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VOUCHER PRIVATIZATION

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Voucher Privatization.

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I. Introduction.

Since 1990, several countries in Eastern Europe have initiated mass privatization programs. These programs provide for a rapid giveaway to the population of a large fraction of previously state-owned assets. This transfer of assets is unprecedented in recent history, because it is so comprehensive, rapid, and, most importantly, free.

Not surprisingly, many economists have taken notice of, and even actively participated in, the design of mass privatization programs. Several recent studies, including Blanchard et al (1990), Frydman and Rapaczynski (1991a, 1991b), Lipton and Sachs (1990), and Bolton and Rolland (1992) have described, advocated, criticized, and made recommendations for these programs². Yet these studies do not fully address some of the essential issues. First, they tend to underestimate the the extent to which political rather than economic forces shape mass privatization in Eastern Europe -- starting with the very decision to go with mass privatization down to details of program

¹This paper is based on a sequence of memorandums that the authors prepared for the Russian Privatization Ministry during 1992. The opinions offered here are our own. We are grateful to Roman Frydman for comments on an earlier draft. This research was supported by a grant from the Bradley Foundation.

²Of these studies, Frydman and Rapaczynski (1991a) is the closest to us in the general views of privatization.

design. Second, they typically do not deal in as much detail as we do with the design of the programs. This paper, then, attempts to provide a more complete political and economic picture of mass privatization, particularly voucher privatization. While we draw on the experience of several countries in Eastern Europe, we focus on the case that we are mostly familiar with, namely the Russian mass privatization program.

The next section of the paper argues that the case for mass privatization rather than conventional privatization through the types of sales used in Western Europe, Latin America, Asia, and Africa, is largely political and not economic. It claims that the discussions of whether, from the economic point of view, conventional or mass privatization is better are totally misguided. In most Eastern European countries, conventional privatization is politically infeasible. At the same time, we argue that from the viewpoint of economic efficiency, some forms of mass privatization are not as bad as is commonly supposed. Section III deals with the design of a voucher privatization program. It discusses the allocation of assets to mass privatization, the mechanisms for transferring claims to these assets to the public, and the circulation of vouchers. Again, we stress the political and not just economic factors in program design. Section IV concludes with a brief discussion of pitfalls of and prospects for voucher privatization.

II. Is Mass Privatization a Good Idea?

Two broad strategies for privatization must be distinguished. The first is the sale

of individual enterprises or of their shares for cash or promises of future payments³. Sometimes these sales take the form of auctions or investment tenders, in which case the winning buyers offer the best price or the best capital investment program and employment guarantees. In other cases, the sales are direct and non-competitive. In still other cases, shares are sold through public offerings. This standard approach to privatization has been used in the United Kingdom and elsewhere in Western Europe, in Asia, in all of Latin America, and more recently in Hungary and Germany. It has also been tried, and abandoned, in Poland.

The alternative approach to privatization -- which is unique in Eastern Europe and other post-communist economies such as Mongolia -- is mass privatization. It is usually distinguished from ordinary sales along three dimensions. First, the allocation of assets to the population in mass privatization is free. Second, a much higher fraction of the economy's assets is usually covered in mass privatization. Finally, because the allocation of assets is free, such privatization, at least in principle, is also faster than ordinary privatization. It is hard to identify the one defining feature of mass privatization, but the first two are probably more important than the third.

Mass privatization can take a variety of forms. It can take the form of free grants of shares to workers and managers in their own enterprises. It can also take the form of distribution of (possibly tradeable) vouchers to the whole population, with the subsequent exchange of these vouchers for shares in state enterprises. Finally, mass privatization may involve a direct allocation of shares to specially organized mutual

³For an analysis of privatization through sales, see Kikeri, Nellis and Shirley (1992).

funds, followed the distribution of shares in these funds to the population. These various strategies can be combined with each other, as in fact they have been in many countries. Mass privatization has also been typically combined with ordinary privatization, such as sales of some assets through cash auctions or investment tenders. Mass privatization has been attempted in Romania, Poland, Czechoslovakia, Mongolia and recently Russia.

Relative to more conventional asset sales, mass privatization has attracted a great deal of scepticism. Accordingly, before discussing the design of a mass privatization scheme, we must ask why most governments in Eastern Europe have followed this strategy rather than conventional asset sales? The choice of privatization strategy is determined by both economic and political considerations. To evaluate a strategy, we must first ask what one wants out of privatization economically and politically. Having set out these criteria, we can compare privatization strategies.

From the economic efficiency viewpoint, privatization has four primary objectives. First, firms should actually become private, in the sense that state control and subsidies should disappear. Whenever state control and subsidies remain, firms continue to cater to the wishes of the state, which are typically inconsistent with employment reduction, changes in product choice, and other aspects of restructuring⁴.

Second, assets should be allocated to the most efficient users. Presumably, many managers of state enterprises need to be replaced. In many cases, assets even need to be allocated to a totally different use, for example moved from military to civilian production. Privatization must facilitate this reallocation of assets.

⁴For an analysis of privatization from the perspective of soft budget constraints, see Boycko, Shleifer and Vishny (1992).

Third, to make sure that the new owners actually restructure the privatized firms, efficient governance mechanisms to oversee the management of the privatized firms must be set up. When tough measures on the part of the managers to restructure their enterprises are needed, and many managers are not up to them either politically or for lack of skills, putting external pressures on the managers is essential.

Fourth, to prevent continued mismanagement and decline under state ownership, efficient privatization must be fast. Time becomes even more of the essence in countries like Russia, where transition from communism is accompanied by massive theft of state assets by enterprise managers.

These four efficiency criteria are widely accepted by most writers on privatization (Blanchard et al 1990, Frydman and Rapaczynski 1991a, 1991b, Lipton and Sachs 1990, Bolton and Rolland 1992, Phelps et al 1992 etc). Some scholars have also argued that an important objective of privatization, particularly in Eastern Europe, is demonopolization. In some countries, such as East Germany, this goal is plausible since Germany is putting tremendous financial and human resources to restructure East German industry from the start. In most other countries, this goal is simply unrealistic.

Economic efficiency would be the sole objective of privatization only in the case of a benevolent and omni-powerful government. In practice, privatizations are usually pursued in hotly contested political environments, particularly in post-communist countries. As a result, a feasible privatization strategy must be politically popular to be both chosen in the first place and sustained afterwards. Political acceptability is absolutely critical to an attractive privatization program.

Three aspects of political acceptability are important. First and foremost, the program must be regarded as equitable and fair, as opposed to being a transfer to a particular privileged group. As we discuss below, governments throughout the world, no matter what their approach to privatization is, are greatly concerned about the perception of the program, and take substantial steps, such as banning foreign participation, to avoid the perception of inequity. A wrong image can stop privatization in its tracks.

The second aspect of political acceptability is sustainability or momentum. An attractive program must be able to generate public and interest group pressure for privatization once it starts. Many countries, of which Russia is only a dramatic example, experience a change in government once privatization begins. A new government need not be as sympathetic to privatization or as interested in it as the government that started the process. When the government support for privatization diminishes, it must rely on support from the public, the managers, and the employees of privatizing enterprises to keep going. If such support exists, the process of privatization can be self-reinforcing. If, in contrast, privatization once it starts generates discontent, the likelihood that some future government stops or even reverses the process is very high.

The final feature of a politically attractive privatization program, stressed most notably by Frydman and Rapaczynski (1991a), is that it offers each citizen some choice in what assets to get in privatization. Choice tends to increase public interest and involvement in privatization, as the enthusiasm in Czechoslovakia reveals. In contrast, if privatization simply assigns to people pieces of paper that are allegedly claims to assets, the perception of newly acquired ownership is probably much weaker. Choice also

generates the beginnings of competition between companies for investors, which will undoubtedly become more important as capital markets develop.

In the following discussion, we address the economic and political properties of both conventional sales and mass privatization. While it is hard to argue with the claim that conventional sales generally have the best efficiency properties, the political case against such sales and for mass privatization in Eastern Europe is overwhelming. At the same time, mass privatization need not fall far behind from the efficiency viewpoint.

The Case for Sales

The argument for conventional privatization is essentially the efficiency argument for auctions. When companies are sold in auctions to single buyers, they are presumably allocated to the highest value users. In turn, the highest value users should be the ones capable of reaping the largest efficiency gains from restructuring. The ownership stake of these buyers gives them the incentive to resell the firm if they fail to secure the maximum value from the firm's assets. With perfect capital markets, the efficiency case for auctions is compelling.

When some potential bidders cannot raise the funds to make their bids, auctions can lead to low prices, assets may not end up in the hands of the highest value user⁵, and shareholdings may be less concentrated than efficient governance calls for. However, the winner of the auction is still likely to be an alliance between some high value user and a core investor, such as a bank or a foreign partner, each of whom has a

⁵Shleifer and Vishny (1992) show how, with imperfect capital markets, auctions need not ensure efficient resource allocation.

substantial stake in the firm's success. In these cases, the providers of funds will also deliver the subsequent monitoring and discipline of the manager since their money is at stake. Indeed, the need for an effective governance system has been viewed as one of the most important objectives of privatization. Large shareholder and bank monitoring, as opposed to takeovers and other stock market mechanisms, are the most plausible candidates for effective governance systems in Eastern Europe (Phelps et al 1992). Sales through auctions meet the objective of governance in so far as fund providers, such as the banks or wealthy (perhaps foreign) investors, have the incentive to put in place a reasonably efficient governance system.

In addition, cash auctions generally maximize government revenue. With the precarious budget and inflation situations faced by many reforming governments, the opportunity to raise significant revenue from privatization should not be ignored. Of course, revenue forecasts are often exaggerated: privatization in Germany has brought in much less revenue than was anticipated. Nonetheless, more revenue is better than less.

These arguments for privatization through sales are very compelling. In light of these arguments, most countries with already developed market economies have adopted this privatization strategy. In some of these countries, such as Chile and Mexico, conventional privatization has become a stunning success. Most state firms have been sold through competitive procedures to single private buyers who have subsequently made substantial progress in restructuring them. In other cases, initial public offerings were used, and again large efficiency improvements followed (Megginson, Nash and van Randenborgh 1992). In all cases, the governments have received substantial proceeds

from privatization. Throughout the world, privatization through sales has been a great success (Kikeri, Nellis, and Shirley 1992). Why, then, are East European governments choosing to go with mass privatization?

The Case for Mass Privatization

The case for mass privatization in Eastern Europe is primarily political, although as we argue below an efficiency case for some mass privatization strategies can be made as well. Eastern Europe must live with two fundamental facts that distinguish it from Western Europe, Asia, Germany and Latin America where privatization by conventional sales has succeeded. First, because virtually all assets are in state hands, private wealth available for buying assets is very low while the supply of assets to be privatized is very high. On some estimates, wealth available for the purchase of assets in Poland and Czechoslovakia amounts to between 1 and 10 percent of the artificially low book value of assets (Bolton and Rolland 1992). Similarly, Russia has virtually no private sector or wealth, and needs to privatize around 100,000 firms. In contrast, Chile or Mexico each had a strong private sector and considerable private wealth, and needed to privatize only a few hundred firms.

Of course, low wealth does not by itself pose a problem for privatization (as opposed to state revenue), since it only implies low prices of privatized assets. Other things equal, assets would still be distributed to efficient users who would try to arrange efficient governance. Here is where the second problem of Eastern Europe comes in, namely the extremely uneven (and ostensibly unfair) distribution of private wealth, with

black market businessmen and ex communist officials holding the lion share. This implies that, if auctions are held, not only will prices be low, but the buyers at these prices will be confined to a small set of politically unattractive characters. The idea of selling state assets for very low prices to communists, criminals and foreigners has not been terribly popular in Poland, Russia, or Czechoslovakia⁶.

The main appeal of mass privatization, then, is that it allows much broader segments of population to benefit from privatization than outright sales do. Indeed, the prospect of a state giveaway has driven the public support for privatization, and reform more generally, in Eastern Europe. Privatization in Czechoslovakia received enormous public support and led to the election of Vaclav Klaus as the prime minister. Indeed, the perception that privatization will benefit Czechs more than Slovaks is in part responsible for the splitup of the country, and the slowdown of privatization in Slovakia. In Russia, President Yeltsin devoted his major address on the first anniversary of the failed communist coup to the announcement of voucher privatization. The politics of Eastern Europe demand mass privatization.

This point should not be underestimated. In many countries in Eastern Europe, the relevant alternative to mass privatization is not privatization through sales as in Chile or Mexico. Efficient as it may be, such privatization is simply unacceptable to voters. The failed privatization through sales in Poland, where the population saw it as a sellout to the Germans, makes this abundantly clear. Even in East Germany, the sales to West Germans were extremely unpopular despite the massive transfers of resources to East

⁶See Frydman and Rapaczynski (1991a) for a related point.

Germany that accompanied privatization. In Mexico, where private ownership is much more widely accepted than in Eastern Europe, the government had to promise to allocate the proceeds from conventional sales to social insurance funds, so the public as a whole could benefit. The trouble with using the Mexican strategy in Eastern Europe and Russia is that the public will expect such funds to be misallocated or stolen. In addition, the cash-poor public will resent its complete exclusion from privatization.

The politically feasible alternatives to mass privatization are two fold. In the most likely scenario, without mass privatization there would be no privatization at all, and assets will remain in state ownership. Firms' budget constraints will remain soft, nomenklatura managers will keep their jobs, layoffs and competition will not be allowed, and no restructuring will take place. This option appeals to entrenched ministry bureaucrats, managers of value-subtracting enterprises, and some well-paid workers who fear privatization and restructuring. In Russia, these groups have formed a very powerful Parliamentary lobby to stop mass privatization and may still succeed.

The second realistic alternative to mass privatization is sales at low prices or giveaways to the workers and managers of firms, who might see the lack of popular support for asset sales as a license to grab state assets. The managers thus insist on preserving the status quo of state ownership, or, better yet, on getting complete control of the state assets to the workers and themselves. Such privatization is most likely to lead to worker control, with the obvious consequence of delayed and much less effective restructuring (Hansmann 1990, Boycko, Shleifer and Vishny 1992). Alternatively, it may lead to complete control by the existing managers with no hope of external governance

and little hope of restructuring when the managers are incapable of it. Even more importantly, the ex post political reaction to such "nomenklatura" privatization is likely to be very adverse as well, as the evidence from Hungary indicates.

The message of this discussion should be clear: in Eastern Europe the politically feasible choice is not between mass privatization and privatization through sales, since the latter is not politically acceptable. Rather, the choice is between mass privatization and the less palatable alternatives, such as worker control or complete managerial entrenchment. In fact, in Russia the promise of shares for all citizens has been the sole effective political counterargument to the pressure for the wholesale giveaway of state assets to the managers and employees.

Mass privatization -- and particularly voucher privatization -- also meets the two other political requirements. It represents a credible commitment to privatization, which cannot be taken for granted in Eastern Europe. With many workers, managers, and bureaucrats opposing privatization, the promise of shares to the public, and in fact the distribution to the public of vouchers that can be exchanged for shares, is a strong commitment to actually distributing assets. In Russia, vouchers have completely shifted the public debate over privatization from the question of whether to have it to the question of how to do it. Direct sales, of course, are easier to stop or slow down if the public sentiment changes. In fact, companies directly sold at low prices to a few wealthy individuals become attractive targets for renationalization!

Finally, in so far as voucher privatization offers people choice of what assets to spend their vouchers on, it greatly enhances public interest in and enthusiasm for

privatization. Privatization is more likely to succeed when a person spends time thinking about what to invest in, learning about companies, picking mutual funds, or even deciding whether to sell their vouchers, than when he simply gets pieces of paper to store under the pillow or in a bank. Czechoslovakia, Mongolia, Lithuania and Russia have both made choice an important part of their mass privatization programs.

Given the politically feasible alternatives to mass privatization, the efficiency case for it begins to look better. Despite the organizational complexities, mass privatization is faster than conventional sales of individual enterprises, which require preparation, valuation, and often a costly search for large buyers. While mass privatization in Poland, Czechoslovakia and Russia will all take at least several years, privatizing Russian or even Polish enterprises by selling a few a month would take a century. And time in state hands means continued stagnation.

We must also return to the point that the likely alternative to mass privatization -- at least in Russia and Poland -- is the turnover of control over state assets to insiders at very low prices. Insider control by workers and managers fails on all the efficiency criteria we mentioned. First, insiders tend to lobby the government for further employment subsidies rather than try to restructure. Second, insiders are not, in many cases, the most efficient users of the firms' assets. Third, insiders will do what they can to prevent efficient governance and entrench themselves. In many cases, insider-controlled firms will continue to be managed in old ways and to count on state subsidies to keep them from bankruptcy. Some preliminary empirical analysis of shops turned over to their workers in Moscow suggest that nothing changes in these shops relative to

the earlier days, in contrast to significant improvement in operations of shops auctioned to new owners in Nizhny Novgorod. Relative to the alternatives of no privatization or insider privatization, mass privatization is efficient.

This discussion brings up perhaps the most common criticism of mass privatization, namely that it completely gives up on setting up efficient governance of privatized enterprises. The shares that will be sold to the population are likely to be dispersed, and hence no large blockholders will emerge. No one, then, will monitor the managers and enforce efficiency. Various mass privatization programs have tried to address this problem. The next subsection discusses alternative strategies.

Mass Privatization and Governance

The recognition that the dispersal of shares between many small shareholders will not foster efficient governance has led the governments of several countries to incorporate governance-promoting mechanisms into their mass privatization programs. While the results of these efforts are not yet available, at least in principle mass privatization is compatible with corporate governance. In this section, we will discuss the strategies adopted by Czechoslovakia, Russia, and Poland for introducing governance mechanisms into their mass privatization programs.

The Russian and Czech programs foresee the distribution of most but not all shares to the public through vouchers. In Russia this fraction is determined by law, and will vary between 45 and 80 percent depending on whether an enterprise is regional or federal. In Czechoslovakia, the fraction of shares that will be sold for vouchers is

determined by the privatization plans that managers and other potential buyers propose. In practice, this fraction has averaged between 60 and 70 percent.

This means that significant blocks of shares can form as part of the voucher scheme through sale of vouchers or resale of shares, as part of the distribution of the remaining shares, or through new share issues after privatization. In these respects, Czechoslovakia and Russia have followed similar but not identical strategies. First, to promote formation of large blocks through vouchers, both countries have encouraged the creation of private mutual funds that accept vouchers in exchange for their own shares. These funds can then accumulate enough vouchers to take substantial equity positions in privatizing companies. In fact, the largest mutual funds in Czechoslovakia have collected over 10 percent of all the vouchers each. These funds will have no choice but to take large positions in some of the privatizing companies. Since the Czech equity market is unlikely to be very liquid, these funds will be locked into concentrated shareholdings in many companies in the near future, and therefore might have to monitor managers rather than trade shares (see Coffee 1991, Bhidé 1992). Unless regulators stifle the formation of mutual funds in Russia, a similar situation will obtain there as well. This suggests that mass privatization does not by itself preclude active large blockholdings.

Second, both the Czech and the Russian programs also explicitly allow managers to acquire large ownership stakes at subsidized prices. In Russia, these stakes vary between 5 and 20 percent, depending on the variant of subsidy the managers will choose. Management ownership in Czechoslovakian privatization varies more widely. Moderate amounts of management ownership by themselves are likely to alleviate the agency

problem considerably (Jensen and Meckling 1976).

Third, both programs encourage the sale for cash of large blocks of shares that are not sold in voucher auctions. In both programs, managers of firms have to submit privatization plans to the privatization agencies, in which they express their interest in having a block of shares sold to a domestic or foreign buyer. Potential buyers would receive detailed information about the company and would be able to make detailed offers with plans of investment and other changes they would like to see implemented. In both Russia and Czechoslovakia, these plans aim to invite bids by foreign investors and other large blockholders. The Czech program took a more aggressive pro-blockholder stance: outsiders were encouraged to make competing proposals to those of the managers, and the ministry let it be known that it would favor proposals that included active investors. This threat encouraged most managers to find large investors themselves. In Russia, managers are politically much more powerful and the government did not insist on large block investments as part of the privatization plans.

On the other hand, the Russian program incorporates one essential pro-blockholder element absent in Czechoslovakia. Specifically, unlike in Czechoslovakia, vouchers in Russia are traded, and hence potential large shareholders can accumulate large blocks of vouchers and acquire large blocks of shares in auctions of shares for vouchers. Thus in addition to starting a mutual fund, a potential investor can simply buy up vouchers. This has the added advantage that a potential large investor can trade in the relatively liquid market for vouchers, rather than the less liquid after-market for shares. Indeed, some preliminary evidence indicates substantial sales of vouchers by the

population to potential block investors in state enterprises.

Even when managers resist selling blocks of shares to active investors for fear of losing control, they are likely later to issue new shares to precisely such investors. Presumably, when the government is out of the picture, it will be easier for managers to agree with the potential blockholders over the division of control rights. Moreover, new share issues will lead to investment in the company rather than to revenues for the state -- another feature attractive to managers. Post-privatization invitations to core investors are likely to play a very important role in Eastern Europe, and particularly in Russia where such investors have been lined up by many firms.

Both the Czech and the Russian programs, then, encourage but do not mandate large blockholders. As a result, such blockholders will appear in some but not all companies. In the longer run, as trading begins and workers sell their shares, further consolidation of ownership is likely. We do not, therefore, view these programs as a governance disaster even though they do not create blockholders by design. Recall that many conventional asset sales through initial public offerings do not mandate large shareholders either.

In this respect, the Polish program is quite different. It does not rely on vouchers which people exchange for shares. Instead, the government plans to create 10 mutual funds, managed by foreigners with some restructuring experience, and to administratively allocate to these funds shares in about 400 state enterprises. Each enterprise will get a lead fund with a 33 percent block of shares, with the other nine funds getting 3 percent of shares of that enterprise each. Thus a 60 percent block will be distributed through

this process. The funds will then be allowed to trade shares, but mostly they will be expected to oversee the restructuring of firms and to attract foreign investment. As a final step, each Polish citizen will receive a tradeable share in each of the 10 mutual funds. Poland thus has a mass privatization program in that people receive free claims to state assets (through mutual funds), while at the same time creating large blockholders in the form of mutual funds. The Polish program is also easier to implement in that shares are allocated by fiat rather than through auctions.

Nevertheless, when the Russian government designed its privatization program with both Polish and Czech schemes in front of it, it opted for a model much closer to the Czech scheme. In part, this is a consequence of the sheer size of Russia and the need to have many more funds than Poland, which would make such a centralized program much less manageable. More importantly, as we already mentioned, voucher privatization has the added attraction of greater political sustainability and the offer of free choice to investors. Finally, and perhaps most importantly, there is a perceived danger that Polish funds because of their closeness to the government will not become the tough and independent monitors of the management who enforce restructuring. As foreigners and as semi-public institutions, they might become politicized and opt for gentler policies. In fact, funds might be captured by the firms they control, and become lobbyists for state credits and subsidies for these firms. They will use their "expertise" to plead with the state to continue supporting these firms. Such funds are in danger of

becoming lobbyists for subsidies rather than active value-maximizing investors⁷.

In sum, while the Czech and the Russian privatization programs appear to create fewer active investors than the Polish scheme, in practice the reverse might be the case. In any event, in Russia at least, imposing active investors on the managers is probably impossible without generating strong resistance to privatization.

Summary

This section has started with a list of desirable attributes of a privatization program. We argued that mass privatization, and particularly voucher privatization, has a lot to recommend it politically. In contrast, conventional privatization through sales is politically infeasible in Eastern Europe. In addition, some forms of mass privatization are adequate from the efficiency viewpoint. Indeed, an equitable giveaway of claims to state assets need not prevent concentration of ownership. Having explained why mass privatization is practiced, we can get on with discussing its design.

III. Design of Voucher Privatization.

The previous section has presented our case for mass privatization, as well as our reservations about mass privatization through state-sponsored mutual funds, as in Poland. The principal alternative strategy is voucher privatization. It involves a free distribution to the population of privatization vouchers, and subsequent exchange of these vouchers

⁷For a more complete discussion of the dangers of politicization of Polish funds see Frydman and Rapaczynski (1991c) and Boycko, Shleifer and Vishny (1992).

for shares in enterprises that are being privatized. In this section, we discuss the design of a voucher program. We focus on three broad topics: the allocation of assets to voucher privatization, the design of vouchers and of voucher auctions, and the circulation of vouchers. While this is not a complete "how to" review of voucher privatization, we attempt to address the most economically and politically controversial topics.

The allocation of assets to voucher privatization

Should vouchers cover only corporatized industrial enterprises, or should they also cover smaller firms, shops, restaurants or even apartments? In dedicating assets to voucher privatization, different countries followed different strategies. Mongolia, Lithuania, and Romania have chosen to allocate both small state assets and large industrial enterprises to voucher privatization. In contrast, Czechoslovakia has chosen to sell for cash (or sometimes give away to employees) shops, restaurants, and non-corporatized firms, and to allocate to vouchers only the shares of state enterprises converted into joint stock companies. Russia is pursuing large scale voucher privatization, but is contemplating using vouchers in small scale privatization as well.

The determinants of which strategy is chosen are usually political. Once the federal government chooses mass privatization of large enterprises, the imperative for it to make additional giveaways is weaker. As a result, when the federal government has a firm control of the country, as in Poland and Czechoslovakia, it can afford to sell shops, restaurants and laundromats for cash. Even in this case, however, it usually becomes necessary to exclude foreigners from these sales to gain political acceptance. When

the federal government is not in control, the political arguments for small scale voucher privatization become stronger. In some cases, local governments want to give away property themselves, and since they typically control the objects of small scale privatization, they might opt for small scale voucher privatization. Some regions of Russia, in fact, tried to issue their own vouchers with the explicit idea of excluding outsiders from buying property in their regions. This very bad plan, luckily, was stopped. But an even stronger reason to have small scale voucher privatization in a country like Russia is that some regions might refuse to privatize regional and municipal property at all, preferring instead to retain local government control. Local governments of course assert that they are trying to prevent "mafia privatization," rather than seeking personal control. It is much easier for such governments to resist cash sales of enterprises to the alleged "mafia" than to tell the public that they cannot use their vouchers to buy shops. In Russia, pressuring local governments is the most compelling political argument for making municipal property eligible for voucher privatization.

From the efficiency viewpoint, the case for small scale voucher privatization is weak. For small firms, it is efficient to have a single owner or a small group of owners. This is in contrast to the large firms, where risk-sharing calls for large numbers of shareholders. But if small firms are privatized through vouchers, a single owner or a small group can buy them only through assembling a block of vouchers. In practice, many countries encourage broad ownership in small scale privatization by prohibiting the sale of vouchers. In this case, an entrepreneur cannot easily assemble a block of vouchers and buy the firm. Instead, a fairly large group of people must form a

partnership to acquire even a small firm. For example, in Lithuania, people received vouchers of a fixed currency face value, and shops were sold in auctions in which vouchers could be used only in a fixed proportion with cash. This meant that, in an auction, a group with 12 members bid exactly twice as much as a group with 6 members. As a result, the winner of an auction had to be the group with the most members -- whether or not it knew how to run the shop. In some cases, several hundred people got together to buy a medium size store. Similarly, in Mongolia, extended families pooled their vouchers to buy small enterprises and shops. These ownership patterns appear much less efficient than having a single or a few owners, since collective decision making and diffuse incentives are probably undesirable in a shop.

We conclude, then, that in small scale privatization it is efficient, and sometimes possible politically, to use straight auctions for cash. But if, as in the case of Russia, the alternative to such cash auctions is no small scale privatization at all, or giveaways of shops to the workers, the second best may be voucher privatization of shops. Since in Russia vouchers are tradeable, this mechanism still enables individuals to acquire shops by first acquiring a block of vouchers.

Using Vouchers

Once the assets are allocated to voucher privatization, the critical issue is how to exchange vouchers for shares in the companies. There is wide agreement between economists looking at this issue that the best strategy is to run auctions of shares (Frydman and Rapaczynski 1991a, 1991b, Bolton and Rolland 1992, Maskin 1992). First,

auctions generally allocate shares to those who value them most, and hence are much more efficient than other rationing devices. Second, auctions produce market valuations of companies from the start and hence facilitate subsequent trading. Third, auctions do not require the government to value companies, which avoids arbitrariness, delays and corruption. Fourth, auctions are much less susceptible to corruption and sales to friends at low prices than direct sales are. Fifth, and perhaps most important, auctions give people choice of what shares, if any, to buy -- thereby fulfilling one of the political imperatives of mass privatization. For all these reasons, most countries, including Mongolia, Lithuania, Czechoslovakia, and Russian have opted for voucher auctions.

Once it is agreed that auctions should be used, designing auctions for mass privatization imposes a host of requirements that do not often arise in the discussions of regular auctions. First, these auctions must be administratively simple so that the untrained government bureaucrats can actually run them. Second, and this is very important, it must be possible for millions of citizens to bid in a situation when they know next to nothing about either auctions of the companies offered for sale. Third, these citizens as a rule must actually be able to get shares in these auctions. They cannot feel shut out because they are routinely outbid by professionals, which would challenge the purpose of mass privatization. Fourth, the auction procedure should assure that citizens get shares at fair prices, and in particular do not end up paying more than professionals. These four criteria all have to do with administrative feasibility and political attractiveness of auctions. In addition, it is desirable that the informed professional investors be able to influence auction prices, so that the prices that emerge

from auctions actually reflect the relative values of companies, and therefore the various efficiency and fairness requirements of auctions are met.

These criteria raise a host of questions for auction design. How should vouchers be designed and used in auctions? Should auctions be centralized, with shares of each enterprise sold simultaneously, or should the privatization authorities auction shares of one firm at a time? How can auction procedures be kept relatively simple for the citizens and for auction administrators? How can the perception that auctions are fair be safeguarded? Below we address these questions of voucher and auction design.

a) Should cash be accepted together with vouchers in auctions?

In principle, cash and vouchers can be combined in either fixed proportions or proportions chosen by the bidder as a means of payment in an auction. This strategy has the flexibility of allowing bidders to use what they want, and in particular of admitting cash rich bidders into the auctions. The strategy also avoids the need to run two separate auctions for a given company: one for cash and one for vouchers. So why don't countries use these auctions with mixed means of payment? In particular, both Czechoslovakia and Russia chose voucher only auctions.

The reasons for this are partly practical, and partly political. First, voucher only auctions are much simpler from the point of view of implementation, thus satisfying the requirement of administrative simplicity. Perhaps more importantly, voucher only auctions are more fair to small investors. If the state insists that vouchers and cash be used in fixed proportions, then small investors are at a huge disadvantage, since they

might not have the necessary cash. As a result, they might be forced to sell their vouchers and feel shut out -- violating the requirement of broad access to auctions. If the state does not insist on cash payments and investors have a choice of whether to pay with cash or vouchers, there is still a risk that some wealthy investors who have cash "outbid" voucher holders -- creating the impression of limited access. This risk of course also exists when vouchers are traded, and wealthy investors can buy up vouchers and outbid small investors. Nonetheless, voucher only auctions appear more fair. Finally, prohibiting the use of cash in auctions keeps up the market price of vouchers, which is extremely important for the public image of the privatization program.

These are the main reasons that most countries have chosen voucher only auctions. Such auctions, however, have one non-trivial disadvantage: they generate no revenue. Even if the government has given up on raising revenue from privatization, some money is still needed to pay for running the auctions. In practice, this means that voucher only auctions must be combined with the sale of some shares for cash.

b) Designing the Voucher.

Given that voucher auctions will not accept cash, should vouchers be denominated in currency or in "points?" There are many strong arguments for denominating vouchers in points. First, that makes it clear that they are not currency and hence makes them less money-like. The problem with people using vouchers as money for purchases is that this raises the effective money supply and hence the price level. Second, and more importantly, denominating vouchers in points immediately avoids perhaps the greatest

risk of voucher privatization, namely that vouchers will trade at a discount to face value and people will feel cheated. In Russia, for example, vouchers were issued in October, 1992 with a face value of 10,000 rubles, and within the first month went to a discount of 60 percent in market trading, creating a serious political problem. Luckily, by December vouchers rebounded to 8,000 rubles. Denominating vouchers in points as the Czechs did basically gets rid of this problem once and for all.

At the same time, denominating vouchers in currency has one important political advantage which essentially caused the Russian government to adopt this strategy. Specifically, a currency denomination makes vouchers appear like securities and gives a much clearer impression of a government giveaway to the public. In Russia, where the public acceptance and support of privatization is much more tenuous than in Czechoslovakia and Poland, the popularity of a giveaway became the engine of privatization. Moreover, denomination in currency makes a much stronger commitment to irreversibility. It is one thing to cancel privatization once people were distributed booklets with points; it is quite another to cancel privatization once people were distributed securities with a face value of 10,000 rubles. For these essentially political reasons, the Russian government accepted the risk of discounts and gave vouchers a ruble denomination.⁸

Once this decision is made, the question arises of what the face value of the vouchers should actually be? In principle, the answer to this question should not be very

⁸Cash denomination also has an important practical benefit on enabling workers and managers to use vouchers to pay for the shares that they get on preferential terms.

difficult. Take the market value of assets that will be sold for vouchers, and then make the face value so that the total sum of vouchers issued is approximately equal to the market value of assets sold. If the government wishes vouchers to sell at a premium to their face value, the face value should be below the expected market value of assets to be privatized. In practice, of course, these calculations are virtually impossible to make, since book values of assets contain very little information, and market values are determined most importantly by forecasts about the political and economic future of the country undergoing massive transition. A great deal of uncertainty also remains about what companies exactly will be privatized through vouchers. Consequently, the Russian government chose as the face value of a voucher the smallest amount that was high enough to be politically acceptable, namely 10,000 rubles. Even so, vouchers initially went to a very substantial discount.

c) Designing the voucher auction: The question of centralization.

Czechoslovakia and Russia have followed different strategies on how to auction shares. In the Czech scheme, auctions take the form of centralized price adjustment mechanisms over several rounds. First, shares of all companies are put on the market at once at fixed prices that are very loosely related to their values. Voucher holders then present their quantity demands at these prices for the shares of companies they want (which presumably add up to their budget constraints). If the demand for shares of some company at the initial price is below the number of shares available, then the demands are satisfied at that price, and the price is reduced for the next round. If the

demand exceeds supply by less than 25 percent, bidders get proportionately fewer shares than they asked for (e.g. if the supply at the given price is 100 shares, and total demand is 125 shares, each bidder gets 80 percent of what he asked but must still take them). If the demand exceeds supply by more than 25 percent, nobody gets any shares and the price is increased for the next round. To our knowledge, the precise rules for price changes have not been described publicly. The authorities expect to need 6 rounds to allocate all the shares.

This procedure has several significant advantages. First, although it would take several months to complete, when it is finished all the shares will actually be allocated and firms will be privatized. While running individual company auctions seems easier, with many incompetent auctioneers the centralized approach may be administratively simpler and therefore faster once the initial setup costs are incurred. Second, the centralized approach leaves no room for "problems" that delay the auctions of shares of individual companies, and hence no room for lobbying by the managers to postpone the auction. As a result, managers cannot as easily get out of privatization and try to steal the company for themselves as they would with a decentralized procedure. By centralizing the procedure, the government can avoid the incompetence and corruption in the local administration that may lead to a politically devastating perception that individuals are "cheated out of" investing in the best companies. Third, the centralized procedure has all the usual efficiency benefits of auctions, i.e., those who value a stock the most get it in the end, and an initial market price is established.

The Czech procedure has one potential disadvantage. Specifically, shares of

companies that are in excess supply at the price in the current round are nonetheless allocated to investors who bid for them at that price even though the price is reduced in the next round. As a result, unsophisticated investors end up paying too much for these shares. Such lack of protection of small investors did not cause any problems in Czechoslovakia; it was feared a great deal more in Russia.

Russia had vastly more companies and vastly more auction participants than Czechoslovakia, so the centralized procedure appeared administratively unmanageable. Moreover, the Russian program allowed the workers and the managers to pay for their preferential shares at least in part with vouchers, which made it difficult to determine centrally the number of shares that will be offered to the public for vouchers. As a result, in Russia chose a decentralized procedure, in which shares of individual enterprises will be offered for vouchers in auctions by the local privatization offices. The main risk of such a decentralized procedure is that the local privatization offices derail the auctions or else discourage public bids under the pressure from enterprise managers who want to buy shares themselves at low prices. But assuming that these problems can be overcome by pressures both from the company managers who want to privatize fast and from the public, the decentralized auctions can also in principle be run inexpensively, rapidly and with a low administrative cost. The question is how to make these auctions bidder-friendly, accessible to small investors, and fair, without losing efficiency. We next discuss the design of such voucher auctions.

d) Designing a Simple Voucher Auction.

Ordinary cash auctions of shares would call for each bidder to submit the number of shares he wants and the maximum price he is willing to pay. In Eastern Europe, such an auction might be impossibly difficult for the millions of participants. Most importantly, there is no information at all about valuation, since book values of assets are not informative (for example, they are not adjusted for inflation). Even if the investor knows the book value of the company, the market value can plausibly be anywhere between zero and 100 times book value. This could create situations in which unsophisticated investors get no shares of desirable companies because they anchor their bids to book values, and true values are much higher, and get all the shares of bad companies which informed investors avoid. This outcome will create a political backlash against mass privatization. The most natural auction, then, does not meet the requirements of bid simplicity and accessibility to small investors.

To save small investor from the need to value shares and make complicated bids, one proposal is to ask each investor with a voucher (each person in Russia gets one voucher with a face value of 10,000 rubles) to submit his or her voucher as a bid for the company. In equilibrium, the number of shares this person receives in exchange for that voucher is inversely proportional to the number of people who bid. Thus if the company offers 1000 shares for auction, and 40 people submit their voucher, then each person gets 25 shares and the price is 400 rubles per share. If, on the other hand, 4000 people submit their vouchers, each gets only .25 of a share and the price is 40,000 rubles per share. Each small investor is assured of getting some shares in an enterprise of his or her choice, but gets fewer shares of desirable companies. This auction effectively

pretends that the demand curve for each stock is unit elastic so that an investor wants to spend a fixed amount, namely their voucher, on his or her preferred stock.

This simple auction has several advantages. First, the bids are extremely simple: investors just need to tender their vouchers. Second, small investors always receive some shares in exchange for their vouchers. They are never turned down. Third, all investors pay the same price in the auction and large investors do not get any advantages, which makes it very fair. From the perspectives of administrative simplicity and attractiveness to small investors, this auction procedure looks hard to beat. The only problem with this auction is that sophisticated investors cannot influence the price except by not participating. As a result, the equilibrium price might be only a rough estimate of actual value. A procedure that simultaneously enables small investors to make simple bids, and gives more opportunities to sophisticated investors to influence the price would be better.

These arguments suggest the following procedure. Let each small investor make the simple bid of tendering his voucher, as discussed above. Allow each sophisticated investor to make a more complicated bid, in which he specifies the quantity and the maximum price at which he is willing to buy the shares. To compute the equilibrium price, add up all the bids (the unit elastic demands from small investors and the sophisticated demands) and equate the total demand for shares with the supply to arrive at the equilibrium price.

This simple procedure has all the benefits of the simplest auction in which small investors just tender their vouchers. At the same time, it has substantial efficiency advantages. First, sophisticated investors are allowed to exercise their influence on price

by naming a reservation price. Second, even though small investors do not know the eventual price of shares, they can free ride on the information conveyed by the bids of the sophisticated investors, and get the shares at a price that reflects both their enthusiasm and the knowledge of the sophisticated investors. Because it meets most of the objectives we listed, this procedure is actually being tried in Russia.

An auction procedure combining sophisticated and simple bids has only one potential problem, namely that getting simple bids from so many investors may be too expensive, and hence administrative costs of the procedure are high. To address this problem, an alternative procedure has been proposed, which has two stages rather than one. In this procedure, some fixed fraction of shares be allocated to an auction in which only large investors are allowed to participate and to make sophisticated bids. After an equilibrium price is obtained in this auction, the remaining shares are sold to small investors at that price in exchange for vouchers. This procedure combines simplicity and free riding benefits for small investors with administrative cost savings. It also has the advantage that small investors do not have to buy anything before they know the price, which may be a problem with the procedure we outlined previously.

Nonetheless, this procedure has some problems as well. First, it requires an initial division of shares between the auction and the subsequent retail sale. If the auctioneer fails to divide the shares correctly, which he is likely to do, the price that will obtain in the first stage auction will not be the equilibrium price. As a result, there will be either a surplus of shares at the retail level, or, worse still, a shortage. It will not be the case that all the small investors who want the shares at the "market price" can get

them, and hence the crucial requirement of accessibility to small investors is violated.

Second, and perhaps as importantly, this two stage procedure is easier to manipulate than the one stage auction. Suppose that the manager of the enterprise wants to get some of its shares in the auction at a low price. If small investors do not participate in the auction, all he needs to do is to discourage the potential sophisticated investors (by not giving them information, harassing them, encouraging authorities to lose their bids, etc). He can then bid in the auction himself and get shares at a low price. The fact that small investors will subsequently be rationed is of no concern to him. Suppose in contrast that all investors participate in the auction, so small investors just submit their vouchers. Then even if the manager discourages sophisticated investors, in equilibrium the effect on the price will be much smaller, since in part more shares will go to the small investors who have submitted their vouchers. This assumes, of course, that small investors are harder to discourage, which is plausible. The result is that the returns from such attempts to rig the auction are much smaller, and some of the beneficiaries of these efforts are the small investors themselves. The fact that the original auction cannot be easily manipulated is, in our opinion, a significant advantage that justifies accepting higher administrative costs.

In summary, this section has shown how a simple and straightforward voucher auction procedure can and has been designed. This procedure, of course, does not lead to as efficient prices as textbook auctions do. Yet it has the tremendous advantage of political acceptability, which in this instance is crucial.

The Circulation of Vouchers

The previous section has dealt with the design of vouchers and auctions. But what if people do not want to participate in auctions, as will undoubtedly be the case for tens of millions of Russians? In this section, we will discuss two options they might have: to give their voucher to a mutual fund or else to sell it.

a) Mutual Funds.

How can the sellers deal with millions of bidders in a technologically unsophisticated environment. Czechoslovakia and Russia have followed similar strategies to deal with this problem, namely to encourage private mutual funds that will exchange their own shares for vouchers. In general, such funds can also sell their own shares for cash, although the vast majority of what they will get will be vouchers. Such funds dramatically reduce the number of participants in the auctions, and hence make the auctions technically easier. Mutual funds also provide some security of diversification to investors in an environment where many firms will go bankrupt and few will bring substantial profits. Moreover, because funds will inevitably become large shareholders in many companies, they present a hope of providing some governance for the enterprises they invest in. The potential benefits of mutual funds for privatization are substantial⁹.

For this reason, the design and regulation of mutual funds has been an extremely important problem in both Czechoslovakia and Russia. In particular, three critical

⁹Early advocates of mutual funds include Frydman and Rapaczynski (1991a, 1991b) and Lipton and Sachs (1990), who also discuss some of the issues of fund design.

questions arise. First, should funds be completely private or should state entities, such as banks or perhaps even enterprises, be allowed to act as founders and managers? Second, should funds be closed or open end, or should this matter? Third, more generally, how should these funds be regulated? Below we briefly discuss these issues.

The question of state vs private funds is the most controversial. Advocates of state funds argue that "widows and orphans" will not trust the new private institutions with no reputations, and will be much happier if they can invest their vouchers with the state bank, state insurance company or some other state entity. Moreover, these state entities will be less likely to cheat them (a claim proved to be patently false in Czechoslovakia). Finally, state entities have the capital to start the funds.

Opponents of state funds, such as ourselves, argue that sale of shares to state funds can subvert privatization. Such funds will facilitate continued subsidies of state firms they invest in. They will also be impossible to control by their shareholders since they are effectively state institutions. But in the worst case, state firms might form funds (directly or through subsidiaries) that buy shares in themselves and their suppliers and customers, thereby completely subverting privatization. Finally, the claim that in Russia state bureaucrats are more trustworthy, or provide investors with greater security, seems *prima facie* false. In both Czechoslovakia and Russia, the final outcome is a compromise, in which most funds have to be private, but some quasi-state but nominally private entities, such as commercial banks, are also allowed to organize them.

On the question of the structure of mutual funds, there is a lot more agreement. The strongest argument for open end funds is governance: investors can just sell their

shares if they don't like the management. Because the fund is self-liquidating, no complicated monitoring procedures are required. On the other hand, the case against open end funds is the illiquidity of the markets in underlying securities, which is a virtual certainty in Eastern Europe in the near future. If many investors simultaneously decide to liquidate their holdings in fund shares, an open end fund will take a huge beating in the prices of securities it sells. In contrast, a closed end fund is by design protected from this liquidity risk, since the sale of fund shares does not bring about the sale of underlying securities.

In Russia, funds that will take vouchers will be required to be closed end. The reason that regulation is restricted to voucher funds only is, of course, that the paternalistic argument is much stronger for such funds than for funds that take cash from individuals. In Czechoslovakia, in contrast, funds have a self-liquidation procedure, whereby investors were promised a fixed amount of cash for their shares after a year if they choose to redeem their shares. These promises are unlikely to be kept and funds will probably be effectively closed end; otherwise there is a large risk of a systemic failure in the Czech securities markets.

This discussion raises the more general issue of how much the mutual funds have to be regulated. Czechoslovakia had tremendous success with its mutual funds primarily because the government failed to regulate them. Individual participation in the voucher program required an initial payment of roughly \$35, which gave the investor in expectation a claim to about \$1000 worth of assets. Nevertheless, before the funds sprung up, only about 5 percent of the eligible citizens got their vouchers. The funds

then entered completely unregulated and promised investors ten times their original cost of \$35 within a year. As a consequence of this promotion, the funds collected about 60 percent of the vouchers, and participation in voucher privatization rose to 80 percent of the eligible citizens. Mutual funds made the Czech privatization. Even though many funds will fail to honor their commitments to investors, the point remains: the lack of regulation was essential for broad participation in privatization.

Russia is trying to follow the Czech example in many ways, although funds will be more heavily regulated. Some of these regulations make sense, although they create the risk that interest in the funds will not be as great as in Czechoslovakia. For example, funds in Russia will not be allowed to make concrete promises about future returns. Funds will also have to invest primarily in the shares of privatized companies, to make sure that in fact vouchers are used for privatization rather than collected and sold with the proceeds reinvested in other assets. Russian funds will also need to follow reasonably strict disclosure requirements. Other potential regulations are more problematic. For example, licensing mutual fund managers on the basis of "integrity and knowledge" will lead to massive corruption, delays in fund formation, and deterioration of performance as managers with connections replace those with expertise. The lesson of Czechoslovakia is clear: some private fraud is much better than public overregulation both for the mutual funds and for privatization in general.

b) Tradeability of Vouchers.

One particularly controversial issue in voucher design is tradeability of vouchers.

The main argument against free trading is that vouchers should not be treated as currency or securities, but merely as the mechanism for implementing privatization. Unless converted into shares, they should not be treated as securities. One could also make the paternalistic argument that the market value of the vouchers will be much lower than the true value of underlying assets, and hence letting them trade will enable rich buyers to take advantage of poor sellers. Finally, letting vouchers trade may cause "speculative excesses", as futures, options and other markets in vouchers develop. These arguments appear to carry the day in most countries. Czechoslovakia, Lithuania, Mongolia and others all prohibit trading vouchers.

In a rare display of greater liberalism, Russia allowed the free trading of vouchers. The main argument for free tradeability is again political. Tradeability lets people who want cash right away, particularly the poorer ones who have great immediate consumption needs, to do so fast and at fair prices. These people would then view privatization as a pure giveaway and presumably support it. Tradeability is thus consistent both with the importance of choice in voucher privatization, including the choice not to become an owner, and with the protection of the poor. On the latter point, we should stress that trading in vouchers will take place even if it is forbidden, with the result that the poor will receive very bad prices in illiquid markets (this happened in Mongolia). The best price protection is competitive and open markets for vouchers. If people can check the price several places, and if voucher buyers compete, prices will presumably be at least reasonably fair and massive problems will be avoided.

The second argument for allowing free trading of vouchers is that it vastly

improves opportunities for potential large investors. Mutual funds can sell some vouchers when they need cash to make investments, and they can only sell large enough amounts if voucher markets are reasonably liquid. Also, the potential large block investors might want to participate in voucher auctions. To do that, they will have to assemble large blocks of vouchers, which would be extremely expensive without organized and liquid markets. Liquid markets thus not only offer a better deal to small voucher holders, they also improve the opportunities for block accumulation and therefore might foster better corporate governance.

A final important argument for free trading of vouchers is that it facilitates the development of financial markets. The largest commodity exchange in Russia has dedicated a floor to voucher trading as soon as vouchers were introduced. This has become the first active and liquid financial market in Russia (without much regulation) -- with all the learning benefits that such a market entails. As a side benefit, the daily price of a voucher presents the government and the privatization officials with an unbiased public appraisal of the likely success of reforms and stability of the government.

Summary

This section has presented a variety of issues raised by the design of voucher privatization, and focused on choices made in Russia. The main conclusion of this section is that it is possible to design a voucher program that has significant political appeal, that is user-friendly, that allows a fairly efficient allocation of shares through auctions, and that gives investors a lot of choices, including the choice not to participate.

The list of issues we discuss in this paper is certainly not complete. For example, we have not considered the questions of expiration of vouchers, of multiple tranches of vouchers, of single and multiple vouchers, of giving "change" in voucher auctions and many others. All of these questions can in principle be analyzed. The main point, however, is that both economic and political considerations determine the final choice.

IV. Conclusion: can voucher privatization succeed?

The previous sections have presented the political and economic case for voucher privatization, and described the design of such programs. Even though voucher privatization is fraught with pitfalls in both design and implementation, we tried to show that the alternatives are worse. With this in mind, we conclude with a discussion that what may go wrong and about the strategies for containing the problems.

The problems with mass privatization fall into three categories. The first category is technical implementation problems. The distribution of vouchers might prove logistically too difficult and time consuming, firms might fail to corporatize and make their shares available for auctions, the auctions of shares might be too confusing for participants and too full of errors, mutual funds might be too fraudulent, voucher markets might be too illiquid leading to bad deals for voucher sellers, and so on. All of these problems might do a lot of damage to privatization. Nonetheless, in our opinion none of them is fatal. Most of them can be corrected, although at a cost of some irritation for the participants in the process. As the case of Lithuania we discussed

shows, the design does not need to be perfect for a program to work.

The second set of problems comes from the potential sabotage of the program by the managers who either do not want their companies to privatize or who want to get more equity cheaply when they privatize. Managers can delay corporatization, refuse to talk to the potential bidders in investment tenders, lobby local privatization officials to delay the sale of shares for vouchers, manipulate voucher auctions, join holding companies or associations that make firms part of essentially non-privatizable groups, incite workers to demonstrate against privatization, etc.

One can combat such managerial strategies with both carrots and sticks. The carrots, used in both Czechoslovakia and Russia, are large managerial benefits in privatization and respect of managerial control over the privatization process. In both Czechoslovakia and Russia, the carrots are working reasonably well. Czechoslovakia is well along in its privatization, and many managers in Russia seemed to be eager to privatize at the end of 1992. The sticks can no longer be administrative, since managers are largely independent in Eastern Europe at this point, and the ministries if anything oppose privatization. Rather, the stick must be vouchers in the hands of the public demanding shares and willing to demonstrate and riot if it does not get them.

But perhaps the greatest danger to mass privatization comes from inside the government. Privatization requires the cooperation of different parts of the government, including the legislative and the executive branches, different agencies of the executive branch, local and regional governments, and even different individuals within the privatization organs. When such cooperation fails, it is very difficult for privatization to

proceed. In Poland, the Parliament has delayed privatization by at least two years, whereas in Russia it passed privatization only narrowly. Privatization contributed to the breakup of Czechoslovakia, but at the same time it is moving fast in the Czech part of the country where the government is generally in agreement on privatization.

Parliamentary squabbles brought Hungarian privatization to a virtual standstill. In contrast, in Mongolia and Lithuania, where the governments are conspicuously unified, privatization is moving ahead.

In Russia, the government is the weakest in Eastern Europe and therefore privatization will be the most difficult. Most importantly, many ex-communist deputies in the Parliament oppose privatization and use institutions under their control to stop it. The Parliament has written laws that are hostile to privatization. The Parliament also controls the Central Bank, which openly discriminates in its credit policies against private companies. Finally, the Parliament has begun to influence the government, as Russia's turn to a conservative Prime Minister in December 1992 illustrates.

Branch ministries in Russia are trying to stop privatization as well because privatization is tantamount to the end of their own existence. Many local governments are either controlled by communists or captured by the state firms in their regions, and hence are in no rush to promote privatization. Even the privatization agencies themselves are often more interested in their new power of supervision over state assets than in privatization. The obstacles that these competing bureaucracies put on the way of privatization are far more significant than the logistical problems.

The main weapon against the government deadlock is again the combination of

public demand for shares and of the eagerness of the managers who want to get rich faster to privatize. Bureaucracies respond most effectively to such pressures from below. In all likelihood, Russia will have mass protests, demonstrations, and even a few broken windows in local privatization offices before privatization really gets underway. We then come back full circle to where we started: populism is both the main rationale for voucher privatization and the main reason why mass privatization will be difficult to stop.

This said, we must conclude by stressing that even if mass privatization succeeds and shares are distributed to the population, restructuring does not follow automatically. The governance of these newly privatized firms will have to be organized, workers will need to be laid off, capital and technology will need to be attracted, and managers will need to be forced to act. Presumably, this will happen eventually, but it is anyone's guess how quickly mass privatization leads to restructuring.

References.

- Bhide, Amar, "The Hidden Costs of Market Liquidity", forthcoming in Journal of Financial Economics, 1992.
- Blanchard, O.J., R. Dornbusch, P.R. Krugman, R. Layard, and L.H. Summers, Reform in Eastern Europe, Cambridge, MA: MIT Press, 1991.
- Bolton, Patrick and Gerard Rolland, "Economics of Mass Privatization," Economic Policy, 1992.
- Boycko, Maxim., A. Shleifer, and Robert W. Vishny, "Property Rights, Soft Budget Constraints, and Privatization," Mimeo, 1992.
- Coffee, J., "Liability vs. Control: the Institutional Investor as Corporate Monitor," Columbia Law Review, 1991.
- Frydman, Roman and Andrzej Rapaczynski, "Markets and Institutions in Large-Scale Privatization," in V. Corbo, F. Coricelli, and J. Bossak, eds, Reforming Central and Eastern European Economies, Washington, D.C., The World Bank, 1991a.
- Frydman, Roman and Andrzej Rapaczynski, "Evolution and Design in the East European Transition," Rivista di Politica Economica, 1991b.
- Frydman, Roman and Andrzej Rapaczynski, "Privatization and Corporate Governance in Eastern Europe: Can a Market Economy be Designed?" in Winkler, G. ed. Central and Eastern Europe: Roads to Growth, Washington, D.C.: IMF, 1991c.
- Grossman, Sanford J. and Oliver D. Hart, "The Costs and Benefits of Ownership: a Theory of Vertical and Lateral Integration," Journal of Political Economy, 1986.
- Hansmann, Henry, "When Does Workers' Ownership Work? ESOPs, Law Firms, Co-

determination and Economic Democracy", Yale Law Journal, 1990.

Jensen, Michael C. and William Meckling, "Theory of the Firm: Managerial Incentives, Agency Costs, and Ownership Structure," Journal of Financial Economics, 1976.

Kikeri, Sunita, John Nellis, and Mary Shirley, Privatization: the Lessons of Experience, Washington, D.C.: The World Bank, 1992.

Lipton, David and Jeffrey D. Sachs, "Privatization in Eastern Europe: the Case of Poland," Brookings Papers on Economic Activity, 1990.

Maskin, Eric S., "Auctions and Privatization," Mimeo, 1992.

Meggison, William L., Robert C. Nash, and Matthias van Randenborgh, "The Financial and Operating Performance of Newly Privatized Firms: an International Empirical Analysis," University of Georgia Mimeo.

Phelps, Edmund S., Roman Frydman, Andrzej Rapaczynski, and Andrei Shleifer, "Needed Mechanisms for Corporate Governance and Finance in Eastern Europe", Paper Prepared for EBRD, 1992.

Shleifer, Andrei and Robert W. Vishny, "Large Shareholders and Corporate Control," Journal of Political Economy, 1986.

Shleifer, Andrei and Robert W. Vishny, "Privatization in Russia: First Steps," Mimeo 1992.

Shleifer, Andrei and Robert W. Vishny, "Liquidation Values and Debt Capacity: a Market Equilibrium Approach," Journal of Finance, 1992.

Vickers, John and George Yarrow, Privatization: an Economic Analysis, Cambridge, MA: MIT Press, 1988.