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Reassessing the Role of Public Institutions in a Private Economy

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1. Introduction

The invisible hand, competition, free enterprise, market forces, gains from trade, liberalization, privatization, supply-side economics, and even “Greed is good.” These days, it must seem to many that economic policy is all about moving toward as extensive a system of free markets as possible. On the way, taxes and subsidies get reduced, welfare programs get eliminated, regulations become diluted or are no longer vigorously enforced, import restrictions are removed — generally, public institutions are given less scope to affect economic allocations. Sometimes they are replaced by private institutions, as when a firm is privatized. But sometimes there is no replacement at all for the public institution. And often public institutions are starved of essential resources they need to function. Public sector workers become demoralized, poorly paid, sometimes not paid at all, until they may be left with no alternative to accepting bribes if they are to survive while carrying out even essential tasks.

This shrinking of public institutions is often necessary. The Soviet economy was virtually 100% public, as is North Korea to this day. These are examples which virtually nobody wishes to emulate. Cuba is much less extreme, but probably most of us are not so keen to live there either. But the dismantling of Russia’s public institutions has had tragic consequences for all too many Russian people. As for privatization in Italy, you know far more about it than I do — but I have the impression that not everybody sees it as entirely beneficial.

What I would like to do in this talk is to offer some thoughts on how some particular lessons from economics might apply to a broad range of countries. Indeed, the theme I have chosen, concerning the role of public institutions, is one with implications to virtually every national economic system, and even to the world as a whole once we begin to consider global public institutions.

The proper role of public institutions in the economy is far from a new topic. Not much of what I have to say is original. Yet significant questions seem to have been answered very poorly, if at all. Indeed, one of my arguments will be that what many economists might regard as a *laissez faire* market system is actually not possible without rather extensive public institutions lurking in the background.

Before getting that far, however, I would like to remind you what precisely are the economic arguments for a liberalized economic system. The reason for doing so is to be clear what assumptions underlie these arguments, so we can begin to sort out what public institutions may be able to achieve when some of these assumptions do not apply.

2. Market Efficiency

It is well known by economists that perfect competition generates what we like to call “Pareto efficient” allocations. Actually, many economists prefer the label “Pareto optimal” instead. Either way this terminology, invoking the name of Vilfredo Pareto, just means that no reallocation of goods and services can make some individuals better off without at the same time making some others worse off. In other words, allocations which are Pareto inefficient seem clearly unsatisfactory because we can give some individuals more of what they like, without depriving anybody else of things they like. Thus, because perfect competition generates Pareto efficient allocations, it passes a simple but important necessary condition for acceptability.

More precisely, suppose that there are complete markets for all goods and services which every consumer might want to consume or exchange, as well as for all goods and services which producers use to meet consumer demands. Suppose too that there is perfect competition in the sense familiar to economists, requiring that consumers and producers feel themselves unable to influence market demand or supply for any commodity. Suppose finally that prices are determined so that there is an equilibrium of demand and supply for every commodity when the following three conditions are met: (i) producers maximize profits taking those prices as given; (ii) producers’ profits are distributed to consumers as dividends according to some well specified rule; and (iii) consumers maximize their preferences given the budget constraint determined by these prices and by their dividend income. Then one has what many economists call a Walrasian equilibrium. And, using an extremely simple argument due to Kenneth Arrow in 1951, the resulting equilibrium allocation of goods and services is *weakly Pareto efficient* in the sense that it is impossible to find an alternative feasible allocation making all consumers better off. Moreover, under the very mild assumption of *local non-satiation*, requiring that no consumer’s preferences ever attain even a local maximum, the Walrasian equilibrium allocation will be *Pareto efficient* in the more usual and

stronger sense that any reallocation making at least one consumer better off must also make at least one other consumer worse off.

Results like this constitute what mathematically inclined economists call the *first fundamental theorem* of welfare economics. Some of those who advocate liberalizing the economy completely seem to have this in mind as a justification. After all, if only we could remove all obstacles to using perfectly competitive markets to allocate everything that people could ever want, we would attain some Pareto efficient outcome. That seems to be their argument.

Some more subtle and sophisticated analysts might concede that there will always be some publicly provided goods, as well as some external effects like pollution, which cannot be allocated through perfectly competitive markets. Even so, given the range of goods which is actually allocated through markets, perfect competition at least produces a *constrained* Pareto efficient allocation, in the sense that no Pareto improvement is possible without altering what is not allocated through markets. Really, this is the same fundamental theorem applied to a limited set of goods.

3. Potential Gains from Market Liberalization

The first fundamental theorem applies when all possible goods and services are allocated through perfectly competitive markets, with nothing left to the public sector, and no external effects other than those mediated through competitive markets. Or alternatively, it applies in its constrained form to a given set of goods and services. Often, however, the case for market liberalization requires considering the implication of expanding the range of goods and services which get allocated through perfectly competitive markets. Privatization, freer trade, enhanced competition, removing tax distortions — these are all examples of such expansion. Then all the first theorem tells us is that a wider range of goods and services are allocated efficiently, constrained by whatever happens to goods and services which are not allocated through competitive markets even after the liberalizing reform. Unless the reform ends in complete liberalization of everything — complete *laissez faire* — it is unclear whether the reform is truly beneficial. And even if the reform does end in complete *laissez faire*, it may still not be beneficial for everybody. For example, workers with skills specific to industries that are not competitive under complete *laissez faire* are particularly likely to become worse off as a result of such a reform.

So, if the first fundamental is inapplicable, what other justification can there be for wanting to liberalize markets? The answer lies in the notion of *efficiency gains*, which can occur whether or not a reform ends in complete market efficiency. This idea emerged early in this century in the work of the Italian economists Enrico Barone and Pareto, to be rediscovered by Hicks and Kaldor

working in England in the late 1930s. Market liberalization by itself may not be a *Pareto improvement*, in the sense of actually making everybody better off. Instead, it is a *potential Pareto improvement*, which can be made into an actual Pareto improvement by paying compensation to those who, like the workers in an uncompetitive industry, would otherwise lose from liberalization. Moreover, it turns out that, except in special cases where liberalization essentially has no effect, those who benefit from liberalization have gains which outweigh the losses of those who need compensating. That is, the gainers can *overcompensate* the losers by paying them enough to make sure that everybody is better off.

Actually, one needs to be rather more careful about what it means for overcompensation to be possible. The reason is that transfers of wealth from potential gainers to potential losers have effects on demand and supply, and so on equilibrium prices. But changes in equilibrium prices as a result of market liberalization affect who gains and who loses, so affect what compensation is needed. This circularity can be broken by specifying how the wealth distribution should depend on prices, doing so in a way which ensures that, no matter what equilibrium prices turn out to be, nobody is made worse off as a result of the liberalizing reform. Explicit wealth distribution rules with this important property were introduced in a pioneering article on the gains from international trade by Grandmont and McFadden, 1972, who also called such rules *sagacious*. Their theorem on the gains from trade turns out to be one instance of the general proposition that, under the usual assumptions which mathematical economists invoke when proving existence of competitive equilibrium, a sagacious wealth distribution rule allows liberalized markets to generate a market equilibrium of demand and supply which is no worse for any consumer and, except in special cases, is actually better for every consumer.

So, to summarize the general idea, a liberalizing reform which extends the set of goods and services traded in perfectly competitive markets produces a potential Pareto improvement — that is, it could produce an actual Pareto improvement if accompanied by a sagacious wealth distribution rule ensuring that the gainers overcompensate any losers from such liberalization.

Later, I want to return to these arguments for market liberalization to suggest they have severe limitations. Already one sees, by the way, that liberalization by itself may not be beneficial unless accompanied by suitable wealth redistribution. Presumably, public institutions are needed to carry out this redistribution. For the moment, however, let us pass over this serious limitation, and discuss another role for public institutions — namely, those that are needed to ensure any kind of orderly market.

4. Markets as Public Institutions

The markets that inhabit most current economics textbooks are extraordinarily idealized. Equilibrium is supposedly achieved simultaneously in the demand and supply of every commodity. That is, for each commodity one has a uniform price for all transactions — that price being specified in terms of units of some *numéraire* commodity which, accordingly, has its price equal to one, by definition. For example, the price of the one euro coin will be one euro. At these prices buyers and sellers exchange contracts promising to deliver, or to take delivery, of specified quantities of every commodity they want to buy or sell at each future date, and in each future eventuality or “state of the world”.

Real markets are much messier. They are largely limited to spot transactions, involving commodities for immediate delivery. Such spot transactions are the kind that are made in shops, or at market stalls, where the sellers stock what they hope to sell, and try to sell whatever they have in stock. Buyers search for sellers, and vice versa. Such search is greatly facilitated if there is a market place they know where to find.

These spot markets are supplemented by a few markets for loan, insurance, share or other financial contracts. Sometimes such contracts are not honoured, in which case one party may sue the other, or seek to have legal sanctions imposed.

To non-economists, it is glaringly obvious that markets are a special kind of institution — indeed, there are actually many different types of market institution, from shops and market stalls to auction houses, electronic stock exchanges, etc. Most of these exchanges and markets are private institutions. But all need some public institutions in the background, if only courts of law where plaintiffs can seek redress for violated contracts, shoplifters and those who commit fraud can be prosecuted, etc. There are also laws regulating the quality of what can be bought and sold. And public inspectors of weights and measures whose job it is to make sure that when you pay for a kilogram of fruit, a litre of petrol, or a metre of cloth, that is how much you get.

Indeed, consider one of the most unregulated markets of all — that for illegal drugs. Because the transactions in this market are officially prohibited, those who participate in it have many fewer options when seeking redress against those who adulterate or dilute what they sell, fail to pay what they should, etc. So disputes often result in violence. But the extent of that violence is likely to be influenced by criminal legal codes, the effectiveness of the police force, etc.

As institutions, markets evolve. As institutions which process information in the form of orders, bids and offers to buy and sell at specified prices, markets are changing along with the means of communication. In the century that just ended, we have seen transactions arranged by buyers and sellers, who may be illiterate and not very numerate, simply coming together to

exchange goods for money. Historians assure us that such transactions have been occurring for millennia. Last century also saw more remote transactions arranged by written orders, mediated by letters of credit, paid by cheque. Of course, this kind of procedure has also been available for quite some time. But last century in particular has also saw transactions arranged entirely by telephone, paid for by credit card. Now we are moving toward orders being transmitted almost instantly anywhere in the world over an electronic network, and paid for by electronic transfer. Within each country, with this new technology, there may be some limited public control over what is transacted. But many transactions are now beyond national control. Gambling on British horse races is moving to Gibraltar. It has often been alleged that banking services for crime syndicates and drug cartels are moving to offshore locations like the Cayman Islands — seeking the places where public control is most lax. The need for global public institutions to regulate global markets, as well as to help them function well, is becoming apparent.

5. Enforcing Budget Constraints

Markets help to determine what economists call the intertemporal allocation of goods and services, meaning the pattern of purchases and sales of different goods over all future time periods. Producers build factories, install equipment, maintain inventories, and finance their purchases through loans or equity. Consumers lend through banks, and borrow when they buy cars or homes. They accumulate assets during their working lives, and spend them in retirement.

In textbook economics, consumers are usually treated as facing a single “lifetime” budget constraint. This constraint involves what economists call the *present discounted values* of future purchases and sales — meaning that prices in the future get reduced to reflect the interest that could be earned by delaying payment. In fact, the lifetime budget constraint requires the total present discounted value of consumption expenditure on all goods and services not to exceed the total present discounted value of all earnings in the labour market, plus any returns from saving or other financial transactions. Implicitly, it is as if every consumer were allowed to borrow or lend freely in perfect markets for personal loans until, in the last period of life, all debts get settled and all unspent balances are disposed of — either through bequests, or as a result of a last-minute fling before the curtain comes down at the end of the consumer’s life.

This formulation of the budget constraint determining what markets allow consumers to purchase is clearly nonsense. After all, what is to stop a consumer from running up large debts which far exceed the value of the estate at the time of death? Instead, we need to consider more realistic constraints that could actually be enforced.

One fairly obvious idea implies considering, at each date and in each possible uncertain eventuality in the future, the maximum amount that the consumer could possibly afford to repay out of future earnings. This maximum amount puts an obvious ceiling on the amount of debt the consumer should be allowed to accumulate, net of assets. Indeed, any debt that exceeds this maximum amount automatically introduces the risk of default. The idea is to replace the single lifetime budget constraint by a sequence of borrowing constraints, each of which limits debt at the end of each period and in each eventuality. Because of the way these debt ceilings are calculated, their total effect is to make the consumer behave exactly as if there were a single lifetime budget constraint, which could actually be enforced. In other words, the borrowing constraints do nothing to limit the efficiency of personal loan markets; they are just a device for making the lifetime budget constraint enforceable.

But there is now a different enforcement problem. Suppose it is determined that you can repay a loan of 1 million euros by the end of your lifetime, so this amount becomes your specified borrowing ceiling. You go to bank A, which lends you the sum of 1 million euros in exchange for your promise to repay all your future lifetime earnings. Fine — this is exactly what is supposed to happen. But things may not stop there, because so far there is nothing to stop you from going to bank B, and arranging a second million euro loan there. So now you can consume your lifetime earnings twice over, at the expense of these faceless banks. Only on your death do the banks discover too late that your remaining assets are insufficient to pay off, with interest, the 2 million euros you have borrowed.

Of course, real banks are not that stupid. Bank B will make enquiries to determine whether you have already borrowed elsewhere (and so will Bank A, in fact). But this requires banks to coordinate information about the loans they each make to specific borrowers. Accordingly, we are losing the usual decentralization property of traditional spot markets in which buyers and sellers deal merely with each other, or with the market, not caring what other transactions the other party may already be committed to making. In practice, when you mortgage your home, the relevant information is likely to be recorded in some public office where other potential lenders can have access to it. For the credit or personal loan market to function as it does, normal market institutions by themselves are inadequate; additional public institutions for recording loans and mortgages are clearly necessary.

If you have many credit cards, you may be able to borrow on several simultaneously, because those who issue such cards seem not to care at all how many other cards you have, or how much you already owe on those other cards. This helps explain why issuers of credit cards charge what would otherwise seem exorbitant rates of interest. And why personal bankruptcy has been

expanding in countries like the U.S.A., where credit cards are issued to all and sundry with little concern for the debt position of those who use them.

Such considerations illustrate how a borrower's obligations affect the probability of default, and so the quality of the loan. This linkage of quality to quantity is not restricted to credit markets, however. The link is likely to arise whenever there is what economists have come to call *moral hazard*, in which behaviour is influenced by the size of a financial transaction, and that behaviour affects the distribution of returns. Thus, in insurance markets also, it is usual to have compensation for an accidental loss limited to the size of the loss, less some deductible. Otherwise, for example, if somebody whose house burned down could claim five times the loss, from one or more insurance companies, there would be a strong temptation to buy excessive insurance and then commit arson. Accordingly, insurance companies also need institutions which enable them to coordinate their payments in the event of any claim. They seem to rely on police or fire records.

Insurance markets exhibit another important difference from usual markets. In the market for loans, for example, what you pay the lender in interest is typically proportional to the size of the loan. In insurance markets, however, the payment in the event of a fire will not usually be proportional to the amount of insurance that is bought. Instead, a payment will never exceed the assessed damage that prompted the claim. The main exception to this rule may be life insurance, since the person whose life is lost cannot benefit directly from a claim. There are other beneficiaries from a life insurance policy who may be tempted to increase the probability of being paid, but laws against murder by named beneficiaries are usually quite well enforced.

The main point of these examples, of course, is that they illustrate how some markets cannot function properly unless suitable institutions have been created to enforce contracts.

6. Efficiency is No Guarantee of Equity

So far, I have reminded you that perfectly competitive markets allocate resources Pareto efficiently. And that liberalizing markets is a way to generate potential Pareto gains. But I have argued that for markets to emerge and work efficiently as theory suggests they should, there have to be institutions which enable buyers and sellers to find each other and to agree on mutually beneficial transactions. As well as other institutions which are needed to enforce contracts, to prevent fraud or theft, and to limit the effects of moral hazard in credit and insurance markets.

Even perfectly functioning markets, however, at best generate Pareto efficient allocations. Yet Pareto efficiency is compatible with extremely unequal distributions of wealth, even with mass poverty and starvation. Indeed, Pareto efficiency is entirely compatible with a truly awful social system in which all but a tiny elite survive only to serve that elite as slaves, with no right even to

live any longer than the period for which the elite finds them useful. Similarly, moves to liberalize markets may leave some people without even the means to survive, let alone the means to function effectively as normal people.

These observations are just a rather extreme way of saying that, even if markets produce fully efficient allocations, they fail to guarantee even limited equity in the distribution of resources. To achieve even limited equity typically requires redistribution from rich to poor of a kind that no market can ever manage. Markets need supplementing with other institutions.

Private charitable institutions certainly can help. Food can be provided for those who would otherwise starve, clothing and shelter for those who otherwise be homeless and destitute. Sometimes indeed, private charities may do a better job of helping those most in need than do schemes of public assistance. But private charities must rely largely on voluntary donations, which creates an obvious instance of what economists call “the free-rider problem”. That is, just as it is all too easy to ride free on public transport, leaving others to pay the fares needed to help finance the service, so is it all too easy for those who should be giving to the poor to leave such assistance to others. Some sense of shame may evoke limited donations. But it is hard for private institutions to attract adequate funds to help more than a minority of the most deserving. Only public institutions which levy compulsory taxes have some chance of arranging in a systematic way that all who can contribute to aid the poor really do so. Speaking personally, I would rather support the poor through tax payments that will be matched by everybody else in my situation, rather than being one of a minority who make appropriate contributions voluntarily. It is true that contributing voluntarily is a worthy act, but so is voting to contribute the same amount along with everybody else in a similar situation — and the latter is likely to raise much more revenue much more equitably, without penalizing the charitable at the expense of the selfish.

Some readers may object that public welfare institutions are notoriously inefficient in ensuring that tax revenue reaches those who really deserve it, without undue administrative expense, corruption, etc. To which one answer is that some private charities seem subject to the same evils. Also, even if private institutions really are better at making distributions, one can still have public institutions to collect the contributions and turn them over to private charities who deal directly with the poor.

7. Limits to Redistribution

Some redistribution from rich to poor seems an essential feature of any civilized society. Because of the free-rider problem, such redistribution is likely to be much less than adequate without some element of compulsion which only public fiscal authorities can achieve. The question

remains: how much redistribution is desirable?

According to Karl Marx, “From each according to their ability: to each according to their need”. This is some kind of super-egalitarian ideal. It can be interpreted as recommending that those with the largest skills should work especially hard because their personal inconvenience is greatly outweighed by the enormous benefits which emerge from their efforts. But, except for those with larger needs because of invalidity or age, there should be equality of consumption opportunities.

The obvious problem with this super-egalitarian ideal is its neglect of incentives. If those with skills are expected to work harder for no extra reward, people will have every reason to avoid acquiring skills, as well as to conceal any they might have acquired in the past. “To each according to their work” makes more sense, with those who are more skilled being expected to make a larger effort, but receiving appropriate compensation in the form of additional consumption.

Previously, I mentioned the first fundamental efficiency theorem of welfare economics, according to which competitive equilibrium in complete markets generates a Pareto efficient allocation. There is also a second fundamental efficiency theorem of welfare economics, which characterizes most Pareto efficient allocations as competitive equilibria in complete markets. This theorem, however, has a key limitation. As I have been suggesting above, the problem is that reaching a Pareto efficient allocation which is not so inequitable as to be ethically repugnant is likely to require more than perfectly competitive complete markets on their own. Also essential is an appropriate redistribution of wealth. Now, transfers which depend on the quantities of goods and services which consumers or producers choose to demand or supply introduce what economists call “distortions” because, in effect, they raise or lower the prices of different goods and services to different individuals. Indeed, if there is a tax on sales, then the sellers receive a price which is lower than that paid by the buyer, since the latter includes the tax and the former does not. Similarly, if there is an income tax, a worker receives a wage after tax which is less than the cost of an hour of labour to the employer. Such distortions to market prices destroy the Pareto efficiency property of competitive equilibrium. If such distortions are to be entirely avoided, wealth must only be redistributed by means of so called “lump-sum” transfers — i.e., transfers which are entirely independent of quantities that consumers or producers choose to demand or supply, and so have no direct effect on the prices at which any consumer or producer buys or sells. Now, what we have just established at the beginning of this section is the impossibility of arranging such distribution in a suitable non-distortionary way when, for example, individuals have private information concerning their true skills, in which case equity typically requires effective redistribution from those who appear skilled to those who appear unskilled.

8. Markets as Constraints

When there are very many individuals who have private information about their tastes, abilities, or productive capacities, it turns out that the only instruments for redistribution which can work are those whose effect is to present indistinguishable individuals with identical budget constraints determining the bundles of goods and services that the economic system permits them to choose. That is, the economic system must generate allocations to individuals which are “privately decentralizable” in the sense that they could result from individuals themselves choosing what they most prefer from within their own private budget constraints.

The reasoning behind this key “private decentralization” result is fairly easy to understand. The argument begins by noticing that a practical economic system must be *incentive compatible* — i.e., non-manipulable by individuals who would otherwise have an incentive to act strategically in order to take whatever advantage they can from the economic system. Then one argues that, because there are many individuals, each lacks the power to influence their own budget set. So any individuals who seek to manipulate the mechanism are restricted allocations within their own budget set, over which they have no control. Thus, they cannot do better than to choose whatever bundle of goods and services they truly most prefer within that budget set. So a privately decentralizable allocation mechanism must be incentive compatible. Conversely, suppose we have an incentive compatible allocation mechanism, and then construct each individual’s budget set as the smallest set that includes all possible bundles of goods which the mechanism might allocate to that individual, as their private information varies. Because no individual wishes to manipulate the economic system, each individual must expect to be allocated an optimal bundle from within this constructed budget set. That is, the mechanism must be privately decentralizable.

Mathematical economists are used to thinking of budget constraints as linear, in the sense that expenditure is a linear function of quantities demanded, income is a linear function of quantities supplied, and the constraint expresses the requirement that expenditure cannot exceed income. For example, the budget constraints in the usual model of perfectly competitive or Walrasian equilibrium have this linear form. Yet, given an incentive compatible allocation mechanism, the budget set that constitutes the associated private decentralization could be finite, or highly non-linear — nothing I have said so far forces it to be linear.

Suppose, however, that individuals are allowed to manipulate the economic system not only on their own, but in small groups which can also make unofficial exchanges on the side, as in a black market. Then the mechanism should have the much stronger property of *multilateral incentive compatibility*. Under certain technical conditions, it can be shown that multilateral incentive compatibility requires linear pricing of all goods for which unofficial exchanges cannot be

prohibited. The point is that any departure from linear pricing faces different consumers with divergent prices for extra units of different goods, and such divergence creates opportunities for those who would otherwise face a low official price to do a deal on the side by selling to those who would otherwise face a high price. Accordingly, for such exchangeable goods, multilateral incentive compatibility requires budget constraints to be linear, like the usual ones in Walrasian general equilibrium. Moreover, there can be no lump-sum redistribution at all between indistinguishable individuals. For goods such as electricity, piped water, and telephone calls for which exchanges on the side may be hard to arrange, non-linear pricing is still possible, however.

This inability to impose non-linear pricing for exchangeable goods, or to redistribute between indistinguishable individuals, severely limits the redistribution that is possible. One is forced into a system with linear commodity taxes (or subsidies) on identifiable transactions between firms and consumers. These can be supplemented by non-linear prices for goods that are not easily exchangeable, and by non-linear income taxes (or subsidies to the poor). There can also be discrimination on the basis of identifiable individual characteristics like age — as commonly occurs in determining who receives free education and whose parents receive state subsidies, as well as in distributing public pensions or offering favourable tax treatment to private pensions.

What such arguments suggest is that markets, instead of being desirable instruments to help us achieve favourable economic allocations, may actually impose constraints on what can be achieved by schemes for redistribution, not to mention schemes for providing and financing public goods of various kinds. To take a dramatic extreme, if black markets determined everything, because there were no transactions that could be identified and so taxed, then one would be forced into a complete *laissez faire* economy, no matter how unjust the distribution of resources this entailed, or how poor the resulting public infrastructure.

9. Raising All Boats May Require Major Intervention

English speaking policy makers who argue that one should simply pursue economic efficiency regardless of distribution have often been heard repeating the metaphorical claim that “A rising tide raises all boats.” In more technical terms, this suggests that all potential Pareto gains from economic liberalization will become actual Pareto improvements, with benefits “trickling down” even to the impoverished and politically powerless. I find this attitude entirely irresponsible and morally reprehensible. It also allows economists to recommend some liberalizing reforms which lack credibility because they cannot be sustained. For example, freeing markets for food would suggest abolishing food subsidies intended to aid the poor. If politicians attempt to implement such a reform without any compensation, they should not be surprised if hungry people

start protest marches, even riots, near the seats of political power. Sometimes, indeed, the benefits of liberalization are disseminated widely through the population in a way that makes the losses to a few unimportant. But it seems that plenty of liberalizing reforms have turned out to be seriously damaging for some significant groups of individuals — as official agencies like the World Bank are slowly beginning to recognize.

Responsible liberalizing reforms, therefore, are bound to take into account the losses that may be inflicted on some groups, such as workers in industries that cease to be competitive. Compensating the losers, however, may not be particularly easy. Workers whose jobs disappear may claim that they need to receive as compensation the full present discounted value of their entire future lifetime earnings. In a few cases of workers near retirement, this may be accurate. But many other workers could find new employment — indeed, may even be contemplating changing jobs anyway — in which case their true losses are limited to lost earnings over a short period of adjustment, plus costs of retraining or possibly relocating with one's family. On the other hand, people who are not even working in the industry yet, but were expecting to do so, could argue that they also need compensation. Obviously, there will be a tendency for individuals to exaggerate their losses, or to claim losses where really there are none at all. Which makes payment of lump-sum compensation incentive incompatible.

Instead of lump-sum compensation, therefore, only more subtle compensation mechanisms are likely to be practical. One ideal would be to replace lost jobs by others demanding similar skills and paying the same wage, using wage subsidies as necessary to encourage new employers to fill the gaps left by the old. Then none of the displaced workers would lose. Any workers intending to leave anyway would still have an incentive to do so. Those intending to enter the old industry would enter the new one instead. Unfortunately, wage subsidization of this kind, apart from possibly being excessively expensive, is often ruled out as fostering unfair competition. In practice, what seems to be possible is some kind of re-training scheme, combined with investment subsidies or tax holidays to induce new employers to replace the old. Selling off the right to employ the laid off workers for the lowest negative price — i.e., the smallest tax subsidy — makes some sense.

The crucial point to be made, however, is that sensible and humane reforms which liberalize markets typically need subtle and complicated public institutions designed to reduce the cost of transition to those who are adversely affected.

10. Developing Public Institutions

Virtually every economist I know will admit, sometimes reluctantly, that public institutions are needed to oversee and finance the creation of public infrastructure like roads, schools, hospitals, irrigation and flood control schemes, etc. Since public institutions require financing from tax revenue, there also have to be tax collectors. And of course there must be some political process governing these public institutions.

What fewer economists seem to recognize is how much the private sector also relies on public institutions — or at least on non-market institutions, which may occasionally be set up as private foundations (as is Stanford University) rather than directly controlled by other public institutions. To remind you, traditional market places were often held in public squares. More modern markets involve shops which often rely on public parking. Even electronic markets for financial securities rely on background public institutions like a legal framework. In particular, markets rely on laws governing contracts and their enforcement, others preventing theft, assuring product safety and quality standards, etc.

We also saw how credit and insurance markets inevitably face problems of moral hazard, where the size of an agent's position in the market can affect behaviour in ways that reduce the rate of return to a lender or to a provider of insurance. This creates a need for lenders or insurance providers to be informed of each agent's transactions with other lenders or insurance providers — a need most easily met by creating public institutions which record or even guarantee loans, or keep track of individual insurance claims.

All this need for public institutions comes before one worries about any limited kind of equity in the distribution of wealth, or even whether all people can survive on what the market economy provides for them. Also before worrying whether, as liberalizing market reforms are introduced, the most deserving losers will be treated anything like fairly. Such distributional concerns are certainly very important, and seem to require other public institutions to help meet them — private charity, because of the free-rider problem, is surely going to remain insufficient on its own.

Reaffirming the need for a rich mosaic of public institutions may be timely after recent extensive moves toward privatization and liberalization, with many more likely to follow. But such reaffirmation seems especially important when there are severe problems in transitional economies like Russia's, which clearly lacks many of the public institutions needed to allow a market economy to function well. Indeed, while that lack remains, it is all too easy to be pessimistic about Russia's future.

Of course, Russia does have many public institutions — perhaps even too many, as a legacy of the decades of Communist rule. The trouble is that too many of these institutions have proved to be terribly ineffective or even corrupt, especially those connected with privatizing state-owned enterprises, allowing most of Russia's industrial resources to be transferred from the state, which at least had to pretend that industry was being run for the collective benefit of all citizens, to a small group of owners — too often drawn from among the previously privileged *nomenklatura* — who were given the licence to treat what was state property as their own, enriching themselves enormously in the process.

This brings me to what may be the most important message of this lecture. Because many economists of late have paid too little attention to the fundamental role played by public institutions in the market economy, they have also disregarded the insidious spread of corruption through these important institutions. Even in supposedly virtuous England, while John Major was Prime Minister, there was a scandal in the “Mother of Parliaments” because some of its members accepted gifts of a thousand pounds or so to ask specific questions of ministers during question time. Elsewhere, this audience needs no reminding that corruption in public institutions is much more extensive.

There may be some libertarians who think that corruption in public institutions could be eliminated by abolishing them all, and turning their functions over to private institutions instead. However, that is quite likely merely to privatize the corruption as well. During my last years of long-term residence in England, around 1978, I remember losing some of my naiveté when I heard that it was standard practice among some paint salesmen to offer personal bribes to the purchasing officers of customer companies in order to secure orders. Bribes paid under the table to the purchasing officer, that is, instead of legitimate discounts to the purchasing company. And bribes that went way beyond a calendar or bottle of whisky at Christmas time as the usual way to thank a valued customer for their regular business.

Indeed, corruption in all institutions seems to be an endemic problem the world over. Nor is it clear what can be done. The only consolation may be a historical lesson, again from England in particular, where by today's standards corruption in public institutions seems to have been really rather extreme in the early 1800s, but appears to have been largely eliminated by 1900. Perhaps historians can explain to us how this happened, preferably in ways that teach us possible remedies right now. For example, in the 1800s it was possible for Britain to export corruption to the colonies, and no doubt a great deal was. Clearly, that is not an acceptable remedy today for corruption anywhere in the world. Nevertheless, my own suspicion is that the remedies which worked over 100 years ago may have had little to do with economic motivation, and much more to

do with inherent respect for honesty and truth, especially among altruistic public servants. Of course, encouraging such healthy attitudes really is a remedy available in principle virtually everywhere.

11. Conclusion

I hope to have left with you with a somewhat clearer understanding of the essential role of public institutions, even in a private market economy, and so why corruption within public institutions really matters. If I have, my job has been done.