Editors' Summary

THIS ISSUE of Brookings Papers on Economic Activity contains papers and discussions presented at the fifty-third conference of the Brookings Panel on Economic Activity, which was held in Washington, D.C., on April 2 and 3, 1992. The first paper presents a model of regional economic performance and uses it to examine the general features of regional growth and fluctuations, with insights for the U.S. states and the European Community. The remaining papers and final report of this volume explore the transition underway in the economies of Eastern Europe and the former Soviet Union. The second paper explores the process of stabilization and economic reform in Russia. The third paper grapples with the elusive question of what shapes the economic behavior of the people of the ex-communist countries. The fourth paper raises a number of important questions about new credits scheduled to be channeled to the countries of the former Soviet bloc through the international financial institutions. The concluding report of this volume examines the economic transition in eastern Germany and the obstacles that lie ahead.

AGGREGATE GROWTH and fluctuations in output, employment, and prices have always been central concerns of macroeconomists. Recently the economic performance of regions and states also has attracted their attention. Although aggregate economic developments induce common movements across regions, other forces produce substantial variations in the experience of regions and states. In the first paper of this issue, Olivier Jean Blanchard and Lawrence Katz provide a model of regional economic performance and use it to examine the general features of regional booms and slumps, as revealed in the behavior of U.S. states over the past forty years. The study of regional economic development has implications that extend beyond each particular case study.

For one thing, such studies provide insights into broader macroeconomic processes. For another, these studies offer lessons in how regional economic development may occur in other areas. The authors believe, for example, that the study of regional economic development among the U.S. states may lead to a better understanding of how the European Community could develop economically, if border barriers were eliminated and a common currency was adopted.

Blanchard and Katz begin by examining the regional differences in employment, unemployment, and wages. Several striking facts emerge. Although over periods of a century or more trends in relative employment growth by states have changed, over just the postwar period states have experienced large and sustained differences in employment growth rates. States such as Arizona, Florida, and Nevada, which grew faster than the national average from 1950 to 1970, tended to grow faster from 1970 to 1990, as well. Similarly, states such as Massachusetts, New York, and West Virginia, which grew slowly during the first period, tended to grow slowly during the second. For the entire sample of states, approximately 75 percent of the variation in growth rates during the second period is predicted by growth rates during the first.

The persistence in employment growth rates is confirmed by regressing the growth in states' employment relative to U.S. employment on lagged values of this growth rate and on the level of the states' relative employment, allowing for an intercept and trend. Although the coefficient on the lagged employment level is negative in all states, which suggests that there is some tendency for growth rates to return to the national average, this tendency is weak and is statistically significant in only three states. Thus the authors assume that a state's relative employment contains a unit root, implying that shocks to a state's employment have permanent effects. Imposing this restriction, they estimate the impulse responses to an employment shock, pooling all states together, but allowing for a state effect. According to the authors' estimates, the effect of an employment shock peaks in about four years and then declines slightly. An initial shock of 1.0 percent to employment is associated with an additional 0.7 percent change in employment over the next four years, after which employment falls back to a plateau approximately 1.5 percent above its initial level. This humped response is present in nearly all states when their behavior is estimated individually, with 40 states exhibiting a long-run response between one and two times the initial shock.

In contrast to employment, the authors show that shocks to a state's unemployment rate and average hourly wage rate, again relative to the national averages, tend to disappear over time. Regressions of relative state unemployment rates on their own past values show a much weaker relationship than similar employment regressions. Although the presence of a unit root in relative unemployment can be rejected for only two states, point estimates for most states indicate that a state's relative unemployment returns to its mean within six to ten years. In pooled regressions, allowing states to have different average levels, the effect of a shock falls to only 29 percent of its initial value within five years, and essentially disappears within ten.

Similarly, regression of the growth in average hourly manufacturing wage rates during the postwar period on the level of the wage at the beginning of the period shows a negative relationship; states with high initial wage rates tend to have low rates of wage growth subsequently, and vice versa. This evidence is consistent with earlier work showing the convergence of state personal income per capita. Using pooled data and allowing for differences in the state mean wage, the authors estimate that the response to a shock to the relative wage is first positive and then decreases over time, but much more slowly than does a shock to unemployment. Only about 40 percent of the wage shock disappears in 10 years; 20 percent remains after 20 years.

The authors construct a model that explains these salient features of the regional adjustments of employment, unemployment, and wages. In the simplest version of the model, which assumes full employment, the evolution of relative wages and employment is determined solely by the interaction of labor demand and supply. The state demand for labor depends negatively on its relative wage and also shifts over time, reflecting the idea that product demands may grow at different rates or that differences in amenities relevant to the cost of production may continually attract new firms and thereby increase the demand for labor. Shocks to demand are assumed to be permanent, reflecting permanent relative shocks to technology. Hence for a given wage, the derived demand for labor in a state is assumed to follow a random walk with drift. The authors also allow the relative wage to affect the *change* in labor demand;

hence all else being equal, an increase in the wage reduces labor demand indefinitely.

Differences in the rate of employment growth of states are due much more to differences in migration than to differences in natural population growth. Hence it is natural for the authors to assume that the growth in labor supply depends on the wage, implying that the labor supply itself has an infinite long-run elasticity. As in the case of labor demand, the authors also assume that differences in amenities can give rise to permanent differences in growth rates, and allow for permanent shocks to labor supply.

This simple model is capable of generating the basic features of employment and wage behavior that Blanchard and Katz document. If the wage rate affects the migration of either labor or firms, relative wages will move randomly around state-specific means; that is, the distribution of wages will be stationary. In contrast, relative employment will grow or decline at a rate reflecting the state-specific drifts in demand and supply. High-growth states may have either high or low relative wages depending on whether amenities are relatively more important in attracting firms or in attracting workers.

A negative shock to labor demand initially depresses wages. Over time, this induces out-migration of workers and in-migration of firms, which gradually returns the wage to the level it would have had in the absence of a shock. In contrast, the effect of the shock to labor demand on employment does not disappear; eventually the rate of growth of employment returns to what it would have been in the absence of the shock, but the level of employment is lower. How much lower depends on the relative mobility of firms and workers; if firms are highly mobile, the initial wage reduction leads to rapid job creation before much out-migration of labor takes place and the employment path will not be substantially reduced. If instead labor is highly mobile and firms are not, most of the adjustment is from out-migration, and employment will end up substantially lower than it would have otherwise.

To accommodate the existence of unemployment, the authors add two features to the model. First, they assume that the ratio of unemployment to employment depends on the wage so that, for example, some of the initial response to a downward shock to demand is an increase in unemployment. Second, they assume that migration of labor depends negatively on unemployment, as well as positively on the wage. They assume, as a first approximation, that migration of firms is not affected by unemployment, given the wage rate. With these assumptions, relative wage rates and unemployment are negatively related. For example, a positive drift in relative labor demand, which leads to a positive relative trend in employment, leads to higher than average wages and lower unemployment.

The dynamics of adjustment to shocks are now richer than they are in the simplest model. A negative shock to labor demand initially increases unemployment and decreases wages. Over time, out-migration of workers and in-migration of firms lead to a decline in unemployment and an increase in wages, with the relative speeds of adjustment determining how much of the adjustment falls on employment, just as they did in the simpler model. However, there is an important difference. The authors assume that high unemployment, as well as lower wages, encourages out-migration of labor, but does not influence in-migration of firms. Hence the more the initial decline in demand is reflected in unemployment, the larger is the long-run effect on employment of adverse shocks to demand.

In the authors' model, employment growth, unemployment, and wages are jointly determined. Although the model enforces nonstationarity on relative employment (it changes permanently after a shock) and stationarity of relative wages (they eventually return to their relative level before a shock), it does not place restrictions on the relationship between the level of wages and the rates of growth of employment. If differences in growth come from differences in labor demand, wages should be positively related to relative growth; this implies, in turn, that unemployment should be negatively related to growth. The opposite correlation should hold if differences in labor supply are the sources of employment growth. Similarly, the model points to two mechanisms that come into play in response to an adverse shock in demand. Lower wages and higher unemployment lead to out-migration of labor, and lower wages lead to in-migration of jobs. In order to explore the strengths of these two mechanisms, the authors estimate a three-variable system that traces the effects of an innovation in employment on employment, unemployment, and participation. Each variable is explained by lagged values of itself and the other variables. Estimates are obtained for each state separately and by pooling the states, allowing for a fixed state effect. The authors make the identifying assumption that unexpected movements in employment within the year reflect movements in labor demand. According to the pooled results, a 1.0 percent negative shock to relative employment increases the unemployment rate by 0.3 percentage points and decreases the participation rate by 0.2 percentage points in the first year. Employment falls further after the initial shock; it falls 2 percent after four years before eventually reaching a level that is 1.3 percent below the original path. The effects on unemployment and participation steadily decline and disappear after five to seven years.

The finding that most of the adjustment to an adverse shock to employment occurs through out-migration of labor rather than through in-migration of jobs has two possible explanations. The adverse shock may reduce relative wages so little that it provides little incentive for firms to create jobs; higher employment provides an incentive for workers to relocate, even though wages have not decreased much. Alternatively, relative wages may decline substantially, but lower wages may not induce new jobs. To resolve this ambiguity, Blanchard and Katz estimate the effects of a shock in labor demand using a two-equation system explaining employment and manufacturing wages, allowing for state fixed effects. The picture that emerges seems clear. The response of employment to an adverse shock is close to that obtained earlier when estimated in a system including unemployment and labor force participation. Employment decreases by 1.7 percent in response to a 1.0 percent initial shock and then partially recovers to a level 1.2 percent below the original path. Relative wages decline for six years and then gradually return to their original level. How important are relative wage reductions to labor migration and to firms' decisions to migrate or create new jobs? Recalculating the response of employment to shocks with the effect of wage changes on employment suppressed suggests that the effect of wage changes is weak; in the absence of the dampening effect of wage reductions, employment would decline by 1.6 percent, rather than 1.2 percent, in response to a 1 percent adverse shock.

While the relative manufacturing wage is relevant to firms' decisions about location and hiring, household incentives to migrate plausibly depend on differences in the cost of living. Housing is an important element in the cost of living, and since the stock of housing is relatively inelastic in the short run, it might be expected that housing price adjustments in response to employment shocks would tend to offset the effects of wage reductions. Using a simple two-equation system, Blanchard and Katz find a striking effect of an adverse shock to employment on housing prices. A 1 percent adverse employment shock reduces housing prices by 2 percent over four or five years, before prices gradually return to previous levels. This change significantly dampens the effect of a shock to employment on the real consumption wage. This result reinforces the authors' view that increased unemployment, rather than lower relative wages, is the major factor leading to migration.

Throughout most of the paper, the authors associate innovations in employment with innovations in labor demand. They verify the plausibility of this assumption in two ways. First, they show that using two observable demand variables as instruments in an employment equation—military prime contract awards and an industry mix variable—does not substantially alter their estimates. Second, they show that border states, where migration shocks might be important to supply, do not exhibit unemployment and employment behavior different from other states.

The authors speculate about the implications of their findings for the European Community. Some have argued that, in a barrier-free Europe with fixed exchange rates, firms and workers will no longer expect to be bailed out by monetary expansion and exchange rate depreciation. As a result, these analysts suggest that wage concessions and productivity improvements will be quicker, leading to a faster return to full employment after adverse shocks. However, Blanchard and Katz argue that the U.S. experience, under which wage adjustments have been too small to keep a region near full employment, shows the limits of this argument. They argue that labor mobility across states, which is important in the U.S. adjustment process, will be much weaker across countries in Europe. While recognizing that one reason for the limited response of wages in the U.S. may be that workers can move with comparative ease, the authors nonetheless believe that their results are relevant to Europe and warn that the adjustment to relative shocks in the European Community may be a painful and protracted process.

WITHIN MONTHS after the collapse of the Soviet Union, Russia had freed most prices and cut its budget deficit in half. This spring it joined the International Monetary Fund (IMF) and the World Bank and is now expected to start receiving substantial financial support from the Group of Seven industrialized democracies (G-7) through those organizations. In the second article of this issue, Stanley Fischer reviews how these essentially macroeconomic changes have come about and what they portend for the future. He also shows that key microeconomic reforms yet to come—privatizing firms, creating financial and distribution sectors, reforming agriculture, and establishing a legal system necessary for a private market economy—will be far more difficult to accomplish; yet these are essential to the eventual success of the Russian economy.

Fischer puts Russia's current position in perspective with some summary statistics. Per capita GDP, on a purchasing power basis, is about equal to Mexico's. (Using current black market exchange rates yields an unrealistic estimate less than one-tenth as large, reflecting the current shortage of tradable goods and foreign exchange.) Compared with Western economies, a far smaller fraction of total employment is in wholesale and retail trade and finance, all of which must expand in the future. Output has declined about 20 percent during 1990 and 1991, roughly the same as in Eastern European countries. Trade outside the former Soviet Union (FSU) had been largely with Eastern bloc countries and had been carried out in nonconvertible currencies at artificial prices, making it risky to extrapolate that experience to an environment of free markets. Because of disruptions in both demand and supply, exports and imports to the Eastern bloc declined last year, as did trade among the republics of the former Soviet Union. For the immediate future, nobody even knows on what terms inter-republican trade might be conducted, what capacity the republics have to pay for imports, or how much mutual credit could be extended. Given all the uncertainties and difficulties, Fischer believes inter-republican trade will continue to implode.

Fischer observes that there has been no shortage of advice for the Russian government, just as earlier Soviet reform plans were analyzed and critically reviewed by experts from the West. Consistent with this advice, the Russian government has moved quickly to liberalize prices. But it has moved slowly, if at all, on other fronts. It has reduced the budget deficit by more than 10 percent of GDP by cutting subsidies, defense expenditures, and investment spending, but has been much less successful in its efforts to collect taxes. Fischer suggests that, for the near future, the key to eliminating the budget deficit lies in taxing oil exports and notes that a 40 percent export tax is planned. For the longer run, he argues that a new tax system will have to be developed and urges that it be both simple and enforceable, with substantial penalties for tax evasion, so that Russia would avoid the problems that come with an inability to raise revenues in many developing economies. Fischer also argues for a substantial tightening of monetary policy, which he suggests could be accomplished by maintaining a fixed exchange rate or imposing an explicit monetary policy rule, such as a limit on domestic credit creation. He also favors taxing excessive wage increases as a way to hold down wage-push pressures in firms that are still not subject to much market competition, noting that such tax-based incomes policies have been used in Poland for firms in the public sector.

Fischer agrees with many other observers that it would be desirable to have a fixed and convertible ruble; however, he stresses the difficulty of choosing the level at which to fix the rate. He agrees that fixing the rate would help stabilize the price level by controlling the price of imports and helping to stabilize inflationary expectations. Furthermore, he believes that at the microeconomic level, convertibility, by introducing the world price system, would provide much more appropriate relative prices for guiding resource allocation than those that currently exist in Russia; however, it is difficult to know what exchange rate to choose. Fischer observes that using the current black market rate, with its very low value for rubles, would produce an inflationary shock and would not provide much competition from imports. He suggests setting a higher rate—one that would put Russian wages in the vicinity of $50 to $100 per month—but notes that sustaining this rate in the next few years would require a stabilization fund, external financing, and the ability of authorities to prevent capital flight by exporters.

The choice between gradualism and shock treatment recurs repeatedly in discussions of the transition to a market system. While arguing that, because Russia started with massive macroeconomic disequilibrium, it was essential to seek rapid stabilization and price liberalization, Fischer suggests that gradualism in trade liberalization and privatization is a viable option. Allowing tariffs for a limited period could provide needed temporary protection to domestic producers while the economy is reorganizing, and would also provide much-needed revenue to the government. He suggests that tariffs be uniform, to minimize pressures for special treatment, starting as high as 30 to 40 percent and declining over a period of several years to low levels.

Discussions of privatization often contrast China's policy of gradualist reforms with the stated preference among Eastern European experts and policymakers for rapid privatization. However, Fischer notes that, in practice, privatization has proceeded slowly in Eastern Europe and has been disappointing, particularly for medium- and large-scale firms. In China, gradualist reforms started in agriculture and have not yet involved the sale of state farms to private individuals; yet an essentially private sector has developed in both agriculture and industry. The situation in Russia differs from that in China because the state and state order system have collapsed. In this situation, Fischer argues that there is an urgent need for the government to clarify the ownership status of firms and the rules under which they are to operate.

Fischer does not believe that it will be possible to completely privatize the largest firms for an extended period, in part because they sometimes dominate the economy of some regions and thus are both too big to close and too unwieldy to sell to private owners. At the same time, he believes that the government should move even such large firms out of direct state control as soon as possible, perhaps by placing them under the direction of corporate boards and away from direction by the central bureaucracy. Fischer suggests that there is no point pretending that the restructuring of the largest firms can be left to the market; he argues that Russia will need to develop regional policies, bordering on industrial policy, to guide the disposition of the largest firms. But he believes that privatization can proceed rapidly for smaller enterprises, and sees it as especially urgent and also most easily accomplished in the distribution sector, where the Russian economy is now extremely underdeveloped by Western standards. Along with specific plans for privatizing, Fischer emphasizes the need to develop the infrastructure, as well as the legal, financial, and educational systems, that a private sector in a market economy requires.

Some Russians are especially concerned that foreigners will buy up much of the productive sector and natural resources at the currently undervalued exchange rates. Fischer notes that recent negotiations in the FSU over potential Chevron investment in the oil sector revealed "a Groucho Marx-like fear. . . of accepting any deal to which the other side agreed." But he suggests that foreign direct investment, bringing with it management expertise and technology along with capital, is extremely valuable for Russia. He notes that the current Russian government is welcoming such investment and that international agencies such as the

World Bank can help act as honest brokers between foreign investors and the Russian government. Fischer offers detailed observations on these and other questions having to do with the evolution of the Russian market economy.

A special set of problems arises in connection with relations among the former republics of the FSU. Although there are arguments both for maintaining a ruble zone and for individual republics to develop their own currencies, Fischer sees inevitable movement toward independence among the individual republics, led initially by those republics that have the strongest desire for political independence and that can best afford to try and go it alone. Just as trade has declined sharply between the former ruble zone countries and the FSU, the breakup of the FSU would speed the decline of inter-republican trade. Fischer observes that republics already appear to be moving toward bilateral trade arrangements and reasons that these will become increasingly prevalent as individual republics become wary of accepting one another's currencies. He calculates that in a system of bilateral clearing, in which trade between each pair of countries settled at the lower level of either imports or exports, the volume of trade among the republics could decline to less than half its previous value. Particularly in light of the great interdependence among the republics, reflecting the specialization in production that characterized the FSU, such a decline in trade would almost surely lead to a large decline in total production.

Whatever is done about individual currencies, trade among the republics is likely to move toward world prices and away from the fixed and artificial prices at which goods have been exchanged in the past. Fischer tabulates what 1987 trade balances would have been if the same volume of goods had been traded at world prices, rather than at the domestic prices that prevailed. The main change is a vast improvement in the Russian trade balance, primarily because Russia was delivering oil at prices way below world prices, and an unsustainable worsening of the trade balance for some of the other republics.

To help avoid some of the worst problems that a breakdown in inter-republican trade would bring, Fischer recommends establishing an inter-republican payments mechanism (IRPM) with three main tasks: to clear payments among the republics; to provide credit among republics and economize among reserves; and to serve as a focal point for inter-republican cooperation more generally. An IRPM would encourage collaboration in designing banking and payments systems and help prevent potentially harmful trade and currency reforms by the republics. Eventually, the need for a special agency such as an IRPM might go away once all the currencies in the FSU republics were fully convertible with adequate reserves; however, that is a long way away.

Finally, Fischer discusses prospects for significant aid from the industrialized world. He notes that only a modest amount of the aid commitments of $67 billion made between September 1990 and December 1991 has actually been extended to the FSU thus far. Last year the total was closer to $12 billion. The commitments do not represent aid disbursements likely to take place in the next year or two; some even represent repayments of outstanding debt. He notes that the package of financial assistance announced in April 1992 is conditional and includes a $6 billion stabilization fund and $18 billion to finance imports, $2.5 billion of which is for debt rescheduling. According to Fischer, the calculations for the balance of payments support appear to have been based on what Russia would need, assuming some modest recovery in output. In fact, because of the decline in inter-republican trade and other problems, Fischer expects further deep declines in output, meaning that Russia and the other republics would suffer far larger and deeper recessions than the countries of Eastern Europe have been experiencing. In this case, the republics of the FSU may need more assistance than planned.

Fischer reviews some arguments that have been made against providing financial aid to Russia: the advice and conditionality that come with official lending is generally wrong; the money would be wasted because corruption is widespread; the money would be better spent elsewhere, such as in Africa; easing financial constraints would keep Russia from doing the right thing—in particular, selling oil leases and other assets the West wants in order to gather foreign exchange; and finally, the West cannot afford to provide aid. In response, Fischer urges that official aid be conditional on some desirable economic steps, such as developing oil leases, tightening fiscal and monetary policy, and going forward with other reform measures. He reasons that those who believe that there are better places to spend the money would not spend it in Africa either, and argues that what is needed is oversight of how the funds are used, rather than a refusal to provide aid that can be extremely valuable. He suggests that past experience shows that aid has been helpful when it has been used to support programs chosen by recipient governments to which they have been fully committed. And he believes that if the promised assistance materializes and works, the need for aid will be largely temporary; the Russian balance of payments situation is inherently strong.

Finally, looking to the longer term, Fischer believes that the most important areas of restructuring—developing the distribution sector; restructuring industry; and expanding the energy, agricultural, and financial sectors—are all areas in which privatization is essential and where collaboration with foreign private expertise may be extremely useful. In other areas, he believes that the government will continue to have an important role. He gives a high priority to government action to improve the Russian infrastructure as part of a general reform plan. But even here, for example in telecommunications and transportation, he reasons that private external funding can play an important role.

WESTERN EXPERTS have offered a great deal of analysis and plenty of advice on how to move the former communist economies of the Soviet bloc to market economies. The papers on Russia and eastern Germany in the current volume are good examples. These analyses focus on matters of macroeconomic management and on developing institutions, property rights, and a legal system appropriate to a free market economy. But many observers are concerned that people who had lived for so long under communism are now ill-equipped to operate in a market economy. There is little doubt that individuals' behavior must change if the transition to a market economy is to succeed, but there is not much evidence about how easily such changes in behavior can be expected to occur. In the third paper of this volume, Robert J. Shiller, Maxim Boycko, and Vladimir Korobov grapple with the elusive question of what shapes the economic behavior of the people of the ex-communist countries.

The authors seek to find out whether individuals from formerly communist countries hold fundamentally different attitudes and views of the economy than people who live in market economies. The observed differences presumably are produced from years of living in a communist system. As the main title of their paper, "Hunting for *Homo Sovieticus*," suggests, the authors hope to find out whether the observed differences are so deeply ingrained that they will not change for a long time, or whether differences in people's perceived situations are responsible for differences in behavior. If the latter is the case, behavior might change readily when those situations (along with the expectations that they engender) are changed. In short, the authors try to distinguish factors that are attitudinal—related to psychological traits, personality, and culture—from factors that are situational—related to people's perceptions of their economic situation. The authors suggest that the speed with which individuals' behavior can change will affect the speed of adjustment that can be expected in these economies. If situational influences predominate, reforms can proceed quickly. By contrast, if attitudinal factors predominate, policymakers may need to be cautious about the transition to a market economy, the authors suggest.

The authors tackle the problem through a series of structured interviews of individuals in ex-communist countries—Russia, Ukraine, and eastern Germany—and in advanced capitalist countries—the United States, Japan, and western Germany. Their results are based on 2,670 interviews, most of them by telephone. The interviews involve three types of questions that attempt to distinguish between the roles of situational and attitudinal factors in shaping behavior. In the first, the authors ask people about how they perceive their situation. For example, subjects were asked whether they felt distressed or humiliated after dealing with government officials. By comparing answers from the ex-communist countries with responses from the advanced capitalist countries, the authors seek to gauge the importance of situational factors. In the second type of inquiry, the authors ask hypothetical questions intended to abstract from the particular situation that people find themselves in. For example, subjects were asked whether they would trade more income for less leisure. The authors interpret differences across countries in the answers to these questions as reflecting more deeply seated differences in attitudes, which are less likely to be modified by a change in economic circumstances. Finally, the authors compare answers recorded before and after the Soviet coup of August 1991 and interpret differences as evidence of how responses change as the situation changes.

The authors are aware of the ambiguities in surveys of this kind and try to minimize them. Because it is important to convey the same nuances in different languages, they took pains to eliminate any language bias from surveys administered in different languages. The authors also are cautious in the inferences they draw. In the paper, they present virtually all the questions that they asked and the answers they received from all of their surveys, so that readers can draw their own conclusions.

The authors also provide their own interpretation of the responses and summarize them in tables that organize the responses to individual questions according to whether they reflect situational or attitudinal factors.

For those questions intended to reveal situational differences across countries, 92 percent of the responses show greater, and statistically significant, situational problems in the ex-communist countries compared to advanced capitalist countries. By contrast, questions about attitudes reveal no consistent pattern of differences between ex-communist and advanced-capitalist countries. Thus systematic differences originating in different situations appear to be pervasive, while differences originating in underlying attitudes are much harder to find.

The authors also compare eastern Germany with western Germany and Russia with Ukraine. Only 40 percent of the situational questions show significant differences indicating greater problems for the eastern Germans, while none show greater problems for the western Germans. This relative similarity is consistent with eastern Germany's having already adopted the laws, the government, and many of the institutions of western Germany. Perhaps the biggest surprise of the surveys is that in comparing attitudes between eastern and western Germany, attitudes that would serve one well in a market economy are, if anything, more prevalent among the eastern Germans. Between Russia and Ukraine, no significant difference in attitudes appeared and only a slight suggestion surfaced that situational factors were more favorable in Ukraine than in Russia. Using subsidiary questions, the authors find that, compared with advanced capitalist countries, the prevailing situations in the ex-communist countries would lead people to take a relatively short-term view and to avoid making long-term commitments.

The authors offer several observations summarizing their findings. They conclude that it is quite misleading to refer to *homo sovieticus* as a distinct breed of person, defined by deep-seated attitudinal differences. Rather, situational factors appear to be much more important in shaping behavior, so that behavior can be expected to change noticeably as situations and expectations are altered. The authors do not see greater timidity, fear of change, or lack of ambition among people in the ex-communist countries as impediments to privatization and movement to a market-based, incentive-driven economy. But they do believe that the situational problems are important. They find that people trust current institutions relatively less in the communist countries and are more likely to believe that the government creates problems that will undermine their own efforts.

The authors suggest that the situational problem might constitute a "bad expectations equilibrium" in which a vicious circle of poor expectations keeps people from investing in the system, which in turn causes the system to fail, justifying the poor expectations. And they believe that such perceptions might be altered by visible changes in laws, regulations, and property rights. The authors interpret their more optimistic findings on eastern Germany compared with other former communist countries as occurring not because eastern Germans have different attitudes than Russians or Ukrainians, but rather because they have different perceptions about the economic constraints that their situation imposes on them.

THE COLLAPSE of the Soviet empire and the decline of the communist economic system are leading governments of the major industrial countries to extend substantial financial credits to the countries of the former Soviet bloc. Some bilateral aid has already been provided by individual governments. Now international financial institutions (IFIs), including the IMF, the World Bank, and their subsidiary lending arms, are scheduled to be a principal vehicle for channeling new credits. In the fourth article of this issue, Jeremy Bulow, Kenneth Rogoff, and Afonso S. Bevilaqua raise a number of important questions about those plans and the way in which the ultimate burden of such new aid will be shared among the G-7 countries and other creditors.

The quotas of industrial countries to the IMF and World Bank are closely related to their relative GDPs. Therefore, using these institutions as a conduit for aid appears to provide a noncontroversial basis for distributing the costs. However, the authors point out that the actual distribution of the burden of additional lending is not directly related to the quotas, but rather depends on a number of factors that differ from one case to the next. Drawing on an earlier analysis of Latin American debt by Bulow and Rogoff (*BPEA, 2:1988*), the authors observe that the burden of new lending depends on how it affects repayments expected on outstanding debt and on how the distribution of that outstanding debt differs from the distribution of the new lending. More precisely, when a new loan is made, the total burden to all creditors, both old and new, depends on the marginal value of debt—how much the present value of total repayments, on old as well as new debt, will change in response to an increment of new debt. The burden for individual lenders also depends on whether the new lenders get preferential repayment treatment. Because Germany has already loaned large sums of money to the FSU and its new republics, these considerations make a great deal of difference in determining the burden of any new lending to the FSU.

The authors provide a simple example that illustrates the issues surrounding their view of debt burden. They consider a debtor-country that initially owes \$50 billion, but that will be able to repay only \$20 billion. In this situation, the existing debt will be worth forty cents on the dollar, presumably reflected in the secondary market price. If a new creditor—perhaps an IFI—is willing to lend the country an additional \$1 billion to buy wheat, the borrower now has \$51 billion in loans to be repaid, but still has an ability to repay only \$20 billion. Thus the average value of all debt must fall by about 2 percent. Because, in this example, the debt is used for consumption, the marginal value of debt is zero because it adds nothing to the total repayments that the country will make.

The authors use this simple example to illustrate some of the other issues surrounding debt burden. If the new loan was senior in the sense that it was to be paid back before any of the outstanding debt, then the old lenders would bear the entire burden of the country's incremental purchase of wheat. The repayment to the old lenders would be reduced by the amount spent on wheat in response to the new loan. If new debt is not senior, the old lenders would still share in the cost of the additional wheat purchases, but the new lenders would share along with them. In this case, in making the new loan, the lender should realize that it involves a grant element, because the \$1 billion loan, as soon as it is made, will be worth about the same as the old loans, or slightly less than forty cents on the dollar.

If the new loan leads to additional productive investment, the calculations will be different. In this case, the total repayments that the debtor can make will be increased as a result of the new loan. In practice, new lending, particularly by G-7 governments or the IFIs that they support, is likely to support both consumption and investment.

The marginal value of debt, which is needed to assess the distribution of the debt burden in the authors' analysis, is not directly observable; instead, it must be estimated from information on debt. The authors use regressions relating market prices of outstanding debt to the debt-export ratios of borrowing countries. Linear and log-linear specifications provide two alternative estimates of these marginal values. Hungary stands out among the five countries analyzed, with an average price for its outstanding debt of seventy cents on the dollar and a marginal value of debt of approximately forty cents, according to either specification. For the other countries, the current market price of debt is considerably lower and the marginal value of incremental debt ranges between approximately zero and twenty-seven cents. For Russia, the price of outstanding debt is forty cents and the estimated marginal value of incremental debt is twenty-one cents or six cents, depending on the specification. From the viewpoint of the debtor, such a low marginal value of debt implies that additional loans are not very different from an outright grant, because so little of new debt will get repaid. But from the viewpoint of individual lenders, the burden of new loans or new grants can be quite different, depending on the share of new and old aid that each lending country carries.

The authors use their model to estimate the burden of incremental aid to Russia. They note that, at the end of 1990, the G-7 countries held 79 percent of Russian debt, with Germany alone holding 43 percent and the United States holding only 1 percent. By contrast to these shares of outstanding debt, the United States' quota at the IMF is three times as large as Germany's, a ratio that presumably will represent the relative contributions of these countries to any incremental lending by the IMF or other IFIs. Using an estimate of the marginal value of incremental debt of ten cents on the dollar—a figure that falls between the estimates of six cents and twenty-one cents provided by the two regression estimates—the authors estimate burden-sharing under three alternative aid arrangements. If aid takes the form of a new \$1 billion loan, the German and U.S. burdens would each be about \$190 million dollars, even though the U.S. quota is three times as great. The U.S. share of a \$1 billion loan is \$312 million; the United States would lose 60 percent of that because the expected repayment is only forty cents on the dollar—as revealed by the market price of outstanding debt. The United States also takes a capital loss on its old holdings of Russian debt equal to the difference between the marginal value and the price of the debt. But because the U.S. share of outstanding debt is so small, this adds only another \$7 million to the U.S. burden. Germany's share of the new \$1 billion dollar loan is \$97 million, less than one-third of the U.S. share, so it loses \$58 million directly on this new loan. In addition, it suffers a $129 million capital loss on its outstanding debt.

This first calculation assumes that the new IMF debt has equal seniority (in the sense of which creditor gets repaid first) with the old Russian debt. In a second calculation, the authors show for comparison what would happen if the $1 billion of aid was a grant, rather than a loan. Because the grant would not involve any repayment, it would not affect the market price of old debt. Thus the burden would simply be the shares of the new grant—$97 million for Germany and $312 million for the United States. Finally, the authors show that, if new borrowing carried with it a condition for repaying existing debt with part or all of the new money, the German burden could actually be negative; Germany would gain more from repayments than it would lose in new debt burden.

The calculations of burden just described assume that new and old debt have the same seniority. This assumption justifies the use of secondary market prices for old debt to estimate the costs of the increments to debt. If, by contrast, new official debt were senior to the existing debt of private creditors, then the burden of new debt would be lighter on the IFIs that provide it and the holders of existing debt would bear a still larger share of the cost. Examining the debt of the countries on the World Bank's list of severely indebted middle-income countries, the authors show that from 1984 to 1991, official creditors were providing new money at the same time that private creditors were, on balance, withdrawing funds. Bulow, Rogoff, and Bevilaqua cite this as evidence that official creditors did not behave as senior to private lenders. The authors also use regressions to explore whether the share of official debt in total debt helps to explain the market price of outstanding debt by client countries. They find no significant effect of the share of official debt on the price of debt, and so infer that both official and private debt have the same priority. The authors do show that outstanding debt frequently moves around among the IFIs—for example, IMF debt gets paid from the extension of debt from the World Bank—or that IFI debt gets repaid from bilateral loans from G-7 nations.

The relevance of such evidence is clouded by the fact that the IFIs may see it as their function to extend credit in time of crisis, precisely when private creditors are trying to get their money out. Such a situation characterized parts of the 1980s, when official lending helped to "bail out" some bank lenders. But that experience may reveal nothing about whether official creditors would be senior to private creditors if the official creditors wanted to extract repayments from debtor nations. Another complication to answering the question of which lender is senior is that G-7 countries have at times extended bilateral aid to debtor countries directly, rather than providing assistance through the IFIs. Because the G-7 countries are responsible for IFI loans, such changes may represent very little change in the debt burdens and reveal little about who is senior in the lending process. Confronted with such uncertainties, the authors see little reason to depart from their base case model in which official debt has no seniority over other debt.

Another important issue in evaluating the burden of debt is whether some new loans can be exceptionally productive by filling a "missing market" that private lending is not in a position to finance. If that were the case, IFI lending would have a marginal value that was not only greater than the marginal value for other types of debt, but also greater than the marginal value estimated by the authors' technique. While recognizing that possibility, the authors believe that private capital markets have developed so extensively over the past twenty years that the missing market argument for why new official lending might be exceptionally productive is more dubious than it would have been in earlier years. Thus the authors believe that their simple model provides a useful guide in assessing the burden of incremental lending by the IFIs and believe it should be used in developing plans to provide aid to the former Soviet Union.

THE SPEED and extent of economic and political change in eastern Germany has been breathtaking. In the first few months after the Berlin Wall came down, the West and East German governments agreed to economic, monetary, and social union. By July 1991, the State Treaty formalizing union came into force, and by October 1991 the German Democratic Republic had ceased to exist. Those heady days are over. Today the enormous task of reconstructing the East and integrating its economy with the West seems daunting. In the concluding report of this issue, Rudiger Dornbusch and Holger Wolf examine the economic transition to date and the obstacles that lie ahead.

Dornbusch and Wolf begin with an assessment of current economic conditions in eastern Germany. In comparison with almost any historical experience or with the situation of other Eastern European economies, the availability of western German support provides eastern Germany with the most favorable fundamentals for a rapid transition. With unification, eastern Germany acquired a complete set of the institutions needed by an advanced industrial country: a legal system, including a body of commercial law and system of property rights; a social support system providing unemployment compensation and pension benefits; and a financial system providing banking services and hard currency. It also acquired access to free trade across Europe and a political system complete with strong political parties. Like most observers, the authors believe that this special inheritance has been and will continue to be of great value in the rapid transition of the eastern German economy and society.

However, the authors argue that the wholesale transplanting of the western German system of laws and property rights was not an unmitigated blessing. They believe that it was an error not to eliminate all debts at the outset, arguing that those debts mar the balance sheets of firms and banks and complicate the restructuring and privatization process. The authors see even greater problems arising from the decision to allow previous owners to reclaim real estate and assets, arguing that the existence of one million claims and multiple claimants foreshadows years of sorting out who is due what. In the meantime, the lack of clear property rights interferes with the efforts to rebuild the economy, reducing the incentives of current occupants to modernize structures and making migration more attractive. Furthermore, the policy amounts to a de facto expropriation from eastern German citizens, making it even more difficult for them to catch up with their western compatriots. The authors believe that the treatment of property rights and cancellation of debts were grave mistakes.

Unification has given rise to a second feature of the eastern German transition that distinguishes it from that of other Eastern European countries. Because of the initial wage conversion and wage increases since German unification, eastern German wages in many sectors now exceed 50 percent of western German wage levels. Indeed, in a few sectors, hourly compensation already exceeds U.S. levels. But productivity in eastern Germany is only one-third of that in western Germany, resembling productivity in Mexico or Korea. Dornbusch and Wolf agree with George Akerlof and his colleagues (*BPEA, 1:1991*) that the very high real wage reflects the strength of unions and the influence of geography, and a severe problem would have emerged even if the initial conversion of currencies occurred at a much lower rate. Commuting to western Germany is flourishing, with nearly half a million eastern German residents working in the West; the authors believe that, because of the short commute, this number could double or triple, producing strong pressures to equalize wages.

While real wages have increased dramatically since 1989, one out of every three eastern German workers, or three million people, have lost their jobs. Although the labor force has declined significantly, with more than one million workers migrating, commuting to the West, or choosing early retirement, by January 1992 more than 1.3 million workers were unemployed. Real GDP in eastern Germany also has fallen dramatically, reflecting the loss of competitiveness, together with unrestricted access to Western goods and disorganization on the supply side. At the same time that output and employment were falling, massive transfers from the West immediately raised the standard of living in the East. The authors report that in 1991, these transfers were an extraordinary three-quarters of GNP in eastern Germany. While it is easy to understand how transfers of this size have led to complaints in western Germany, they also help explain why the collapse in production and employment did not snowball into an even worse depression in the East.

Privatization is progressing at an extremely rapid pace but is far from complete, with more than 5,000 companies yet to be sold. A special feature of eastern Germany's privatization is that the vast majority of industrial firms have been bought by western Germans or foreigners. This new ownership provides immediate access to capital, technology, and management skills, a dramatic difference from typical situations in the other Eastern bloc countries in which domestic residents become owners and managers.

Many of the problems now confronting the East reflect the large gap in productivities between East and West at a time when incomes and standards of living are rapidly converging. How rapidly is productivity in the East likely to catch up? Robert Barro and Xavier Sala-i-Martin (*BPEA, 1:1991*), drawing on a study of convergence in a large cross section of regions and countries, have offered a dismal view. If German convergence accords with this historical experience, it will take generations, rather than a few decades, for the East to catch up. Dornbusch and Wolf consider a number of special factors that point to the possibility of faster adjustment. But even when the traditional convergence model is extended to include investment and country characteristics, an extraordinary increase in investment of 20 percent of GDP yields only an additional 1.3 percentage points of growth a year in productivity. Other historical evidence is hardly more encouraging. For example, if eastern Germany matches the fastest sustained growth experienced by any high-growth country, catch-up will take no less than 20 to 30 years. To achieve 80 percent of western German productivity, eastern Germany would have to sustain the average of the best decade for each of the high-growth countries for three decades in a row. However, the authors find reason for greater optimism in the fact that no precedent exists for the potentially dramatic transfer of knowledge, skills, and capital that can occur in eastern Germany.

Whatever one believes about the speed with which eastern Germany will catch up with the West, the authors argue that the growth potential in eastern Germany far exceeds what is attainable elsewhere in Eastern Europe. However, the advantages stemming from unification with western Germany come with some costs. For example, eastern German industry will suffer disproportionately large initial losses because of tighter environmental standards and the sharp rise in wages.

While the most dramatic changes are taking place in eastern Germany, unification is placing significant costs on the rest of the country. Western German taxpayers are carrying the burden of massive transfers to the East. The fiscal outlook has deteriorated and Germany's deficits risk running up debt like the United States did during the 1980s. The current account has deteriorated through the financing of increased demand. And it is likely that investment in the East will crowd out investment in the West, retarding its productivity growth.

Dornbusch and Wolf argue that public policy should regard rebuilding eastern Germany as an investment project. They include in this even the transfers to accommodate consumption smoothing in the East, which they regard as an investment in a political transition that avoids divisive politics and fosters a stable business environment. Thus they suggest only moderate tax increases and prefer to rely primarily on debt finance. They calculate that over time the debt ratio will increase and then stabilize as transfers are gradually reduced. It remains to be seen how national saving will evolve. Higher taxes in the West will help and savings in the East should increase, once households catch up in their ownership of durable goods. But the plausible savings levels may still not be enough to allow high levels of investment in both the East and West.

What policies can best serve Germany during the reconstruction of the East? Dornbusch and Wolf suggest a policy of running a high-pressure economy in the West, thereby maintaining the incentive to create new capacity in the East and to attract migrants and commuters from the East. The success of such a policy depends crucially on the cooperation of the unions. Dornbusch and Wolf argue that it is in the self-interest of the unions to control wages because the alternative of higher taxes and a much longer transition is worse. In their view, a wage pause in the East—or at least a wage policy linked to productivity—would help on all fronts. They disagree with Akerlof and his colleagues about the desirability of subsidizing jobs in the East, arguing that it would demoralize workers and retard modernization. Instead, they suggest using unemployment compensation and education and training premiums to smooth the transition.