, the government has to impose either minimum cash payments or severe penal sanctions on the new managers if they fail to make the promised payments. Failing that, the privatization authorities may have to carefully monitor the seriousness of each bid. This will introduce additional delays in the process.

Besides minimum cash payments, the question remains of what kind of non-cash bids should be favoured? Given that one aim is to decentralize control, bids of common stock such that the government retains a majority (or the biggest block) of shares should be discouraged; if possible, the government should only retain non-voting shares. However, the government – like any investor – must have some minimum

protection against the firm's new owners never making the promised dividend payments. One of the weakest protections is to retain cumulative preferred stock, which does not prevent the firm from missing dividend payments, but requires it to pay the cumulated dividend payments that have been missed in the past before it can pay dividends on voting shares. Thus, if the firm tries to expropriate the state by repeatedly missing dividend payments on non-voting shares it will have greater and greater difficulties in raising new equity.

However, the firm will not necessarily have greater difficulty in raising new debt, since in case of financial distress debt has priority over equity (provided the new bankruptcy laws incorporate this feature common to all bankruptcy laws in industrialized nations). Therefore, to give the state minimum protection it may be necessary to let some fraction of the non-cash bids be in the form of debt. Debt gives the government some leeway to extract payments from the firm by threatening to close the firm in case of default (see Bolton and Scharfstein, 1990, and Hart and Moore, 1991). Another advantage of letting the government hold debt is that it may induce the new managerial team to run the firm as efficiently as possible in order to reduce the risk of financial distress (see Grossman and Hart, 1982). All in all, it may be a good compromise to have a combination of debt and (non-voting) equity in the non-cash bids. Of course, the exact proportion cannot be determined at this level of generality. In fact the right mix between debt and equity has to be determined firm by firm.[7] Moreover, the current state of corporate finance does not enable us to make firm recommendations about the right mix between debt and equity.

A difficult question which needs to be resolved is how the government or privatization agency determines the winning bid when several bidders make non-cash bids – some pledging higher debt repayments, others higher cash payments and yet others a higher fraction of shares? There is no general fool-proof rule that can be determined to rank the various bids and it may be necessary to delegate the choice of the winner to a committee of independent experts. Note, however, that such difficulties are commonly encountered by Western administrations dealing with procurement auctions for, say, public works or defence contracts. Despite these ranking problems and other potential inefficiencies, such auctions are perceived to be the best method of determining the best deal the public authorities can get from private contractors.

Yet another potential difficulty with non-cash bids is how to evaluate extreme bids such as a bid offering 100% (non-voting) equity to the

[7] Some of the government's debt must be secured, otherwise the threat of bankruptcy may be ineffective.

government. Even if the new acquirer seems serious, the government may legitimately wonder what incentives the new owner will have to manage the company efficiently, when he gets none of the residual returns. In fact, because of the effect on incentives, the government may end up obtaining higher expected proceeds from the sale if it sells the firm to a bidder offering only 80% of equity to the government. Here again the determination of the winning bid may have to be left to a committee of experts – despite the obvious drawbacks of such a solution – or else the privatization agency may have to set ceilings above which (potential) buyers are not allowed to bid, such as, say, a rule that a maximum of 90% of equity can stay in state hands. Then if several applicants make the same maximum bid the privatization agency can select the most suitable buyer.

For the sake of concreteness, consider the following sketch of auctions with non-cash bids on a vast scale. In the initial stages it is easiest to follow in the steps of the Treuhandanstalt. Firms should first be commercialized; in a second stage a set of firms to be auctioned off should be advertised. A deadline should be specified for the submission of sealed bids to the privatization agency in charge of the auction. The rules of the auction should be clearly spelled out and basic information about what exactly is being privatized should be made available to the bidders. Bids should comprise a minimum cash bid (to discourage frivolous bidders) together with non-cash bids. The minimum cash bid may be determined on a case-by-case basis by the privatization agency.

The main difficulty in setting up an auction mechanism with non-cash bids is establishing a ranking of bids. To this end, each bidder must submit a business plan with an estimate of future cash flows. Then part of these cash flows can be pledged to the privatization agency in the form of non-voting shares or in the form of nominal debt repayments. To preserve the incentives of the winner, a ceiling of say 80–85% (depending on the size of the firm) of non-voting shares that can be pledged may be imposed. Similarly, a maximum debt–equity ratio may be specified so as to reduce the risk of default.

The ranking of the bids would be made on the basis of the estimates of future cash flows derived from the business plan. If the selection committee disagrees with the estimates provided by the bidders, they may modify these estimates, but their decision must be backed by numbers. At this stage, the committee could request additional information from bidders; one can also envisage some direct negotiations between the winner of the auction and the committee. If one is concerned with the committee favouring some candidates on grounds other than the maximization of the proceeds from the sale, then bidders should be given the right to appeal the committee's decision. The appeals court could then be composed of independent financial analysts, possibly from the West.

This sketch indicates that the committee's job is basically that of an investment bank. It has to evaluate the future stream of cash flows to determine both the value of the non-voting shares pledged to the privatization agency and the credit rating of the debt incurred with the agency. Moreover, once the auction is over, the agency may have to monitor the firms in order to preserve the value of its portfolio of securities. Given the nature of their task, it is then conceivable to eventually transform the privatization agencies into fully-fledged financial intermediaries. The proposal described very briefly here obviously must be given more body, especially concerning the operational aspects. The above sketch should be seen more as an indication that such a programme is feasible than as the skeleton of a precise auction scheme.

The difficulties with the implementation of a privatization plan based on sales of assets in exchange for both cash and non-cash bids are not insurmountable. In fact such schemes have been used in the past in Chile, (Buchi, 1991). Another noteworthy example is the case of auctions for television rights at the Seoul 1988 Olympics, where NBC won the broadcasting rights in exchange for a bid comprising a cash payment of $300 mn. and a non-cash bid specifying a revenue sharing provision of two-thirds of any revenues in excess of $600 mn. to the Games' organizers (McMillan, 1991).

Perhaps such auctions are slightly easier to organize for small or medium-sized firms, where it makes sense to have manager-owners and otherwise a reasonably concentrated ownership structure. Although in principle there is no major added difficulty in organizing such auctions for even the largest firms, greater attention must obviously be paid to these firms as the stakes are so much higher. Thus, the identity and intentions of the (new) management teams as well as their ability to run their firms efficiently must be carefully checked. As Carlin and Mayer (1992) point out, this monitoring activity is in fact an important part of Treuhand's sales strategy. For very large firms it is likely that the managers will hold only a small fraction of the equity, so that these auctions will resemble more auctions for managerial positions than auctions of ownership titles of the firm. As mentioned above, the privatization of large firms can be divided into two separate auctions. First, managerial positions are auctioned off, bringing about an efficient matching of managers and assets; then shares of the enterprises are auctioned off to the public. In that case, sales of the (non-voting) shares owned by the state can be made gradually since this would have little effect on productive efficiency once control has already been handed

over to a new managerial team.[8] Interestingly, China has introduced reforms allowing for auctions for managerial positions in state-owned firms, but not for auctions of shares (McMillan and Naughton, 1991).

4.2. Auctions versus bilateral negotiations

So far auctions have only been used to privatize small businesses and shops. For industrial firms the preferred method has been to sell these on a firm-by-firm basis while negotiating with a single buyer at a time. Naturally, if firms are sold for cash there are likely to be few buyers wealthy enough to put up the cash for the larger firms, so the privatization agency is likely to deal with only one potential buyer (or consortium of buyers) per firm. But if non-cash bids are allowed there is likely to be more competition. One may wonder whether the auction method should not then be extended to industrial firms irrespective of their size. Maskin (1991) has shown that in the absence of wealth constraints, sales through auctions (with cash bids only) are efficient not only in terms of revenue maximization but also in terms of achieving the best possible matching between owner-managers and productive assets. He also suggests that even in the presence of wealth constraints they are likely to perform well in terms of matching. Moreover, auctions reveal useful information about the underlying common value of firms through the bids of all the participants (Milgrom and Weber, 1982); this information is particularly useful in facilitating the emergence of new capital markets as it informs future private investors about the value of the newly privatized firms.

When bidders are wealth-constrained but can make non-cash bids, auctions have two advantages over bilateral negotiations with a single buyer. First, by forcing buyers to compete for the public asset higher bids can be generated. In bilateral negotiations, if the buyer knows that the state is eager to privatize quickly, he will act as if the asset is not worth much to him. As a result, the privatization agency may be forced to sell the asset at a much lower price than the buyer is likely to be willing to pay. This is an additional reason why Treuhand sold firms at such low prices. If, however, the buyer is uncertain whether he faces competition from another buyer, he will make higher bids even if it is known that the privatization agency wants to privatize quickly. The second advantage of auctions is that, to the extent that higher bids come

[8] In order to avoid creating a situation where most of the voting shares are in the hands of the managers and the bulk of remaining shares (owned by the state initially) are non-voting, one can specify provisions giving a voting right to the shares once they end up in private hands.

from more efficient management teams, better matching is achieved than if firms are sold on a first-come-first-served basis.

Auctions may also save time on the valuation of the assets to be privatized; if buyers compete for the acquisition of an asset, the privatization company can learn more about the asset's intrinsic value from the winner's bid than from an *ex ante* valuation. True enough, *ex ante* valuations may help generate higher expected bids by reducing the uncertainty bidders face, but the time saved may well justify the loss in expected revenue. In contrast, when the government is involved in bilateral negotiations with an acquirer, the only way for the government to get the buyer to pay more may be to provide hard information about the value of the asset to be sold, so that it is costlier to by-pass the valuation stage.

Finally, from the point of view of *ex post* incentives, auctions with non-cash bids do not distort incentives beyond what non-cash bids determined through bilateral negotiations would: Laffont and Tirole, (1992) show that the only effect of auctions is to reduce the informational rent of the winner. Otherwise, *ex post* incentives are as in any efficient bilateral contract.

4.3. Corporation taxes and non-cash bids

Both non-cash and future corporation taxes are ways for the government to obtain future revenues from firms. Why should the government go through all the trouble of selling state assets in exchange of debt or non-voting equity when it can simply tax the future revenues of the privatized firms? A general answer is that taxing corporate profits *ex post* is not the same as having firms committed *ex ante* to pay the government a fraction of future profits. For one thing, the government need not be concerned about the effects non-cash bids committed to the government by privatized firms may have on the future investment incentives of other firms. In addition, when the government sets a corporation tax affecting all firms across the board, it must worry about the effects of an announced increase in the tax on investment incentives. More practically, enforcing the payment of pledged debt repayments or dividend payments is not the same as enforcing tax payments. A government with a debt claim is in a much stronger position to force the newly privatized firm to pay out than a government trying to enforce payment of corporation taxes. If the firm does not meet its debt obligations the government can force the firm into bankruptcy, whereas if the firm does not pay any corporation taxes the government must first establish whether the firm indeed had positive net revenues and only then can it impose penalties for non-payment of taxes. Moreover, these

penalties are likely to be softer than the threat of bankruptcy. Similarly, enforcing payment of dividends may be easier since presumably the newly privatized firms will be eager to establish a reputation for paying dividends in order to be able to make new equity issues if these are necessary.

We close this section by raising an important issue. If most state assets are sold in exchange for debt, there is a risk that the government may quickly end up again controlling a substantial fraction of firms which were not able to meet their debt obligations. As in Chile in 1982, the government may be forced to renationalize *de facto* a fraction of the newly privatized firms. More generally, if the government holds substantial fractions of debt in most of the privatized firms it may be able to exercise indirect control over these firms, as the German and Japanese banks exercise control over firms to which they lend. If this is the case there would not have been a complete privatization of the state-owned sector. In order to avoid excessive concentration of power, the government could first limit its debt holdings in the privatized firms and, second, attempt to achieve as widely-dispersed ownership as possible. This may involve in particular the creation of financial intermediaries who would manage part of the state's portfolio of assets together with other private securities.

5. Related issues

All the issues raised by mass privatization cannot be addressed here. Some issues, like demonopolization, have been dealt with extensively elsewhere (see in particular Carlin and Mayer, 1992, Mayhew and Seabright, 1992, Newbery, 1991a, b and Tirole, 1991). We briefly discuss only two additional related issues in this section: financial restructuring and the management of the state sector.

5.1. Financial restructuring

Several analysts have suggested that existing debts in state firms should be written off entirely (*inter alia*, Begg, 1991, and Begg and Portes, 1992, Frydman and Rapaczynski, 1990, Newbery, 1991a). The basic rationale is that the allocation of credit to firms in the past has not been based on any sound financial principles so that many firms with a positive net continuation value have ended up with excessive liabilities. Instead of distorting these firms' incentives by leaving them with an excessively leveraged capital structure, the suggestion is to let newly privatized firms start their new life with a clean slate. While debtors would clearly benefit from such a move, creditors are going to be hurt

by it. The latter are state banks, who have used individual deposits as well as government subsidies to make loans to firms. If these loans are written off, the state banks will go bankrupt and the government, as well as individual depositors, will be hurt. The individual depositors will have to be compensated so that the ultimate loser is the government. Thus, the real cost of writing off debts is an increase in government expenditures at a time when public finances are already severely strained. As Carlin and Mayer (1992) explain, the Treuhandanstalt has opted for massive write-offs (up to 75% of the debts) despite the dramatic public finance consequences. Of course, in Germany this bill can be picked up by West German taxpayers, but in the other three countries one may wonder how the government will finance this increased expenditure.

Now, if firms are auctioned off in exchange for cash and non-cash bids, as described in Section 4, then debt write-offs will have no adverse consequences on the state budget. Any reduction in existing debt will be immediately reflected in the net present value of the firm and therefore in the bids made for the firm. The combination of debt write-offs with auctions will amount to a swap of securities, with existing debt being exchanged for either cash or shares and debts in the newly privatized firm. This process will allow the new owners of the firms to optimally redesign their capital structure, thus implementing the desired result. Debt write-offs thus go hand in hand with auctions.[9]

5.2. Improving the efficiency of the state sector

Even with a strong commitment towards rapid privatization, several years will be necessary to complete the privatization of the bulk of state assets. Therefore some attention has to be directed towards improving the efficiency of the state sector awaiting privatization. In this respect, several useful lessons can be drawn from the recent Chinese experience.

There is no necessary sharp discontinuity between private ownership and public ownership; it suffices to look at the examples of the British or French economy to see this. The Chinese reform process was a largely successful attempt to move state-owned firms towards what privately-owned firms look like, without going all the way towards

[9] An additional benefit of this procedure is related to the credibility of bankruptcy as an incentive scheme. Privatization is like a change of regime and being soft on debtors during the regime change does not necessarily signal that the government will be soft with debtors in the future. On the other hand, if the government fails to write off debts before privatization and allows such write-offs to take place after privatization when firms are in financial distress, then the government may find it difficult to enforce a hard budget constraint on the newly privatized firms. We thank Paul Seabright for this remark.

full-blown privatization. At the same time, conditions were set up for the emergence of a private sector which would eventually compete with the state sector. State-owned firms are gradually transformed into semiprivate firms by giving them greater autonomy over production decisions and by allowing them to retain a greater fraction of the profits they generated. The Chinese government also introduced auctions for top managerial jobs where potential candidates would submit bids promising minimum performance targets for the future (McMillan and Naughton, 1991). These auctions could play a similar role to auctions for private ownership in terms of achieving better matching. The combination of all of these reforms has had a tremendous impact on productivity (Hussein and Stern, 1991, and Groves *et al.*, 1991). This shows that sensible partial reforms can substantially increase the efficiency of the state sector. Note, however, that in the case of Hungary, Poland and the Soviet Union, previous partial reforms allowing greater autonomy in decision-making and giving higher retained profits were not as successful, most often yielding little gain and unleashing inflationary pressures. But Chinese reforms were much more radical to the extent that they involved the creation and development from below of a significant private sector.

Another important difference between Eastern Europe and China should be noted. When the state firms were reformed in China there was no expectation that they might be privatized in the near future. The mere expectation of privatization may create incentive problems that are difficult to control. An extreme form of perverse incentives created by the expectation of privatization is the plundering of assets by incumbent managers that has been witnessed in Poland and Hungary. There are many less visible manifestations of this type of behaviour, and in order to counteract these perverse incentives it is important to provide incumbent managers in the state-owned firms with a stake in the privatization of their firm. This could be achieved, for example, by letting incumbent managers do a leveraged buy-out when no alternative serious buyer appears. Alternatively, incumbent managers ought to be allowed to participate in the auction for their firm, or they should receive compensation for losing their jobs after privatization if they can show that their management effort prior to privatization has enhanced the efficiency of the firm.[10]

[10] One natural countervailing force inducing managers to run a state-owned firm efficiently even if the firm is likely to be privatized soon is the reputation managers are likely to acquire. This reputation may help then to find a job in the emerging private sector, just as a reputation for efficient administration in, say, the French civil service can allow a civil servant to get a high managerial position in the private sector (see Roland and Sekkat, 1992).

An important aspect of the management of the public sector in the transition period is centralized control over expenditures and access to credit. In East Germany, the Treuhandanstalt monitors the management of its enterprises by controlling their access to liquidity and investment credits (Carlin and Mayer, 1992). Hardening the budget constraint in the public sector essentially means limiting the expenditures of public enterprises and using the threat of bankruptcy to obtain higher effort. These instruments are however imperfect. Indeed, squeezing access to public-sector funds can induce enterprises to reduce their costs, but can also reduce the quality and quantity of their services. As for the threat of bankruptcy, its credibility will remain low as long as capital markets are not developed enough, and as long as the rate of entry of new firms is not great enough to compensate for exiting firms. If bailing out privatized firms may prove difficult to resist in the near future, this will *a fortiori* be true for state-owned enterprises.

Finally, one should also mention the importance for the efficiency of both the state and private sectors of the introduction of well-functioning labour and housing markets. These dimensions, as well as those concerning the underlying legal structure, are of paramount importance, but a full treatment of these issues is unfortunately beyond the scope of this paper.

6. Conclusions

Four central policy conclusions emerge from the above analysis. First, privatization through give-away schemes is likely to create a budgetary crisis, unleashing inflation and destabilizing the young and fragile democracies in Eastern Europe. In our opinion, the most important issue concerning privatization in Czechoslovakia, Hungary and Poland is the dramatic effect on the government budget of the loss of cash-flows from the previously state-owned firms. There is mounting evidence that even in the remaining state sector the tax authorities are having increasing difficulties in collecting tax revenues. These difficulties will be even greater once these firms are privatized. Therefore, the main priority of the privatization plans in these countries should be the maximization of the proceeds from the sale of state assets. The pursuit of this objective may go against accelerating the place of privatization. We believe that this is a small cost to pay for the guarantee of a smooth transition process. The recent experience of China in reforming its planned economy indicates that, following the decentralization of decisions in state firms, the government quickly lost control over the revenues generated by those state firms and, despite a sharp increase in productivity, government revenues declined: the government deficit

increased sharply despite the fact that the economy was booming. This increase in the deficit in turn led to an increase in inflation, which was so sharp that the government was forced to interrupt the reform process and to trigger a severe recession at the end of the 1980s. A similar scenario awaits Czechoslovakia, Hungary and Poland, if they do not control the erosion in state revenues following the privatization of the bulk of state assets.

Second, privatization through mass give-away schemes creates an environment which is too favourable to incumbent management. In Czechoslovakia, the voucher scheme will lead to the privatization of cash-flow claims but it will not lead to the privatization of control; incumbent managers will remain in place and, without well-functioning capital markets, inefficient managers will not easily be removed through takeovers. Neither is product market competition going to impose discipline on these inefficient managers, since there has been no attempt at breaking up the monopolistic structure of the old state sector. In Poland, a mechanism for controlling incumbent mangement has been proposed – mainly the creation of financial intermediaries playing a supervisory role – but it is unclear how effective these holding companies will be or how they in turn will be monitored effectively by the regulatory authorities.

Third, privatization through sales has been dismissed too soon because of the difficulties arising from the level of private wealth, the resulting stock-flow constraint and valuation problems in the absence of capital markets. These problems can and must be solved, even though the solutions cannot be perfect. We have suggested a policy of auctioning off state assets in exchange for cash and non-cash bids, involving the transfer of control into private hands in exchange for debt claims or other securities, thus transforming the government into a net nominal creditor. Such a policy reconciles several desirable policy objectives: speed of privatization, higher efficiency, introdution of capital markets and balanced budgets. It also allows the government to write off the existing enterprise debts without substantial revenue loss, since the debt write-offs will be reflected in higher bids for the state firms. The important added advantage of writing-off debts before privatization is that the government will not be faced with the prospect of having to write off some of these debts in the future in those firms that have inherited an unusually high stock of debt, thus introducing doubts in the minds of managers about the government's commitment to enforcing debt repayments.

Fourth, however, one should not underestimate the difficulties ahead, in particular the enormous administrative and management efforts associated with mass privatization. A generalized policy of sales in exchange for cash and non-cash bids may require similar monitoring efforts, in identifying serious buyers, to those undertaken by the Treuhandanstalt. This will then inevitably slow down the pace of privatization. In addition, the larger firms to be privatized are likely to see a separation of ownership and control, as the winning bidders will only own a small fraction of the cash flow claims. These firms' management teams may need to be supervised by the newly privatized banks. Alternatively, they may be monitored effectively by supervisory boards similar to those existing in Germany.

Discussion

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This paper addresses two-and-a-half of three fundamental questions about privatization in Eastern Europe:

(i) How fast should it be done?
(ii) Should assets be sold or distributed free, and how?
(iii) Should restructuring (demonopolization, etc.) happen before or after privatization?

Eminent economists such as Blanchard *et al.* (1991) have given a clear answer – speed is of the essence and therefore privatization in Eastern Europe must proceed by free distribution and before restructuring. Bolton and Roland say the opposite – assets should be sold, in particular by auctions involving non-cash as well as cash bids, and at a moderate pace so as not to jeopardize the government's fiscal position. Both sides of the argument invoke considerations of microeconomic incentives, macroeconomic stability, public finance, fairness and political acceptability. Who is right?

A follower of the privatization experience of a market economy such as Britain's might incline to the Bolton–Roland view – but for a somewhat different reason from theirs. The best recipe in that case appears to be to restructure first in order to create competitive market structures where possible and then to sell the assets in a way that maximizes revenue. But of course the economic, political and legal circumstances in Czechoslovakia, Hungary and Poland are altogether different from those in the West and the lessons from there cannot be applied straightforwardly.

Bolton and Roland build an impressive case for their view and they construct an ingenious way of easing the tradeoff between efficiency and revenue considerations. They show that considerations of fairness and politics do not unambiguously favour rapid privatization by

give-away, and they highlight the legal and administrative need to define ownership titles whatever happens (but is privatization perhaps an essential part of this?). They present detailed analyses of the matching and incentive benefits of methods of asset sale. However, they do not convince me in every respect.

First, even for small firms, the idea of privatizing in a way that leaves the private sector with substantial debt obligations to the government seems dangerous, especially when there is massive uncertainty about relative prices, wages and the general level of macroeconomic activity. In particular it carries the risk of large-scale endogenous reversals of privatization via bankruptcy, as in Chile in 1982–83, depending on the government's toughness. In any event, the microeconomic efficiency benefits of bankruptcy threats are not clear cut, especially when there is a lot of exogenous noise, and there are obvious disadvantages of debt in the presence of risk-aversion.

An alternative is partial equity sales, in which the state retains a substantial fraction of shares. Philippe Aghion and I, in a similar spirit to Bolton and Roland, have analysed the tradeoff between the incentive disadvantage of low-powered incentive schemes and the 'sorting' advantage of the government retaining a larger stake. The sorting advantage is that the probability of ability rather than wealth endowment determining the winning bidder is greater when the fraction being privatized is smaller. Much turns on the correlation between ability and wealth endowment.

Given the emphasis that Bolton and Roland place upon the stock-flow constraint, an important alternative may be to lease some capital assets owned by the state, at least for a time. This is not a perfect solution in any industry, and it would be totally unsuitable for some, but the combination of private operation with deferred capital asset transfer appears to have some attractions, particularly in the early stages.

Second, the authors' proposals seem better suited to small enterprises than to large firms, though the latter have accounted for an unusually high proportion of economic activity in Eastern Europe. It is true that financial intermediaries such as holding companies and mutual funds are not a panacea and that they multiply rather than solve the 'who monitors the monitors?' question, but their risk-spreading function in current circumstances is surely of first-order importance. Pension funds in particular would seem to be a useful way of ameliorating the stock-flow problem that is central to the paper.

Third, while this paper says a great deal about ownership reform, it says relatively little about competitive markets (other than potential auction markets for privatized assets.) As for sequencing (question (iii) above), references are made to other literature, trade liberalization is

mentioned as a source of competition, and it is pointed out that demonopolization may lose the state revenue, but more emphasis should be given to markets and competitive restructuring. The matching, sorting and informational benefits of competition are not confined to asset auction markets, and, as is noted, product market competition allows managerial incentives to be improved. Industrial structure in Eastern European economies, with its high degree of horizontal and vertical integration, is the legacy of centralized planning. Unless immediate privatization is imperative for political reasons, or because it is the only way to stem anarchic rent-grabbing, the benefits of pro-competitive restructuring would appear to be large and indeed an essential part of the proper development of market-based economies. Since divestiture is best done before sale, the consequence is that some privatizations will be delayed.

These industrial organization considerations are complementary to the public finance reasons in the paper for moderating the pace of privatization. They are more important, I think, than the paper suggests. The case for pro-competitive restructuring is strong. Perhaps the privatization experience of market economies, despite the vast differences, is of some relevance after all.

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Although the detail of this thorough analysis of the economics of privatization risks becoming outdated, its main message is robust: regardless of how quickly Eastern Europe wants a private sector, it will have to trade this desire against budgetary and macroeconomic stability. My discussion will focus on practical issues. It seems evident that in countries where the central government is only beginning to regain credibility (and, more crucially, control), simple solutions should be preferred. Auctions are complicated affairs and require considerable information to yield maximum income to the auctioneer (the state). In Central and Eastern Europe, information is a scarce resource which confers significant economic rents to the owner (the current managers); the commercialization process will require considerable time to collect and disseminate the data to achieve the matching benefits claimed for the auction mechanism. The state must organize thousands of these auctions. A competent auction bureaucracy will be required, that is capable of comparing apples and oranges. Which is superior: a bid of Kzs 100 mn. cash plus Kzs 300 mn. of 10-year debt or Kzs 250 mn. of cash plus Kzs 100 mn. of five-year debt? The authors' proposal presumes the existence of a financial infrastructure with experts able to value and

rate the debt. Does the debt have the same seniority as that already on the firm's books? Does one consider the quality of the management team as well? These issues pose difficulties for sophisticated Western investment bankers. How can we expect the Eastern Europeans to crack this nut? How many consultants and investment bankers will the authors' proposal require? To add to all this, to obtain credible bids, there must be a threat of bankruptcy in case of default on the tendered debt. This presumes a functioning, credible body of bankruptcy law. A hallmark of the ex-communist economies (even East Germany) is their reluctance to implement or apply even existing bankruptcy law to moribund firms.

Several simpler alternatives exist to auction-style, mixed-bid privatization, despite its considerable theoretical appeal. The authors' ultimate aim is to preserve a residual stake for the state in the privatized enterprises, a sort of sleeping partner. The simplest procedure would be to withhold some fraction of the business's equity from privatization, and to privatize the rest by whatever means it chooses. As with the authors' proposal there is no deadweight loss associated with the corporate tax and probably fewer collection problems. A still simpler but theoretically similar alternative is leasing, or lease-buy-back arrangements (such as the small privatization in CSFR).

Another approach to rapid privatization is to use the state's property to recapitalize banks, insurance companies and pension funds, by simply transferring ownership to these often seriously undercapitalized financial intermediaries. This approach has been adopted most recently by Czechoslovakia (see Hrnzír, 1992, or Janázek, 1992). It would also have the advantage of cancelling in a non-arbitrary fashion the non-bank business sector's debt to commercial banks. With sufficient technical assistance from the West, Eastern European banks could learn to become large stakeholders and exercise appropriate continental European-style control. Western techniques and self-discipline would be applied to new loans at the margin.

Still another stop-gap (and cheap) idea is simply to invest lots of resources in appointing and training competent supervisory boards for state enterprises. Workable supervisory boards can prevent state capital from being taken either by managers (by asset-stripping or spontaneous privatization) or by workers (via excessive wage claims).

Finally, the authors' case against asset giveaways seems incomplete. Their claim that inefficiency in matching has been responsible for poor enterprise performance is not sufficiently substantiated. Are we sure there are new managers to be found? Existing enterprise managers possess considerable human capital and skills. Arguably, they are the same people who would have made it to the top in a capitalist world. They just need to be retooled if possible – and, more importantly, monitored. Why can't institutions – Kozuny's Harvard fund in Czechoslovakia or the banks and pension and insurance companies in Hungary – perform this role? With sufficient technical help, large stakeholders maximizing their own interests will induce proper managerial behaviour, just as in developed capitalist economies.

More generally, I think the underlying stress on matching assets with managerial talent may be excessive. Enterprise restructuring (including killing off the dinosaurs, which trap labour and management resources, as well as having considerable political influence) is more important than transferring ownership. And the redeployment, remotivation and retraining of workers may be at least as urgent as that of managers.

Although they have complications, the case for mixed-bid auctions should still be taken seriously, and the alternatives I sketch rest on the authors' solid analysis. I believe that this paper will serve as a standard for future work in the area.

General discussion

Some of the panel discussion focused on the authors' diagnosis of the problem with existing schemes, and some on the details of their proposed remedy. Beginning with the diagnosis, Maurice Obstfeld thought the stock-flow constraint was less severe than it looked: it could be alleviated by allowing firms to issue debt abroad. Rafael Repullo pointed out that the stock-flow constraint was really a liquidity constraint, due to the inability of borrowers credibly to pledge future income as security; borrowing abroad might not help. David Begg argued that the governments too were liquidity-constrained, and the crisis in public finances would happen too soon for the authors' proposed solution to make much difference.

Others doubted the significance of the matching problem. Jacques Drèze thought the need for training was much more important; private markets could not be relied upon to do the job. Bidders for firms should be assessed, he argued, partly by their ability and willingness to train workers and managers. The state, for its part, could establish intermediaries specializing in training, who could retain substantial shareholdings in firms. It could also promote training via its residual influence on supervisory boards where these existed. John Flemming disagreed, thinking that other incentives were needed to solve the training problem than continued government involvement in the management decisions of firms.

Coming to the merits of the authors' solution, there was much discussion of the particular form in which firms could pledge to make

future payments to the state, Maurice Obstfeld was unconvinced that the government would be able to enforce debt obligations credibly, especially for large firms. Guido Tabellini argued that it was desirable in principle to tax existing capital heavily while taxing marginal capital investment as little as possible. He was concerned that the authors' proposal caused distortions by being effectively a tax on profits, a concern that was echoed by Martin Hellwig who thought nothing should be done to dampen the signalling role of profits for new investment. Richard Portes thought profits taxes too easily evaded to be a significant source of revenue. However, John Flemming and Hans-Werner Sinn both proposed that cash-flow-based taxation could overcome these problems.

Alan Manning said that the advantages of auctions with non-cash bids over existing proposals depended entirely on the criteria that would be used to evaluate non-cash bids. He wished the authors had been more explicit about these criteria. Replying, the authors acknowledged there was work still to do on their proposal, but argued that their main purpose had been to shift discussion away from questions of speed onto the important implications of privatization for public finances. In addition, non-cash bids allowed for the decentralization of the important decisions that would have to be taken about firm restructuring, including closure of the firms with the worst prospects. It was important to find ways to take these decisions quickly without taking them arbitrarily. Even if it turned out that mismatching of managers to firms was not an important problem, this could not be decided *a priori* but should be left to markets to evaluate.

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