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**Wealth, Economic Infrastructure, and Monetary Policy**

address by

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The premise of my remarks this morning is simple--a country's choice of institutions profoundly affects its wealth and development. Institutions constitute a nation's economic "infrastructure," the framework on which enterprise is built. Perhaps *the* most important element separating economic "haves" from "have-nots" is whether these institutions--and particularly public institutions--either facilitate or confiscate production. One of those institutional arrangements is the monetary regime.

### **The Nature and Causes of Economic Prosperity**

In 1776, Adam Smith published *An Inquiry into the Nature and Causes of the Wealth of Nations*. His motivation was to explain the large differences in economic prosperity observed across countries. Smith argued that the wealth of a country is measured by the productivity of its labor force and not, as the mercantilists claimed, by its stocks of gold and silver. The wealth of a nation should be judged by its ability to create things of value from its resources, not by its ability to transfer the fruits of such creation to others.

The inquiry that Adam Smith began continues today, and for essentially the same reason: the gaps that separate prosperous from foundering economies remain huge. As we near the end of the 20th century, the richest countries in the world are roughly 30 to 50 times wealthier than the poorest ones--a truly astounding difference.<sup>1</sup> Not only do we see large differences in wealth, but we also see tremendous variation in development. The last several decades have revealed "development miracles" and "development disasters."<sup>2</sup>

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<sup>1</sup> Measured by per capita gross domestic product (GDP). For perspective, consider that this is approximately the same difference separating the U.S. standard of living today from that of approximately 200 years ago!

<sup>2</sup> This terminology comes from Stephen L. Parente and Edward C. Prescott, "Barriers to Technology Adoption and Development," *Journal of Political Economy*, vol. 102, no. 2 (1994), pp. 298-321.

Saudi Arabia, Lesotho, and Taiwan tripled their wealth between 1960 and 1985. Yet, other countries, such as Zambia, Mozambique, and Madagascar, were about three times wealthier in 1960 than they were 25 years later!

If we ask simple questions like “Why are some nations rich and others poor?” or “Why do countries grow at different rates?”, we get a simple answer: Rich nations have greater resources per capita--more capital, both human and nonhuman, and better technology connecting the two. But this simple answer only begs another question: “Why do some nations have high levels of capital and technology, while others don’t?”

To answer this question, it is useful to determine whether wealthier or faster-growing economies share characteristics that are not observed in poorer or slower-growing ones. Investigations into this issue have not been very revealing, and economists have been frustrated by their inability to identify common policies that would explain a significant share of the wealth differentials that separate nations.<sup>3</sup> But the lack of a clear linkage between specific “growth” policies of nations and their ultimate prosperity has led us to think more broadly about the state and prosperity. That is, the policies that nations adopt may not be individually revealing, but in their totality they reflect an economic infrastructure that the state helps build.

For example, viewed in isolation, an increase in a nation’s educational effort should have a decidedly positive influence on its wealth. However, such programs may still fail if the rate of taxation on labor income is high, transfers between generations are

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<sup>3</sup> For an analytical examination of this point, see Ross Levine and David Renelt, “A Sensitivity Analysis of Cross-Country Growth Regressions,” *American Economic Review*, September 1992, 82, 942-63.

large, or other policies are in place that reduce people's incentive to add to their stock of human capital.

In the realm of economics, controlled experiments are not possible. At rare times, though, natural experiments present themselves, and recently we have had a rather unique opportunity to study the role of the economic infrastructure in influencing nations' prosperity. In the last seven years, at least 15 newly created market economies have emerged within the former Soviet Empire, in addition to the liberated Eastern European countries. In each case, the measured level of economic well-being for the new nations initially fell well short of that attained during the Soviet era. This is not particularly surprising, even though the new economic order may be vastly more efficient than the centralized organization it replaced. To begin with, we have no way to gauge the accuracy of the national output estimates during the Soviet experience. Even so, we can expect that during any economic transition, measured growth will slow or, in cases as dramatic as these, output may even decline as resources are directed to the construction of an economic infrastructure that is often outside the standard measures of national output.

Still, the emerging Eastern European economies have experienced vastly varying rates of measured economic decline. Consider that since 1989, the five worst-performing Soviet spin-offs have seen a decline in measured output about twice that of their five best-performing counterparts. More specifically, the Central European countries appear to have adjusted more easily than many of the Baltic states and Russia, which in turn appear to have adjusted more easily than Kazakstan, Uzbekistan, and the other outlying republics. A reasoned explanation, I think, is that the Central European countries have a

history as market economies and have maintained stronger ties with the West. This implies that the economic infrastructure of these nations was more fully developed than in the remote republics.<sup>4</sup>

A similar, and perhaps equally dramatic, revolution may be under way globally--the new "technology revolution." The world is replacing the capital of old technologies, creating a new economic infrastructure. As that infrastructure develops, measured output and productivity will understate the true wealth gains being made. Moreover, such changes may create a prosperity gap between those that easily adopt the new technology and those that are either heavily invested in the old technology, or have little ability to gain from it.<sup>5</sup> Note, however, that in some economies or in some industries, the barriers to adopting new technology can be formidable. These barriers include regulatory restrictions, the wealth-redistributive efforts of others, even sabotage.<sup>6</sup>

Nations which adopt an economic infrastructure that favors production over diversion will be more prosperous than ones that don't. In the case of the blossoming Eastern European economies, the nations which build the infrastructure that enables markets to flourish--the assignment of property rights, a system for enforcing contracts and adjudicating disputes, and the effective management of market failures--will be the ones that prosper. So, too, those quickest to adopt the emerging new technologies into the workplace will show the greatest wealth gains.

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<sup>4</sup> Olivier Blanchard and Michael Kremer, "Disorganization," Manuscript, NBER Economic Fluctuations and Growth Meetings, January 31, 1997.

<sup>5</sup> A provocative paper on this subject is Jeremy Greenwood and Mehmet Yorukoglu, "1974," manuscript.

<sup>6</sup> Indeed, the word sabotage comes to us directly from the resistance to new technology, as it is said that French revolutionaries, in an attempt to slow the introduction of new machinery, threw their wooden shoes, called sabot, into the machinery. Hence the word sabotage. (Although, knowing the value of wooden shoes to peasants, I suspect these stories are a bit apochryphal.)

## The Public Infrastructure of Nations

An economy's infrastructure, very broadly speaking, is the climate created by the institutions that serve as conduits of commerce. Some of these institutions are private; others are public. In either case, the role of the institution can be conversionary--helping to transform resources into outputs--or diversionary--transferring resources to non-producers. However, most private institutions are sustained by the value they add--either they produce or they fail. The same cannot be said of public institutions. These institutions are sustained by the power of the state.

Given the seemingly inherent danger of public institutions, perhaps the natural first question to ask is, "Why aren't all institutions private?" This question has become increasingly relevant for the monetary authority, to which I will turn shortly. At a most basic level, there can be only two rationalizations for the state's participation in an economy. The first is as a social equalizer, redistributing a nation's resources under the presumption that some particular social need takes precedence over private desires. The second justification for government is a failure of markets to produce an efficient outcome, justifying state intervention *in the name* of economic efficiency.

In what way government becomes part of the economic infrastructure is crucial to the prosperity of its citizenry. In the case of equity issues, the role of the state is unambiguous. Society makes a choice to accept a lower level of wealth in exchange for some presumably higher social objective.

But it may be as promoter of market efficiency that the role of the state raises the most complex questions. Even if the objective is to overcome a particular market failure,

once the state has been introduced into the economic system, its influence can have wide-ranging and unanticipated consequences. And these institutions, which are not bound to obey market forces, exert influence long after their usefulness has passed.

But market failures **do** occur, though probably not as often as activist policy makers presume. Perhaps the most important failure involves so-called “public goods,” where providing the good for anyone makes it possible, without additional cost, to provide it for everyone. A legal system and national defense are such goods, as is, I argue, the monetary authority. Cumulatively, these state activities are part of the economic infrastructure called “the protection of property rights.” This means, more or less, that individuals can expect to receive the product of their labor. Although people could privately undertake actions to prevent the diversion of their output, from burglary for example, it is widely accepted that a social institution (such as a police force) is a less costly mechanism.

Indeed, the enforcement of property rights may be the single most important function of the state, and it is in this function that the role of the state as contributor to prosperity is least controversial among economists. Let us be clear, however, that in order to pay for the police, or courts, or jails, resources must also be diverted to government from private persons in the form of taxes. We can let the criminals steal, or we can permit a government tax to prevent stealing. The economic question is, which is cheaper?

Once introduced into the economic infrastructure, the state cannot help but to tax the productive capacity of the system. Sometimes these taxes are direct and provide the

sustenance for the government enterprise. But, direct taxes are probably only a small part of the overall cost to the economy. Also important are the costs on private agents who now invest resources to minimize their tax burdens, either through tax avoidance schemes or through attempts to influence the taxing authority.

This is the paradox of any state enterprise. While the state may be the most effective instrument in minimizing the resource diversions of private agents in the economy (for example, by protecting property rights and enforcing contracts), it simultaneously introduces the potential for the debilitating diversion of resources for its own account. It is here, I think, where the differences among nations are grossly understated.

A common distinction among governments is whether they are so-called “capitalist” or “socialist,” and in very broad terms they define the diversionary appetites of some government entities. Certainly a government committed to allowing the private ownership of capital is, all other things equal, more committed to putting in place an economic infrastructure that favors creation over diversion. But this is only part of the story. Laws, threat of expropriation, government repudiation of contracts--all of the things that cumulatively sum to the protection of property rights--are important.

In a recent study of the productivity of nations, capitalist or mixed capitalist countries were found to have the most effective governments with respect to anti-diversionary commitment, but Hungary and Czechoslovakia, two non-capitalist countries during the study, provided “approximately the same level of anti-diversion policies as Taiwan, Italy, and Hong Kong.” On the other hand, Sierra Leone and Malawi, two



capitalist nations, offer little protection against diversionary activity. Similarly, many nations which we loosely label capitalist or mixed-capitalist economies have borders that are relatively closed to foreign trade. It is important to consider the totality of government attitude toward diversion to appreciate *that* government's role in either fostering or inhibiting national productivity.

Jordan enjoys nearly twice the economic prosperity of Egypt, at least in terms of per capita income levels. According to some recent estimates, all of that differential can be attributed to productivity.<sup>7</sup> And, it would certainly seem that government participation in the economic infrastructure has been a prime determinant in that productivity differential. Jordan's anti-diversionary policies are stronger, it is more open to trade, and its economic organization is less statist. These are the "common set" of characteristics that make an economic infrastructure successful. According to some, these characteristics are substantial enough to explain most, if not all, of the differences in prosperity that separate nations today, and I suspect they are the same set of characteristics that separated the wealth of nations in the time of Adam Smith.

### **Monetary Policy and the Economic Infrastructure**

Applying this perspective to those of us who call ourselves monetary policy-makers, we ask, "What is the role of a monetary authority in a free society?" Indeed, "Why is the government in the money business at all?"

The Constitution of the United States gave Congress the power "to coin money" and "to regulate the value thereof," a language that some historians believe reflected a

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<sup>7</sup> Much of this discussion is based on Robert Hall and Charles Jones, "The Productivity of Nations," manuscript, NBER Economic Fluctuations and Growth Meetings, January 31, 1997.

specific intent that the new nation adopt a specie standard. Indeed, the new Congress quickly established its money standard to be a dollar, defined as 371.25 grains of fine silver or 24.75 grains of fine gold.

Problems with a commodity, or commodity-backed monetary systems, are well known. For example, commodity experts have an advantage in trade over non-experts, bad money will drive good money out of circulation, and resources will be diverted toward the creation of additional money, rather than toward the utility-providing goods on which money represents a claim. The commodity money standard would seem to be an inefficient medium of exchange, indeed, as James Madison observed.

Given these problems, it may be that modern fiat monetary systems—monies with no commodity value—offer a less costly way to transact. Early fiat monies in North America were products of a war economy. The Continental currency, issued by the colonies during the American Revolution, and the Greenback and Confederate currencies, issued by the Northern and Southern governments during the Civil War, offered their respective governments a source of revenue that was not as readily available using ordinary taxation. Because fiat money is virtually costless to produce, but has the purchasing power of its face value, it offers the issuing government a current claim on an economy's resources with no clear obligation to repay at a future date, a tax called "seigniorage."<sup>8</sup> Certainly, the seigniorage incentive--particularly in the name of the financial expedience prompted by a war--provides ample motivation for governments around the world to establish fiat monetary systems.

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<sup>8</sup> During wars, governments generally suspended the convertibility of commodity-backed paper money, generally with the promise to restore convertibility at a later date.

Yet, there may be economic reasons for fiat monetary standards other than the seigniorage tax. Consider the new market economies in Eastern Europe, many of which have chosen to finance a nontrivial portion of their new republics on the seigniorage from fiat money. The overproduction of these monies, which diverted economic resources from the private sector to the state, imposed large costs on those using the government-provided money. And many of these monetary systems have floundered. But, unlike the early American failures with fiat money--which were ultimately supplanted by commodity money alternatives--the alternative to the new Eastern European fiat monies has been another fiat--the U.S. dollar. Indeed, nearly two-thirds of all U.S. currency currently circulates outside the United States. In fact, during the early 1990s, when the newly emerging market economies were rapidly building an economic infrastructure, roughly \$100 million of U.S. currency creation was being exported abroad daily, presumably as the preferred medium of exchange in many new economies.<sup>9</sup>

The lesson here, I think, is that the relatively stable purchasing power of the U.S. dollar and a general confidence in its ability to hold its value over time has allowed the dollar to become, for a time, a preferred alternative to any commodity-based substitute.

Fiat money economizes on scarce resources in at least two ways. First, the printing press is a vastly more cost-effective production process than scouring the landscape for a rare material. Second, in a fiat monetary system, all traders in the economy have nearly the same advantage in judging the quality of a paper's moneyness.

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<sup>9</sup> Richard D. Porter and Ruth A. Judson, "The Location of U.S. Currency: How Much Is Abroad?", Paper presented at the Western Economic Association International Conference, San Diego, California, July 7, 1995.

And here is the public good in money--its acceptance in transaction. Money is like language: It is part of the infrastructure that allows productive people to trade, and the more people who use the language, the more efficient is the communication process. And once created, its use is not diminished by the use of others. Indeed, its use by others only strengthens its value in the economic infrastructure.

Some economists challenge the wisdom that fiat monetary standards are more efficient than commodity money standards with the following analogy: "A similar argument could be made for bicycle locks and chains. If metal locks could be replaced with symbolic paper locks, resources would be released that could be used productively elsewhere. As long as thieves honor paper locks as they would metal locks, your bike will be perfectly secure."<sup>10</sup> This brings us directly to the question faced by modern monetary authorities: Can the state be trusted to provide a relatively costless monetary system without succumbing to the seigniorage incentive that redirects resources from the private sector to the government sector? Or, stated alternatively, is commodity money--which can be costly to produce and subject to the uncertainties of nature--ultimately more secure than the goodwill of the state? Only the passage of time will offer an answer.

The monetary authority, like any state institution, faces a clear conflict. As a component of the economic infrastructure, it has the opportunity to provide an efficient payments mechanism that would otherwise not be provided by a private enterprise and thereby the opportunity to help the conversion of resources into their productive ends. But, central banks also introduce the ability to divert the flow of resources to the state, or

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<sup>10</sup> Huston McCulloch, Money and Inflation, Academic Press, New York (1975).

to those favored by the state and, in so doing, represent a threat to the national infrastructure. I believe it was the wisdom of Congress to recognize this conflict when it established an independent central bank more than 80 years ago.

But even as an independent, state-sponsored enterprise, the Federal Reserve still has a diversionary face. To begin with, we, like any public institution, are still subject to political pressure, although perhaps less so than more direct forms of government enterprise. Moreover, many economists, including in the Federal Reserve System, continue to hold the view that markets are inherently unstable, and some degree of “management” should be provided by the monetary authority. These are the economic activist philosophies of the post-Depression era, where money is used to direct resources toward the manipulation of national joblessness. Despite whatever good intentions motivate such policies, this too, is a clear form of diversion--it presumes that the monetary authority is in a better position to judge the appropriate level and distribution of national production than is the marketplace.

I believe that the failed attempts at fine-tuning economic performance during the late 1960s and 1970s are a clear warning of the damaging diversionary power of the central bank, and it is a policy that we must never again repeat. In the end, such efforts broke down the efficient transmission of economic information through the monetary standard, which in turn reduced national investment, discouraged productivity growth, and diminished our position in the marketplace of international trade.

## Conclusion

It's easy to see that many of the development disasters of the post-World War II era have been orchestrated by brutes whose economic agendas have been dictated by military force, and whose political tenure has often been short-lived and bloody. But we needn't go to such extremes to find examples where the state commandeers resources. We can point to the extent to which government controls or manufactures goods, creates barriers to trade, or impedes the adoption of new technologies; the tax regimes imposed by the fiscal authority; and, of course, the choices made by the monetary authority.

Today, the Federal Reserve has restored much of its lost credibility as the provider of a monetary standard, and we have committed ourselves to the achievement of a stable currency--so that among the uncertainties that always confront private enterprise, the value of the trade medium, the dollar, is not among them.

Is our promise not to repeat the failures of the past sufficient? Perhaps for the moment it will have to be. But, we continue to call for a change in the environment in which monetary policy is conducted. We believe specific and verifiable objectives must be imposed on the monetary authority so that in addition to its good intention, the power of the state is brought to bear on the monetary authority to ensure the protection of money holders' property rights. Rather than being an instrument of diversion, the central bank must remain a strong and stable component of the national infrastructure, an infrastructure that has become the model for nations around the world and a foundation for the strongest economy in the history of the world.

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