The Determinants of Enterprise Restructuring in Transition: An Assessment of the Evidence

Simeon Djankov
and Peter Murrell

The World Bank
Washington, D.C.

Copyright © 2000 The International Bank for Reconstruction
and Development / THE WORLD BANK
1818 H Street, N.W.
Washington, D.C. 20433, USA

All rights reserved
Manufactured in the United States of America
First printing September 2000

The findings, interpretations, and conclusions expressed in this book are entirely those of the authors and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. The World Bank does not guarantee the accuracy of the data included in this publication and accepts no responsibility for any consequence of their use. The boundaries, colors, denominations, and other information shown on any map in this volume do not imply on the part of the World Bank Group any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

The material in this publication is copyrighted. The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

Permission to *photocopy* items for internal or personal use, for the internal or personal use of specific clients, or for educational classroom use is granted by the World Bank, provided that the appropriate fee is paid directly to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA; telephone 978-750-8400, fax 978-750-4470. Please contact the Copyright Clearance Center before photocopying items.

For permission to *reprint* individual articles or chapters, please fax a request with complete information to the Republication Department, Copyright Clearance Center, fax 978-750-4470.

All other queries on rights and licenses should be addressed to the Office of the Publisher, World Bank, at the address above or faxed to 202-522-2422.

Cover design by Tomoko Hirata, Printing, Graphics, and Map Design, World Bank.

ISBN 0-8213-4815-9

Library of Congress Cataloging-in-Publication Data has been applied for.

Table of Contents

ACKNOWLEDGMENTS . . . . . **iv**
1. INTRODUCTION **1**
2. ENTERPRISE RESTRUCTURING IN THE EMPIRICAL LITERATURE **3**
3. STATE VERSUS PRIVATE OWNERSHIP **6**
4. THE EFFECTS OF DIFFERENT TYPES OF OWNERS **10**
5. THE ROLE OF MANAGERS IN ENTERPRISE RESTRUCTURING **15**
6. ENTERPRISE RESTRUCTURING AND HARDENED BUDGETS **17**
7. PRODUCT MARKET COMPETITION **20**
8. THE ROLE OF INSTITUTIONS IN ENTERPRISE RESTRUCTURING **23**
9. SUMMARY **25**
REFERENCES **27**

FIGURES

1. How Ownership Affects Firm Performance after Privatization: Relative Effects of Changing from Traditional State Ownership to Different Private Owners 11
2. Regional Variations in the Effects of Different Types of Owners: Comparing Ownership Effects in the CIS to those in the Non-CIS Countries 14

TABLES

1. Assessment of Whether Private Ownership or State Ownership Leads to More Restructuring: Assessments of the Composite Implications of 31 Empirical Studies Analyzing the Experience of Transition Countries 7
2. Comparing the Size of Privatization Effects across Regions: Assessments of the Composite Implications of 31 Empirical Studies Analyzing the Experience of Transition Countries 9
3. Differences between the Effects of Different Owners on Enterprise Restructuring: Assessments of the Composite Implications of 23 Empirical Studies Analyzing the Experience of Transition Countries 12
4. The Role of Managerial Turnover and Managerial Incentives in Enterprise Restructuring: Assessments of the Composite Implications of Six Empirical Studies Analyzing the Experience of Transition Countries 15
5. The Importance of Hardening Budget Constraints in Enterprise Restructuring: Assessments of the Composite Implications of Seven Empirical Studies Analyzing the Experience of Transition Countries 18
6. The Effect of Competition on Enterprise Restructuring: Assessments of the Composite Implications of 13 Empirical Studies Analyzing the Experience of Transition Countries 21
7. The Relative Effect of Different Types of Competition in Different Regions: Assessments of the Composite Implications of 13 Empirical Studies Analyzing the Experience of Transition Countries 21

ACKNOWLEDGMENTS

Simeon Djankov is a financial economist at the World Bank. Peter Murrell is a professor of Economics and the chair of the Academic Council of the Institutional Reform and the Informal Sector (IRIS) Center, University of Maryland. We would like to thank Judy Hellerstein, John McMillan, John Nellis, and Jan Svejnar for their helpful advice and Wooyoung Kim and Tatiana Nenova for their research assistance. This research was made possible through support provided by the World Bank and the U.S. Agency for International Development (USAID) under Cooperative Agreement No. DHR-0015-A-00-0031-00 to the Center for Institutional Reform and the Informal Sector. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the IRIS Center, USAID, the World Bank, its Executive Directors, or the countries they represent.

Simeon Djankov
The World Bank
1818 H Street, N.W.
Washington, DC 20433
sdjankov@worldbank.org

Peter Murrell
Department of Economics
University of Maryland
College Park, MD 20742
murrell@econ.umd.edu

June 29, 2000

1. Introduction

Over the last decade, more than 150,000 large enterprises in 27 transition countries have encountered revolutionary changes in every aspect of their political and economic environments. Some enterprises have responded to the challenge, entering world markets with great dynamism and becoming indistinguishable from their competitors in mature market economies. Others remain mired in their past, undergoing protracted deaths, delayed at times by their slippage into a netherworld of barter and ersatz money. Thus the revolutionary changes in transition countries have been matched by great variation in the degree to which enterprises have responded successfully to events.

Our understanding of economic processes can greatly benefit from analysis of these changes and the responses of enterprises to them. Such analysis addresses age-old questions of economics and also poses new ones. What are the relative productivities of state and private enterprises? Does mass privatization work? What is the efficiency cost of diffuse share ownership relative to concentrated ownership? Which of the many new private owners are most effective—managers, workers, banks, or investment funds? To what degree do governmental subsidies to loss-making enterprises dull performance? Is a strengthening of managerial incentives sufficient to inspire turnaround or is replacement of managers necessary for revitalization? Does competition promote productivity change? Which institutions are necessary to complement other mechanisms of change?

Although these are questions of general importance to economic policy everywhere, they are especially important when analyzing the experience of transition countries. Analysis of the way that enterprises respond to different policy measures is central in any effort to gain an understanding of the effects of reform measures. This is especially the case in understanding the consequences of privatization. While rapid, mass privatization was an early emphasis of transition (Lipton and Sachs 1990; Boycko, Shleifer, and Vishny 1995), this is now subject to intense criticism (Stiglitz 1999; Black, Kraakman, and Tarassova 1999). But the formulation of this criticism has not taken advantage of the enormous amount of available evidence on the effects of privatization. A comprehensive analysis of available evidence is necessary to assess the relative strength of the various positions in these debates on the effectiveness of different reform and privatization strategies.

The most intensive area of empirical research on transition countries has been the examination of enterprise-level data to ascertain whether enterprises have responded productively to changes in ownership and to other reform measures, such as the opening of foreign and domestic markets. We follow common parlance and refer to such enterprise responses as restructuring, a notion that we examine closely in the second section of this paper. We have identified more than 125 empirical studies that examine the determinants of enterprise restructuring using sound methodologies applied to data generated at the enterprise level. The principal objective of this paper is to provide an overall assessment of the evidence generated by these studies.

This paper is aimed at the reader who wishes to gain an overview of the current state of the evidence, but who does not have any interest in examining the techniques of analysis that generated the evidence. Therefore, we adopt a relatively informal approach to the presentation of statistical results, eschewing the precision of statement that would inevitably require lengthy descriptions of methodology. Nevertheless, our informal statements do correspond exactly to precise statistical results. A companion paper (Djankov and Murrell 2000) contains an extensive discussion of methodology and presents results in a quantitative statistical framework. Readers should refer to that

paper if they are interested in precisely how we came to the judgments that appear here.

The presentation of the evidence is organized as follows. Section 2 discusses the general context of the studies that are included in our assessment and defines terms that we use throughout the paper. Section 3 assesses the evidence on whether state-owned or privatized firms undertake more economic restructuring. Section 4 studies the effects on restructuring of different types of owners (such as foreigners or workers). Section 5 focuses on the role of managers, analyzing whether the strengthening of managerial incentives is sufficient to produce turnaround or whether management turnover is required. Section 6 analyzes the effect of greater discipline in the government's reaction to enterprises in distress (usually referred to as the hardening of soft-budget constraints). Section 7 examines how variations in product market competition affect enterprise restructuring. Section 8 examines the role of the institutional and legal framework.

Our intention in this paper is simply to summarize the existing evidence. We do not venture into speculation of what this evidence implies for evaluation of policy, either in retrospect or prospect. Therefore, the concluding section of this paper does not provide an interpretative conclusion, but rather a summary of what has gone before. This summary is phrased in terms that make it self-contained. Therefore the harried reader can simply jump to that section to obtain the briefest summary of what we think the evidence implies about the determinants of enterprise restructuring. Nevertheless, we do not recommend this approach, since there is much in the intervening sections that serves to qualify the evidence and amplify the various findings.

2. Enterprise Restructuring in the Empirical Literature

What is enterprise restructuring and what changes might induce it in transition countries? The answer to this question lies in the characteristics of the socialist economy and its enterprises. These have been widely discussed in many contexts and we do not need to reiterate anything but a few central issues here. (See Berliner 1976, Murrell 1990, and Kornai 1992 for details.) The classic socialist enterprise received a plan on output levels and on inputs to be used in the production process. Meeting this plan was of prime importance, and the plan was normally an ambitious one. Therefore, production issues dominated entrepreneurship, marketing, and cost minimization in managerial concerns. Consistently, the typical manager was a production engineer and not a businessperson. These managers responded to a complex mix of monetary and career-based incentives, which were a function of fulfillment of the plan, enterprise performance, and political loyalty. The crucial point here is simply that enterprise profits and enterprise efficiency were much less important to a socialist manager than to any manager of a capitalist firm, no matter how remote the manager was from shareholders.

A labyrinthine bureaucracy replaced the institutions and the markets of capitalism. It found customers and determined prices, with bureaucratic pressure substituting for competition. The state interceded between producer and buyer, most notably in isolating enterprises from domestic consumers and foreign markets. The bureaucracy acted as a contract-generating and a contract-enforcing agency. Its one-year plans were an immediate guarantee of short-term working capital. A centrally determined investment project would automatically receive long-term credits. Given the ubiquitous role of the state, much would be decided by negotiations, which were a major concern of top managers and a key element of their expertise. One consequence of the frequency of these negotiations was the universal presence of easy financing, which further turned managers' attention away from profits and efficiency.

Internally, the enterprise was organized along very hierarchical lines. One-person rule was in place, and that one person was surrounded by process engineers, not by marketing personnel or developers of new products. Workers had virtually no role in enterprise decisionmaking, except in the limited sphere of personnel policy, where a variety of factors led to firing rates that were extremely low by any standard (Granick 1987). One such factor was the role that the enterprise played as provider of social welfare benefits. Hence, efficiency considerations were often a secondary consideration in determining the size of an enterprise's work force.

Pretransition reforms did change this standard picture in some countries, notably Yugoslavia, Hungary, and Poland (Balcerowicz 1995 and Kornai 1986). In these countries, enterprises came closer to ultimate consumers, including foreign ones. Decentralizing reforms reduced the scope of bureaucratic decisionmaking. Markets and competition increased in importance. Paradoxically, however, abandonment of formal planning led to increased bargaining between the bureaucracy and the enterprise, perhaps even resulting in a further softening of budget constraints. Notably also, workers gained more power within enterprises, acquiring experience at being informal owners.

Restructuring, then, is change in the enterprise behaviors described above, particularly in levels of enterprise efficiency. To produce the empirical literature that we study, it has been necessary to construct measures of restructuring. Obviously there is great variation among authors on how to define this concept. Many papers focus on the end result and simply define enterprise restructuring as an improvement in performance (measured by growth in sales or level

of productivity, for example). Other studies look at the internal operations of the enterprise and focus on features that differ greatly under capitalism and socialism, measuring restructuring by whether these features have changed. Thus, for example, empirical studies have examined which enterprises have introduced marketing departments since reforms began.

One broad category of restructuring measures comprises quantitative indicators that are based on accounting information and that measure actual enterprise performance. The most common items in this set are indices that reflect the productivity of the enterprise or its rate of growth of production. We will use the term quantitative to refer to these indicators. Other indicators of restructuring depend less on quantitative accounting information. They are measured somewhat more loosely, perhaps derived from survey questions on economic performance that are posed to managers (such as forecasts of sales in the surveyed year) or from information collected about reorganization (for example, whether the enterprise has introduced new products), or perhaps reflecting operational factors further removed from current performance (for example, the extent of wage arrears). These indicators will be referred to as qualitative.

The prevailing sentiment among researchers is that the quantitative variables are to be trusted more. They certainly do measure directly the prime objective of enterprise restructuring: an improvement in economic performance. However, there is also the view that quantitative performance might suffer when an enterprise is undertaking fundamental efforts to reorganize and that these efforts might be observed earliest in the qualitative variables. Qualitative measures might therefore be leading indicators of enterprise performance. We focus primarily on the quantitative indicators in this paper. This focus results primarily from our own judgment, derived from our own empirical work and from an examination of the details of the papers surveyed here, that the reliability of the statistical studies of quantitative indicators is greater than that of the qualitative ones. Nevertheless, when sufficient analyses are available, we examine both types of indicators, finding that they generally lead to the same basic conclusions.

The standard study that we examine focuses on the amount of restructuring in an enterprise as the phenomenon to be explained (that is, as the dependent variable). Using statistical techniques, which we shall not detail here, researchers employ enterprise-level data to investigate how the degree of enterprise restructuring varies with the characteristics of the enterprises. Those characteristics, or explanatory variables, fall into two categories. First, there are the phenomena of primary interest, the set of variables that measure reforms as they impinge on the particular enterprise, for example, the proportion of the enterprise that has been privatized or the intensity of competition in the product market that the enterprise faces. We will discuss these variables in much detail in the sections of the paper that follow, devoting each section to an important category of explanatory variable.

The second category of explanatory variables includes enterprise characteristics in which we have little interest here. Examples are enterprise size, sector of operation, and region of country in which the enterprise is located. Given the lack of interest in these variables, why are they included in the empirical studies and why do we mention them here? The simple answer is that omission of these variables in the empirical studies would lead to biases in the results generated. Thus, it is important to include such variables (control variables) in statistical studies, precisely because their inclusion enables one to obtain more accurate results.

A different set of issues arises in the case of selection bias, the thorniest problem encountered in estimating the effects of reform measures on restructuring. Selection bias might occur when the decision on how a reform measure applies to an enterprise reflects some unmeasured phenomenon that also affects the amount of post-reform restructuring. If the most standard statistical techniques are used, the estimate of the effect of reform will be contaminated. There are statistical techniques that can reduce the likelihood of problems arising from selection bias. However, these are often not easy to implement, and attempts to counter selection bias vary in quality a great deal between studies.

We have mentioned these methodological problems in order to give the reader a flavor of the hurdles that confront researchers in endeavoring to understand the determinants of enterprise restructuring. Given the fact that this paper omits any precise description of the methodology of the pertinent empirical studies, it would be inappropriate for us to leave the reader with the impression that these studies are purely mechanical exercises, in which judgment and effort do not count. Rather, there are difficult problems to be solved and some studies do a much better job of solving these problems than others do. The papers we examined vary greatly in quality.

We have identified two important factors (addition of control variables and removing selection bias) that capture elements of a paper's quality. There are other factors as well. One is the number of enterprises included in the study, since statistical precision varies with sample size.

Another is the number of years of reform captured in the data, since one would expect the effects of reforms to occur cumulatively over time. There are also intangible elements of the strength of a research exercise. However, a scholar familiar with a particular literature usually has an ability to judge the overall strength of analysis after examining carefully the methods used in a paper, reaching a subjective judgment of quality that reflects a sense of those intangibles. An essential part of our assessment of the empirical literature involves our reaching such a subjective judgment on each paper.

For each of the papers examined here, we arrive at a rating of the overall quality of the analysis in the paper. This quality rating reflects three items of information. First, there are the objective factors listed above. Second, there is our subjective judgment of the overall strength of analysis. Third, our quality rating reflects the relative standing of the scientific journal in which the paper is published, if it has been published. Thus, our ranking of quality reflects not only our own assessments, but also those of the economics profession.

In the companion paper to this one, we use statistical methods to aggregate the individual results of all papers on one topic into an overall result. We do this in two ways. First, we use our quality rating of the papers to determine the relative influence of each paper on the combined result. If we judge one paper to be twice as good as another, our aggregation attributes twice as much importance to the results of the higher-quality paper. Second, we combine the results of all of the papers without using any information about the quality of methodology: each paper counts equally in contributing information to our aggregate results.

Using these two approaches we are able to give the reader two differing assessments of the evidence, one based on our sense of the strength of the evidence in each of the individual papers and one based purely on a mechanical aggregation of the individual results. Obviously, we think that the most reliable aggregation is the one that uses our quality assessment. We provide the alternative evidence for the reader who is skeptical about our judgments.

All of the previous remarks are somewhat general, omitting discussion of exactly how we will present the evidence to the reader. Such discussion is most easily presented in context. We do so in the next section, examining state versus private ownership, which is the issue that has been examined most often in the empirical literature on enterprise restructuring.

3. State Versus Private Ownership

State ownership is the staple of a traditional socialist economy, and private ownership is the essence of capitalism. In the early debates on transition policy, there was no disagreement about the desirability of creating an economy dominated by private ownership, but there were rather conflicting views on how this could be done most effectively, through fast privatization (Lipton and Sachs 1990; Boycko, Shleifer, and Vishny 1995) or through efforts concentrating on stimulating a nascent private sector (Kornai 1990; Murrell 1992). The emphasis on speedy privatization has waxed and waned with events. With Eastern Europe in deep crisis in the early 1990s, fast privatization seemed to gain urgency. However, with the recovery of Poland, a relatively slow privatizer, that perceived urgency declined somewhat (Pinto, Belka, and Krajewski 1993). But Poland is only one of many transition countries, an outlier at that. The latter half of the 1990s has offered examples of fast privatizers performing well and fast privatizers performing badly, with similar variation across slow privatizers, giving sustenance for a variety of opinions about the results of privatization (Pohl and others 1997; Havrylyshyn and McGettigan 1999; Nellis 1999; Stiglitz 1999; Black, Kraakman, and Tarassova 1999).

We have identified 31 distinct studies that contain results on how private ownership affects economic restructuring. However, some of these studies contain results for several countries or present several conceptually distinct results for the same countries. Thus the following reflects the combined information from 82 different analyses of the effects of private ownership. In interpreting the results below, one should remember that these analyses focus on the effects of private ownership of shares of firms, since many firms in the postsocialist world have mixed ownership. In this section, when we refer to state ownership, it refers to ownership of shares in 100 percent state-owned enterprises or in enterprises that have been partially privatized.

Following standard statistical methodology, each of the studies begins with the assumption that state and private ownership actually have the same effects. The statistical analysis then produces a probability that the data on enterprise behavior are consistent with this assumption. A low estimated probability means rejecting the assumption that state and private ownership are equivalent. Given an estimated probability in each paper, it is a simple step to combine all the estimated probabilities into one composite probability for all papers combined. This composite probability is what we derive from the set of analyses under consideration.

Our method of combining the estimates of many studies leads to much sharper stronger results than the individual studies themselves. It is easy to demonstrate this. For example, toss a coin four times and obtain three heads, and one harbors no thoughts that the coin is unbalanced. However, if one repeats this experiment 20 times and obtains a succession of two, three, and four heads in the four tosses, then one might have strong evidence of an unbalanced coin. The example carries over into research. Because the data are very rough and the statistical methods hardly perfect, researchers often obtain only weak results in individual studies. But many weak results, all indicating the same phenomenon, can combine to produce one very strong result. We find this to be true in many instances in this paper.

Using the composite evidence that reflects the results of the individual papers, one can make a judgment on acceptance or rejection of the assumption that state and private ownership are equivalent. If rejection is the conclusion, then the evidence also indicates which ownership form is the better one. Therefore, the composite information that we derive from the studies also indicates which of the two ownership types leads to more restructuring.

To summarize the evidence, we have converted the composite probabilities into simple phrases. These simple phrases are on a five-point scale of the following ratings:

1. Extremely likely that private ownership produces more enterprise restructuring than state ownership
2. Probable that private ownership produces more enterprise restructuring than state ownership
3. No evidence that private and state ownership differ
4. Probable that state ownership produces more enterprise restructuring than private ownership
5. Extremely likely that state ownership produces more enterprise restructuring than private ownership

Perhaps a few extra words are useful in interpreting our phrases "extremely likely," "probable," and "no evidence." Extremely likely means that we feel that there is a large preponderance of evidence in favor of the stated effect. When we use this phrase, we do not think it is a possibility that evidence will arise in the future that will cause us to change our views. Probable means that there is some evidence in favor of the stated effect and we have a considerable degree of confidence that the stated effect is correct. The stated effect is a very good bet, but there is some residual possibility that this bet would lose. "No evidence" means that we are not able to distinguish between the effects of the different owners on the basis of what we have read in the papers under consideration.

Our summary of the evidence on state versus private ownership appears in table 1. Two different ways of grouping studies lead to the different rows of the table. First, there is the quantitative-qualitative division of dependent variables, to which we have already referred in section 2. Second, there are regional groupings. Corresponding to much of the rest of the literature (for example, EBRD 1999), the basic split is between the non-Baltic former Soviet Union (the Commonwealth of Independent States [CIS]) countries and the rest of the transition countries. In the set of papers under consideration, there are two studies of Mongolia. Since this country looks like a typical member of the CIS (Korsun and Murrell 1995), Mongolia is included in that grouping. The non-CIS group comprises Eastern Europe and the Baltic states (with one study of China). Interestingly, once we seek a criterion that corresponds exactly to our split of countries, we find that the criterion is the length of time that the countries labored under communism, 70 years for each CIS country and less than 50 years in the non-CIS grouping. The reader therefore might like to think of our regional groups as "two generations" and "three generations," indicating the length of time under communism.

There are two columns stating the composite evidence, corresponding to the two ways we have aggregated the individual items of evidence, discussed in section 2. Column 1 presents the composite result that is constructed without using any of our judgments about the

TABLE 1. ASSESSMENT OF WHETHER PRIVATE OWNERSHIP OR STATE OWNERSHIP LEADS TO MORE RESTRUCTURING
Assessments of the Composite Implications of 31 Empirical Studies Analyzing the Experience of Transition Countries

		Implications of the studies taken in the aggregate: Assessment of the likelihood that there is a difference between the restructuring effectiveness of state and private ownership	
Geographical location of countries studied: CIS or non-CIS	*Restructuring variable examined: quantitative or qualitative*	*(1) When there is no attempt to weight the importance of the studies' results by the quality of their methodologies*	*(2) When the relative importance attached to each study's results reflects the methodological quality of the study*
1. All countries	Both types of variables	Extremely likely that P > S	Extremely likely that P > S
2. Non-CIS	Both types of variables	Extremely likely that P > S	Extremely likely that P > S
3. CIS	Both types of variables	Probable that P > S	Probable that P > S
4. All countries	Quantitative	Extremely likely that P > S	Extremely likely that P > S
5. Non-CIS	Quantitative	Extremely likely that P > S	Extremely likely that P > S
6. CIS	Quantitative	No evidence that private and state differ	Probable that S > P
7. All countries	Qualitative	Extremely likely that P > S	Extremely likely that P > S
8. Non-CIS	Qualitative	Probable that P > S	Probable that P > S
9. CIS	Qualitative	Extremely likely that P > S	Extremely likely that P > S

Note: P > S is shorthand for "private ownership produces more enterprise restructuring than does state ownership."
S > P is shorthand for "state ownership produces more enterprise restructuring than does private ownership."
Source: All figures and tables are from the author unless otherwise noted.

methodological quality of the research of individual papers. Column 2 presents the composite result when more weight is attributed to studies that we believe are conceptually stronger. Only in one case does the evidence differ between the two columns.

Taking all countries together, the evidence is extremely strong that the move from state to private ownership has resulted in greater amounts of restructuring. For non-CIS countries taken separately, this is also the case. (The somewhat weaker results on row 8 of the table simply reflect a much smaller number of studies in that category than in other categories included in the table.) The effects of privatization in that region are indubitable. For the CIS countries, the picture is more complex. This is because the quantitative and qualitative indicators offer a different picture. For the quantitative measures, the evidence, in our judgment (see column 2), shows some indication that state enterprises are more productive than private enterprises. For the qualitative indicators, the evidence is the reverse. Row 3, which shows positive effects of privatization in the CIS, must reflect the fact that the positive results on the qualitative indicators dominate the somewhat more equivocal results on the quantitative indicators. We do not have any other information that would allow us to interpret the mixed picture from quantitative and qualitative indicators and therefore leave it to readers to provide their own interpretations.

It is tempting to conclude from table 1 that the effect of change in ownership on the quantitative variables in the non-CIS countries is greater than the effect in the CIS. This is not appropriate, since table 1 does not provide an explicit statistical comparison of results for the CIS countries versus those for the non-CIS countries. However, using the published results of existing studies, one can examine whether privatization effects in the two regions are numerically different. This is the task of the remainder of this section.

We can calculate a numerical score for the restructuring effect of moving ownership from the state to the private sector. This can be done for each region separately, in a manner that makes the numerical scores for each region comparable in the sense that their units of measurement are the same. Since an understanding of the absolute value of these scores requires insight into the statistical methodology, we do not present these absolute values here. Rather, we present relative values, comparing the score in one region relative to the score in the other. Table 2 presents estimates of the effect on restructuring of moving ownership from state to private in the non-CIS countries divided by the same effect for the CIS countries.

Table 2 has many features similar to those of table 1. We do the analysis separately for the two types of indicators, quantitative and qualitative. We present information for the case when we weight the existing results by our perception of methodological quality (column 2) and also for the case when we do not weight for quality (column 1). We offer a verbal summary of the composite statistical results.

Let us use column 2 of table 2 to discuss the results. The first two rows examine the conclusions when both qualitative and quantitative restructuring indicators are examined together. These rows indicate that a shift of ownership in the non-CIS countries has 5.5 times as much effect on restructuring as does a similar shift of ownership in the CIS countries. Thus, for example, if we found that privatized firms in the non-CIS countries had a growth rate of output that was 5.5 percent higher than that of non-CIS state firms, we would expect that CIS privatized firms would have a growth of output that was 1 percent higher than CIS state firms. The second row of the table contains our verbal summary of the statistical evidence on whether the difference between the regions is likely to have arisen by chance, or whether it is likely to represent some aspect of reality. The interpretation of these verbal statements is the same as in table 1.

The results of table 2 should leave the reader in no doubt that the move from state to private ownership has a much stronger effect in the non-CIS countries than in the CIS countries. In all cases, the privatization effect in the non-CIS countries is more than twice the size of that in the CIS countries. In all cases but one, the statistical evidence indicates that these differences are not likely to have arisen by chance. Certainly, we have no doubt in the soundness of the conclusion that privatization has been less effective in the CIS than in other countries.

There remains the issue of the economic size of the privatization effect. One way to address this issue is to take the numbers underlying tables 1 and 2 and see what they imply in a very simple case. Suppose that our measure of restructuring is a very crude one, whether or not an enterprise is growing or declining. Then, by using simple and reasonable assumptions one can show that the numbers leading to row 1 and column 2 of the table imply that complete privatization in the non-CIS countries would result in 16 percent more firms growing, while complete privatization in the CIS would result in only 2 percent more firms growing.

One can also examine individual studies to get an idea of the economic size of privatization effects. One typical restructuring measure used is rate of growth of output. Studies on Eastern Europe indicate that the annual rate of

TABLE 2. COMPARING THE SIZE OF PRIVATIZATION EFFECTS ACROSS REGIONS
Assessments of the Composite Implications of 31 Empirical Studies Analyzing the Experience of Transition Countries

Type of restructuring variable examined		*Implications of the studies taken in the aggregate*	
		(1) When there is no attempt to weight the importance of the studies' results by the quality of their methodologies	*(2) When the relative importance attached to each study's results reflects the methodological quality of the study*
1. Both qualitative and quantitative	Effect on restructuring of moving from state to private ownership in non-CIS countries divided by the same effect for CIS countries	2.3	5.5
2. Both qualitative and quantitative	Assessment of the likelihood that there is a difference between the two regions in the effect of moving from state to private ownership	Extremely likely that privatization effect in non-CIS countries is larger than in the CIS	Extremely likely that privatization effect in non-CIS countries is larger than in the CIS
3. Quantitative	Effect on restructuring of moving from state to private ownership in non-CIS countries divided by the same effect for CIS countries	5.2	Privatization effect in the CIS is negative (see note)
4. Quantitative	Assessment of the likelihood that there is a difference between the two regions in the effect of moving from state to private ownership	Extremely likely that privatization effect in non-CIS countries is larger than in the CIS	Extremely likely that privatization effect in non-CIS countries is larger than in the CIS
5. Qualitative	Effect on restructuring of moving from state to private ownership in non-CIS countries divided by the same effect for CIS countries	2.4	2.3
6. Qualitative	Assessment of the likelihood that there is a difference between the two regions in the effect of moving from state to private ownership	Probable that privatization effect in non-CIS countries is larger than in the CIS	No evidence that privatization effect in non-CIS countries differs from that in the CIS

Note: When the privatization effect in the CIS is negative, it is not appropriate to calculate the ratio of the effects in two regions

growth of output in privatized firms minus the annual rate of growth of output in state firms ranges from 2 percent to 8 percent, depending on the country and the time period studied. For the CIS, the range is much wider, due perhaps to greater variability in data and the wider variety of experience in that region.

4. The Effects of Different Types of Owners

One of the reasons that changes of ownership might have had different effects across regions is that differences in privatization processes resulted in different mixes of owners across countries. The hoped-for quick retrading of shares to the most effective owners has not happened and therefore the owners created initially by the privatization process will have more than a short-term effect on enterprise performance. This is important, of course, only if the type of ownership makes a difference. As it happens, transition experience offers unusually comprehensive evidence on whether the type of private ownership matters.

Just as the papers under review offer evidence on the effects of state ownership versus private ownership, they also offer evidence on state ownership versus particular types of owners (for example, foreigners or managers) and indeed on specific types of private owners versus other types (for example, foreigners versus managers). Thus, just as before, we can combine all of this evidence and produce estimates of the restructuring effectiveness of each type of owner relative to each other type. The only added complication is that we now have a multilateral comparison instead of a dichotomous one. But this complication only adds to the methodological problems, with which we are not concerned here. It is as easy to imagine a comparison of manager-owners versus worker-owners as it is state ownership versus private ownership.

The first task is to determine the set of owners to be compared to each other, which is shown below. It must be emphasized once again that we are referring to ownership of shares of firms. We followed the empirical literature in identifying the ownership categories that we analyze, distinguishing 11 in all. The first two are types of ownership that were included in the state category in the previous section. The remaining nine are private owners.

1. Traditional state ownership: state ownership in enterprises that are 100 percent state-owned and that have not been part of a privatization program.
2. State ownership in commercialized (or "corporatized") enterprises: state ownership in enterprises that have been legally separated from the state, that are treated as private enterprises under corporate laws, and that have usually been part of a privatization program. In practice, this type of state ownership almost always occurs in firms that are partially privatized.
3. Enterprise insiders (a composite group, where workers and managers were not differentiated).
4. Enterprise outsiders (a composite group consisting of all nonemployee, nonstate owners).
5. Workers (nonmanagement employees).
6. Managers (managerial employees).
7. Banks.
8. Investment funds (other than those owned by banks or the state).
9. Foreign owners.
10. Blockholders: outsider ownership that has been concentrated in the hands of large individual owners (such as individual entrepreneurs or domestic firms) other than those listed above.
11. Diffuse outsiders: the residual outsider ownership category, when outsider owners are not identified as belonging to the categories above. This category is dominated by individual outsider ownership that remains diffused across large numbers of individual owners.

The reader will immediately notice that some of these categories overlap: for example, workers and managers

together are insiders. However, one should not assume that the collective entity is the sum of its parts. We will examine this point when the results are presented.

From 23 studies, we have compiled a data set that allows us to build a picture of the effects on restructuring of different types of owners. We have restricted our analysis to examination of the quantitative indicators only, since there are not enough observations from studies that use qualitative indicators to undertake a separate analysis for these.

The information produced by the individual studies only allows one to ascertain the relative effects of different owners, not the absolute effect of any single owner. For this reason, we can only arrange the effectiveness of the different owners on a relative scale. Thus, to present the results in a simple fashion, we assign a score of 0 to the least effective owner (according to the data) and a score of 100 to the most effective. It is traditional state ownership that turns out to be the least effective owner, and is therefore made the 0 point. This is convenient, because the ordering on the scale then shows the relative effect of privatizing to the different types of private owners. Foreigners are revealed by the data to be the most effective, and therefore are assigned a score of 100. A score of 50 on the scale for owner X would then indicate that privatization to owner X produces only half as much restructuring as privatization to foreigners.

The results are presented in figure 1, which suggests that differences between owners are of great economic importance. Before proceeding to discuss the differences between owners, it is useful to present information on whether statistical tests indicate these differences to be significant, or whether they could have simply arisen by chance. We adopt essentially the same procedure as that for tables 1 and 2, that is, we combine the probability information from many papers to obtain a much stronger composite result. Then, we summarize the composite probability judgment with the types of phrases that we have used in tables 1 and 2. The results appear in table 3.

At a rough approximation, there are three groupings of owners. At the bottom, traditional state ownership and diffuse individual ownership do not have significantly different effects. In the middle, insiders, outsiders, workers, banks, and commercialized state ownership are clustered.

FIGURE 1. HOW OWNERSHIP AFFECTS FIRM PERFORMANCE AFTER PRIVATIZATION
Relative Effects of Changing from Traditional State Ownership to Different Private Owners

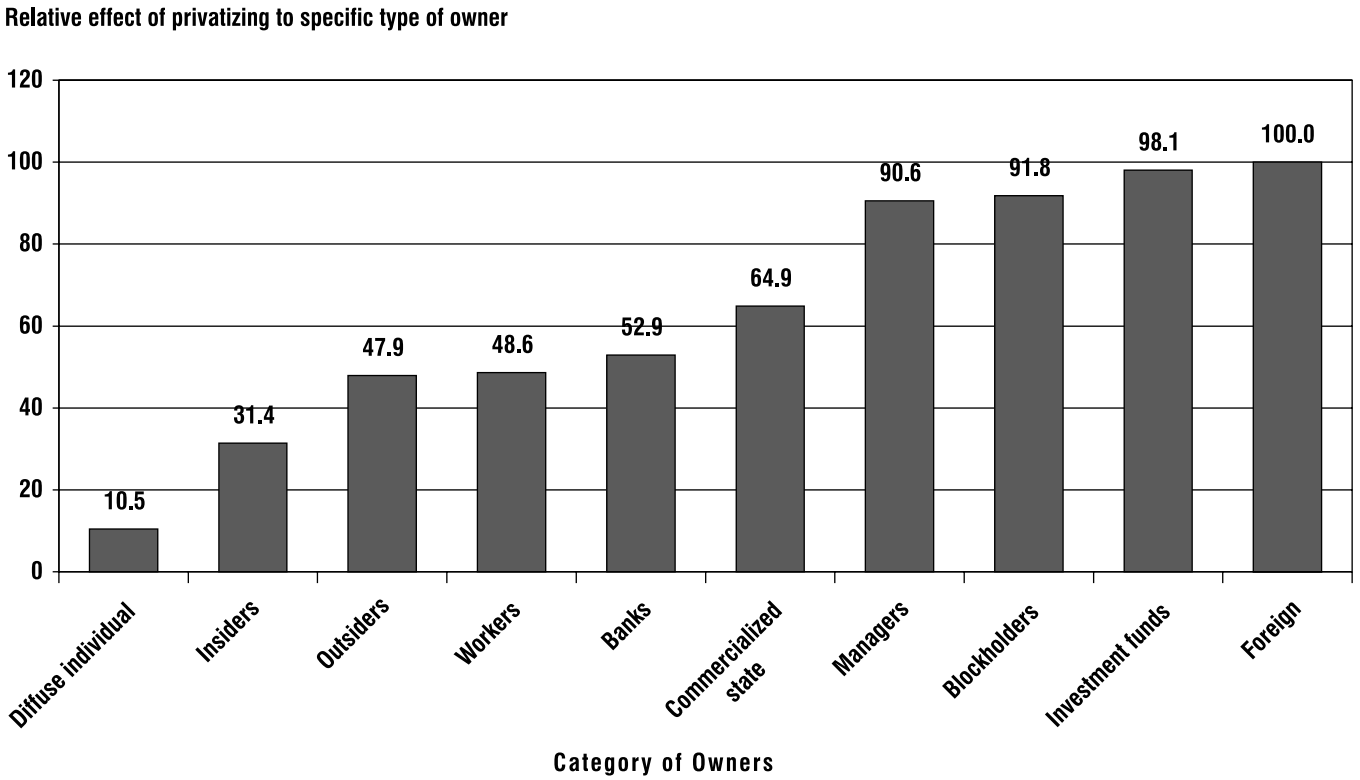


TABLE 3. DIFFERENCES BETWEEN THE EFFECTS OF DIFFERENT OWNERS ON ENTERPRISE RESTRUCTURING
Assessments of the Composite Implications of 23 Empirical Studies Analyzing the Experience of Transition Countries

	Composite judgment on whether owner listed on row is more effective than owner listed on column									
Category of owner	*Traditional state*	*Diffuse individual*	*Insiders*	*Outsiders*	*Workers*	*Banks*	*Commercialized state*	*Managers*	*Blockholder*	*Investment funds*
Diffuse Individual	No									
Insiders	Probably	Probably								
Outsiders	Probably	Extremely likely	No							
Workers	Probably	Probably	No	No						
Banks	Extremely likely	Probably	No	No	No					
Commercialized state	Extremely likely	Extremely likely	Extremely likely	No	No	No				
Managers	Extremely likely	Extremely likely	Extremely likely	Probably	Probably	Probably	Probably			
Blockholder	Extremely likely	Extremely likely	Extremely likely	Extremely likely	Probably	Probably	Probably	No		
Investment funds	Extremely likely	Extremely likely	Extremely likely	Extremely likely	Probably	Probably	Probably	No	No	
Foreign	Extremely likely	Extremely likely	Extremely likely	Extremely likely	Extremely likely	Probably	Probably	No	No	No

Note:
Interpreting the table: To compare owners A and B, first find the nonempty cell that corresponds to the row of one of the entities and the column of the other. Suppose it is the cell corresponding to A's column and B's row. Then the phrase in that cell indicates the authors' degree of confidence in the conclusion that B's effect on restructuring is greater than A's effect.
The table legend is defined as follows:
Extremely likely that owner identified on row is more effective in undertaking enterprise restructuring than owner identified on column;
Probably correct to conclude that owner identified on row is more effective in restructuring than owner identified on column;
No evidence that owner identified on row is more effective in restructuring than owner identified on column.

The most effective owners, none of which have statistically different effects from any other, are managers, concentrated individual ownership, investment funds, and foreigners.

One result seems, on first glance, to be paradoxical, but, on reflection, reveals important information. Insiders are less productive owners than both managers and workers, even though these two groups of employees constitute the full set of insiders. How can this come about? The principal reason is that studies treating insiders as one group will usually be derived from different countries than studies treating workers and managers separately. Consider the following example: country A privatizes all of its enterprises by giving generalized concessions to insiders, whereas country B privatizes half of its enterprises to managers and half of its enterprises to workers. In country A, privatization might be followed by struggles between workers and managers, who have diverse interests. Such struggles will delay adjustment. In country B, the worker-owned and manager-owned enterprises might each quickly implement their own forms of adjustment, since separately they each can reach decisions more quickly. Given the way that privatization studies are carried out, researchers on country A would be more likely to report results for the group of insiders, while those on B would show results separately for managers and workers. Then, our synthesis would show that undifferentiated insiders are not as good owners as managers and workers separately. Moreover, this would not be an artifact of the research process, but would convey something very important about reality: privatizing to heterogeneous groups might be worse than privatizing to homogeneous groups. The whole is less than the aggregation of its separate parts.

By and large, the rest of the results are in accordance with expectations, but there are some surprises. Foreigners were expected to make productive changes and they are unsurprisingly the best owners. But it is notable that three other ownership types are very close in effectiveness to foreigners. Certainly, the estimated productiveness of managers and investment funds was not uniformly expected. Similarly, diffuse individual ownership was not expected to be very effective, but it is perhaps surprising that it is statistically indistinguishable from traditional state ownership.

Perhaps the most notable and unexpected result is the place of state ownership in commercialized enterprises. This is not some artifact, but depends rather on results that appear across a wide range of studies, from Mongolia (Anderson, Lee, and Murrell, forthcoming) to Central Europe (Frydman and others 1999). In reflecting on this result, it is important to remember that this type of ownership usually occurs in enterprises that are partially privatized. It might well be that the private part-owners are playing an important role in enterprise affairs (Frydman and others 1999). One must remember also that this result is not for economies in which real ownership has been developed organically for decades, but rather for situations in which ownership has been artificially transferred, sometimes to private owners who are creatures of the state. Then, if shareholders are weak, share retrading is sluggish, and the state is focused on solving economic problems, it is not surprising that state ownership can be superior to some types of ownership (Anderson, Lee, and Murrell, forthcoming). In addition, the very act of commercialization could change the incentives facing the state (Shleifer and Vishny 1994).

Comparing Owners across Regions

We have found that privatization has stronger effects in non-CIS countries than in the CIS and that different types of owners have different effects. This immediately raises the question of whether the latter finding could explain the former. One could directly address this question by using data on ownership in different countries, but there is no systematic collection of such data. Nevertheless, the papers used for this study do contain some evidence on ownership. The strong impression gained from this evidence is that worker and diffuse individual ownership are more prevalent in the CIS than in non-CIS countries, while foreign, investment fund, concentrated individual, and bank ownership is less prevalent. Thus, since the CIS has an ownership portfolio that contains a greater share of less effective owners, structure of ownership is a strong candidate to explain differences in the effects of privatization between regions.

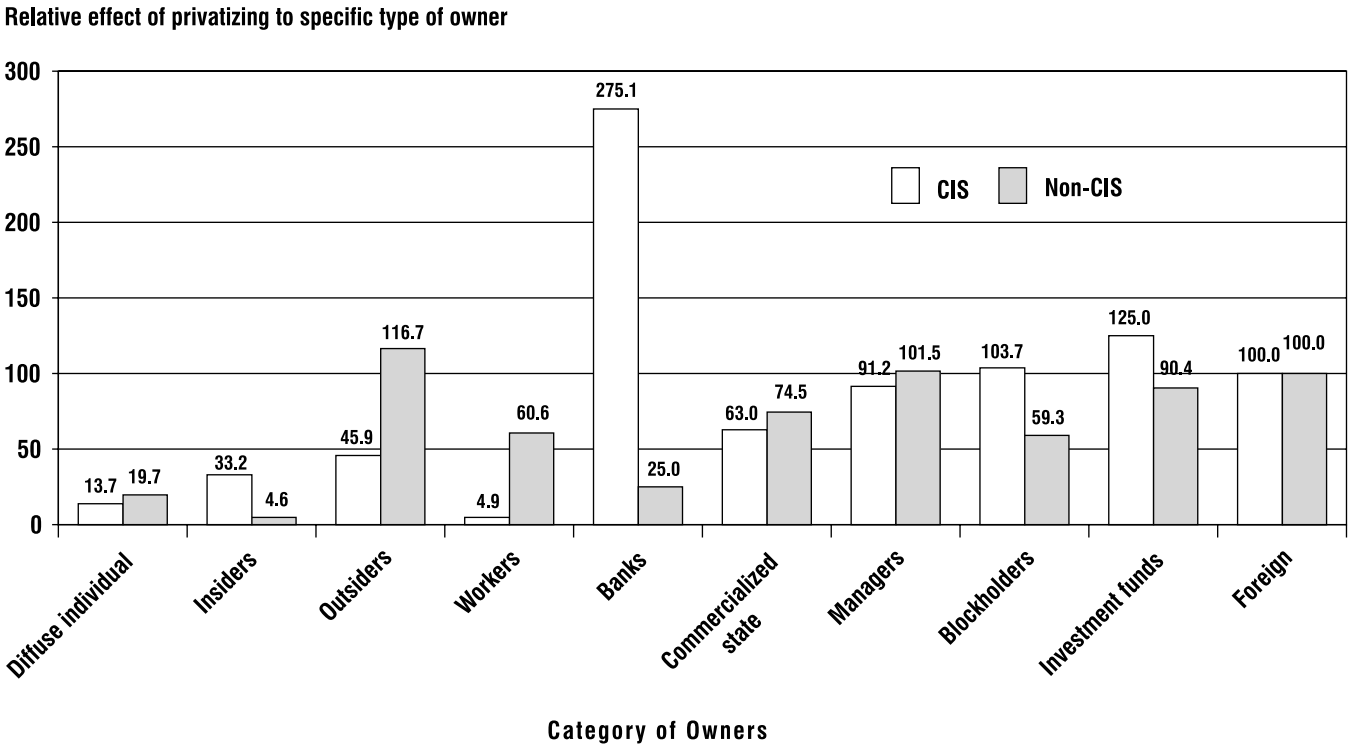
Also, the effects of different types of owners could vary between regions because different types of owners require different levels of institutional support, and institutional quality varies across countries. We follow North (1990) in defining institutions as the rules that constrain economic agents and the incentives to follow these rules. In the present context, we particularly refer to the set of institutions pertinent to the governance of large enterprises: corporate governance laws and their enforcement; securities laws and their enforcement; and the elements of civil and criminal law and their enforcement that help to protect shareholders from the malfeasance of managers and directors.

Figure 2 presents estimates of the effects of the different types of owners in the two regions. All of these effects are relative ones, in that we have adopted the same conventions as in constructing figure 1: we have assigned an effectiveness of 0 in each region to traditional state ownership and an effectiveness of 100 to foreign ownership in each region. Then, all other types of owners are placed on this scale, separately for each region. The appropriate use of figure 2 is to examine differences in the relative ranking of different owners between the two regions. There are some dramatic and obvious divergences (such as banks and workers), but in about half of the cases the rankings are rather close (for example, commercialized state and managers).

There is the "germ" of an institutional story in these results, although our discussion here turns much more interpretive than it has been up to now. For some owners, it is important that the mechanisms of corporate governance function well and function continuously, while other owners are not so dependent on these mechanisms. When the institutions of corporate governance are weak, the effectiveness of manager-owners and powerful blockholders (including banks and investment funds) would not be so greatly diminished because of their direct access to power, for example, by blockholders quickly installing their own managers (Barberis and others 1996). The owners dependent on institutional help are diffuse individual owners, outsiders when there are a number of different blockholders, and perhaps even workers. Given these observations, the pattern of ownership effects in figure 2 is broadly consistent with the argument, most forcefully proposed by Fox, Merritt, and Heller (1999) and Coffee (1999), that corporate governance institutions functioned less well in the CIS than elsewhere.

Thus, we conclude that the effectiveness of privatization in the CIS, relative to non-CIS countries, has been diminished by two factors. First, ownership in the CIS is higher among those types of owners who are less effective

FIGURE 2. REGIONAL VARIATIONS IN THE EFFECTS OF DIFFERENT TYPES OF OWNERS
Comparing Ownership Effects in the CIS to those in the Non-CIS Countries



everywhere. Second, the types of owners that need institutional help (diffuse individual, outsiders, and workers) seem to have fared relatively worse in the CIS than in the non-CIS countries, perhaps because they have received less assistance from institutions in the CIS than elsewhere.

5. The Role of Managers in Enterprise Restructuring

The previous two sections have documented where privatization enhances enterprise restructuring. They have shed less light, however, on the precise mechanisms by which privatization yields greater efficiency. One explanation, discussed in the transition literature, is that private owners are better at selecting managers who can run the firm efficiently. The hypothesis that management turnover, or more broadly, bringing in new human capital, is important in improving enterprise performance was first put forward and tested by Barberis and others (1996) for a sample of privatized Russian shops.

An alternative hypothesis states that what matters for the performance of managers is the correct incentive structure. This includes both "sticks" and "carrots": if managers do not perform well they are dismissed, and if they run the firm well they receive better remuneration. A corollary to this hypothesis is that management turnover is not necessary to enhance restructuring efforts, except perhaps as a signaling device to managers who may want to shirk responsibility. This hypothesis has been illustrated in the case of Poland, where managers of state-owned enterprises initiated restructuring efforts in the early transition period once a private sector emerged (Pinto, Belka, and Krajewski, 1993). Sections 3 and 4 present equivocal evidence on this hypothesis, since traditional state-owned firms have performed poorly, but commercialized firms have performed somewhat better.

We have identified six studies that test the importance of managerial turnover and managerial incentives in restructuring. To understand the aggregate implications of these studies, we present the composite information in table 4 in exactly the same manner as that adopted in section 3. The construction of the information in panel A

TABLE 4. THE ROLE OF MANAGERIAL TURNOVER AND MANAGERIAL INCENTIVES IN ENTERPRISE RESTRUCTURING
Assessments of the Composite Implications of Six Empirical Studies Analyzing the Experience of Transition Countries

		Implications of the studies taken in the aggregate	
		(1) When there is no attempt to weight the importance of the studies' results by the quality of their methodologies	*(2) When the relative importance attached to each study's results reflects the methodological quality of the study*
	A. Do polices affecting managers matter? Assessment of the likelihood that policies affecting managers are effective in promoting restructuring.		
1.	Mixture of management turnover and incentives	Extremely likely that changes in turnover and in incentives, taken together, work	Extremely likely that changes in turnover and changes in incentives, taken together, work
2.	Management turnover separately	Extremely likely that changes in turnover work	Extremely likely that changes in turnover work
3.	Management incentives separately	No evidence that changes in incentives work	No evidence that changes in incentives work
	B. How do policies compare? Assessment of the likelihood that changes in turnover have a stronger effect on restructuring than changes in incentives		
4.	Comparison of the effectiveness of turnover and incentives	Extremely likely that changes in turnover are more effective than changes in incentives	Extremely likely that changes in turnover are more effective than changes in incentives

employs exactly the same methods as those used for table 1. We find that turnover and incentives, considered together, are an important determinant of restructuring. Management turnover on its own also has a significant effect on restructuring. But manager incentives are not significant on their own.

Panel B directly compares the effect of turnover to the effect of incentives. The methods employed are exactly the same as those used to derive lines 2, 4, and 6 of table 2, when we were comparing the effects of privatization in two different regions. The results leave us in no doubt whatsoever that turnover is much more effective in producing restructuring than are changes in management incentives. What explains the great importance of management turnover? This points to the importance of human capital that is new to the enterprise, an interpretation that is further bolstered by the findings that management turnover also contributes to enterprise restructuring in state-owned enterprises, that is, it is not dependent on the strong monetary incentives that come with private ownership.

What is the economic significance of management turnover? Barberis and others (1996) find that management turnover more than doubles the likelihood of renovation occurring in Russian retail shops. It increases the amount of extra hours worked by 80 percent, and induces 50 percent more change in suppliers. Claessens and Djankov (1999) find that management turnover in state-owned and privatized enterprises results in 1.9 percent and 6.2 percent higher labor productivity. Frydman, Hessel, and Rapaczynski (1998) find an even larger effect on labor productivity, 7.3 percent, in their sample of Central European firms.

6. Enterprise Restructuring and Hardened Budgets

Soft budgets occur when enterprises have the expectation that the state (or other economic actors) will come to their aid when they are in financial trouble. When such aid is expected, incentives to perform efficiently are muted. Soft budgets were pervasive under the old socialist system, and, not surprisingly, there was much emphasis on hardening budget- constraints in the transition period. However, this emphasis begs the question of why soft budgets occur. If state ownership is an essential causal mechanism in producing soft budgets, then a change in the amount of soft-budget aid to enterprises is one channel for privatization to have an effect.

Three alternative theories exploring the causes of soft-budget constraints have been suggested in the transition literature. First, Janos Kornai (1979, 1998) relates the softness of budget constraints to the paternalistic attitude of the government in socialist economies, which results in the accommodation of enterprise requests for extra financing. Firms are financed even when the expected return is below the real interest rate. The government's goal is to prevent threats of job losses and to provide auxiliary services (such as kindergartens, schools, hospitals, and recreation facilities) at the enterprise level. That is, soft budgets are a substitute for a functioning social safety net.

A second, complementary reason for the existence of soft budgets has been advanced in Shleifer and Vishny (1994). They model the bargaining between politicians and managers. Politicians pursue noneconomic objectives in order to enlarge their political constituency, for example, by keeping enterprise employment high. Managers provide the higher levels of employment, while politicians use the state treasury to pay subsidies to sustain the extra employment.

A third analysis views soft budgets as the continued extension of credit even when the substandard performance of an already-financed investment project has been revealed (Maskin 1999). Poor information will lead bad projects to be initially financed. Then, by the time creditors can observe project quality, they will continue to lend because refinancing may be better than canceling a project that is under way.

These three theories of the causes of soft budgets differ significantly. The first explains accommodating lending behavior induced by a benign government's paternalism, while the second suggests that soft budgets arise from politicians' self-interest. In both, soft budgets compensate the enterprise for keeping surplus employment. The predicted effect on enterprise restructuring from soft budgets is the same in both cases: lack of productivity improvements and continuation of unprofitable production (and nonproduction) activities. The third explains an undesirable outcome of optimal decisions by a financial institution in a situation of imperfect information. The prediction on enterprise restructuring is improved performance over time as the investment enters the production process.

The predictions on the channels of soft budgets also differ among the three theories. The first theory suggests that the central government will be the main source of soft financing. The second supports the notion that local politicians provide soft budgets through direct subsidies, tax exemptions, or arrears. Finally, the third hypothesis identifies banks (or financial intermediaries more generally) and suppliers of trade credit as the main channel of soft financing.

Most of the literature that documents the use of different channels of soft budgets during early transition supports the first hypothesis. Schaffer (1998) finds that bank lending is the primary source of soft budgets in transition countries, where the banking sector is in central state hands. Tax arrears to the central government are the main

source of soft financing in Hungary and Poland. Anderson, Korsun, and Murrell (1999), using a survey of 250 Mongolian enterprises, show that central government ownership is the prime determinant of soft budgets. In contrast, the McKinsey Global Institute (1999) shows that tax exemptions by the local government are the main channel of soft financing in Russia. Claessens and Djankov (1998) use a sample of more than 6,000 enterprises in seven Central and East European countries to show that the availability of bank credit to nonviable enterprises is associated with the importance of politicians in regulating the particular industry and the corruptibility of politicians. They conclude that the evidence provides significant support for the Shleifer-Vishny model.

Transition experience provides little evidence that points specifically to the third hypothesis. Schaffer's (1998) evidence on bank lending and soft budgets suggests that the critical factor is that the banking sector is in central state hands. He finds that trade arrears are not a major channel of soft financing, since on average they comprise a payment period of 2 months. This finding compares favorably to the level of trade arrears in mature market economies. McMillan and Woodruff (1999a) show that trade creditors in Vietnam stop financing enterprises once their payments are two months in arrears.

Most of the empirical studies of soft budgets to date focus on causes and the channels of transfer. There is less focus on the question of whether hardening budget constraints would entail improvements in enterprise performance and what types of restructuring would be most likely. However, we have identified seven papers that use statistical analysis to examine the link between restructuring and soft budgets. Again, the methodology used is identical to that of section 3. The results appear in table 5, whose construction is identical to that of table 4, except that panel B now examines differences between regions. The effect of hardened budgets on enterprise restructuring (defined as sales growth or productivity growth) is seen clearly in non-CIS countries, but does not appear for CIS countries. A possible explanation for this result is documented by the McKinsey Global Institute (1999): politicians often complement soft budgets with barriers to competition from imports or new local entry. In such circumstances, an enterprise can show artificially higher labor productivity as it captures or keeps a large share of the market.

The final row of table 5 compares the size of the hardened budget effect across the two regions. The studies on non-CIS and CIS countries show effects that are of similar magnitude, which are judged, in a statistical sense, to be the same size as each other. We are left with the slightly paradoxical set of conclusions that there is evidence for the effects of hard budgets in the non-CIS countries, but not in the CIS countries, while there is no evidence that the

TABLE 5. THE IMPORTANCE OF HARDENING BUDGET CONSTRAINTS IN ENTERPRISE RESTRUCTURING
Assessments of the Composite Implications of Seven Empirical Studies Analyzing the Experience of Transition Countries

	Implications of the studies taken in the aggregate	
	(1) When there is no attempt to weight the importance of the studies' results by the quality of their methodologies	*(2) When the relative importance attached to each study's results reflects the methodological quality of the study*
A. Does hardening of budget constraints matter? Assessment of the likelihood that a hardening of the budget constraint is effective in promoting restructuring		
1. For all countries	Extremely likely that a hardening of the budget constraint leads to restructuring	Extremely likely that a hardening of the budget constraint leads to restructuring
2. For Non-CIS countries	Extremely likely that a hardening of the budget constraint leads to restructuring	Extremely likely that a hardening of the budget constraint leads to restructuring
3. For CIS countries	No evidence that a hardening of the budget constraint works	No evidence that a hardening of the budget constraint works
B. How do regions compare? Assessment of the likelihood that a hardening of the budget constraint has more effect in the non-CIS countries than in the CIS		
4. Comparison of the effectiveness of hard budgets in the two regions	No evidence that a hardening of the budget constraint has an effect of a different magnitude in the two regions	No evidence that a hardening of the budget constraint has an effect of a different magnitude in the two regions

size of the effects of hard budgets differs between the two regions. Such a paradox is always possible in statistical analysis due to the effects of random variation in the data. In this case, it probably results from the fact that the estimated effects of hard budgets in the CIS vary greatly in size.

What is the economic significance of soft budgets on enterprise restructuring? Studies have found that soft budgets reduce the amount of labor shedding by 4 percent annually in Eastern Europe and the amount of productivity growth by 3 percent. In the CIS, one study has found that soft budgets can diminish labor productivity growth by as much as 6 percent a year. But as the previous paragraph indicates, the effects of hard budgets in the CIS are often insignificant.

7. Product Market Competition

There is substantial theoretical literature that studies the relationship between competition and corporate efficiency. The initial period of transition from central planning to capitalism provides a unique opportunity to test the importance of product market competition on the subsequent performance of enterprises. This is because the majority of transition economies liberalized their trade regimes relatively fast. Some went on to de-monopolize their industrial sectors through breakups of conglomerates and spin-offs of individual production units and by allowing entry of new private firms.

The short period in which these changes took place allows the researcher to identify the timing of the policy change and control for other economic or firm-specific variables.

We have identified 13 studies that explicitly investigate the effect of product market competition on enterprise restructuring. These studies provide results sufficient to examine the effects of competition separately in the two different regions and to analyze the effects of two rather different measures of competition—import and domestic. The results appear in table 6. The analysis leading to this table and its structure are identical to that of table 1. Overall, the analyses indicate that product market competition has been a major force behind improvements in enterprise productivity in transition economies. When we divide the sample into analyses based on import competition versus domestic market structure (for all countries together), we find that each analysis is significant in explaining enterprise performance. Examining the effects of competition in each of the regions, table 6 shows that there is clear evidence of the effects of competition for the non-CIS countries, but the evidence is much more equivocal for the CIS region.

A further subdivision of the studies shows a very interesting pattern: while import competition in the CIS countries does not have a significant effect on enterprise restructuring, it is always very significant in explaining enterprise restructuring in the non-CIS sample. What could explain this difference? EBRD (1998) shows that, on average, non-CIS countries are twice as open to competition from abroad as are CIS countries. This might be because of the underdeveloped transport infrastructure in CIS countries or because their regional governments shield producers from foreign competition. Putting barriers on import competition is a cheap way for regional governors to subsidize inefficient local producers. Finally, a number of CIS countries, particularly in Central Asia and the Caucasus, have an industrial sector geared toward extracting and processing industries, while imports comprise the majority of consumer goods. In such countries, while the average import penetration may be high, there is little direct competition within industries. Changes in domestic market structure are important in explaining enterprise restructuring in both the CIS and the non-CIS samples.

Table 7, based on the methodology used for table 2, directly examines whether different types of competition have effects of different magnitudes, and whether there are regional differences in the effects of competition. In the combined results for CIS and non-CIS countries, there is no evidence that competition from local producers has a stronger effect than import competition. When combining the results for all types of competition, however, we find that competition has a stronger effect in explaining enterprise restructuring in non-CIS countries than it does in the CIS countries. This regional difference is primarily due to the effects of import competition, which has a larger effect in the non-CIS countries than it does in the CIS countries. The last comparison shows that there are no discernible patterns in the way in which the effects of domestic competition differ between the CIS and non-CIS countries.

TABLE 6. THE EFFECT OF COMPETITION ON ENTERPRISE RESTRUCTURING
Assessments of the Composite Implications of 13 Empirical Studies Analyzing the Experience of Transition Countries

			Implications of the studies taken in the aggregate: Assessment of the likelihood that competition is effective in promoting restructuring	
	Countries included	*Type of competition examined*	*When there is no attempt to weight the importance of the studies' results by the quality of their methodologies*	*When the relative importance attached to each study's results reflects the methodological quality of the study*
1.	All	All	Extremely likely that an increase in competition leads to more enterprise restructuring	Extremely likely that an increase in competition leads to more enterprise restructuring
2.	Non-CIS	All	Extremely likely that an increase in competition leads to more enterprise restructuring	Extremely likely that an increase in competition leads to more enterprise restructuring
3.	CIS	All	No evidence that an increase in competition leads to more enterprise restructuring	Probable that an increase in competition leads to more enterprise restructuring
4.	All	Import competition	Probable that an increase in competition leads to more enterprise restructuring	Extremely likely that an increase in competition leads to more enterprise restructuring
5.	All	Domestic market structure	Probable that an increase in competition leads to more enterprise restructuring	Extremely likely that an increase in competition leads to more enterprise restructuring
6.	Non-CIS	Import competition	Extremely likely that an increase in competition leads to more enterprise restructuring	Extremely likely that an increase in competition leads to more enterprise restructuring
7.	CIS	Import competition	No evidence that an increase in competition leads to more enterprise restructuring	No evidence that an increase in competition leads to more enterprise restructuring
8.	Non-CIS	Domestic market structure	Probable that an increase in competition leads to more enterprise restructuring	Probable that an increase in competition leads to more enterprise restructuring
9.	CIS	Domestic market structure	Probable that an increase in competition leads to more enterprise restructuring	Probable that an increase in competition leads to more enterprise restructuring

TABLE 7. THE RELATIVE EFFECT OF DIFFERENT TYPES OF COMPETITION IN DIFFERENT REGIONS
Assessments of the Composite Implications of 13 Empirical Studies Analyzing the Experience of Transition Countries

		Implications of the studies taken in the aggregate	
	Type of comparison being made	*(1) When there is no attempt to weight the importance of the studies' results by the quality of their methodologies*	*(2) When the relative importance attached to each study's results reflects the methodological quality of the study*
1.	Import competition versus domestic market structure	No evidence that the effect of import competition is different from that of domestic market structure	No evidence that the effect of import competition is different from that of domestic market structure
2.	All types of competition in the CIS versus all types in the non-CIS countries	Extremely likely that competition in the non-CIS countries has a stronger effect on restructuring than competition in the CIS	Probable that competition in the non-CIS countries has a stronger effect on restructuring than competition in the CIS
3.	Import competition in the CIS versus import competition in the non-CIS countries	Probable that import competition in the non-CIS countries has a stronger effect on restructuring than import competition in the CIS	Probable that import competition in the non-CIS countries has a stronger effect on restructuring than import competition in the CIS
4.	Domestic market structure in the CIS versus domestic market structure in the non-CIS countries	No evidence that domestic market structure in the non-CIS countries has a stronger effect on restructuring than domestic market structure in the CIS	No evidence that domestic market structure in the non-CIS countries has a stronger effect on restructuring than domestic market structure in the CIS

The economic effects of competition are large. The studies surveyed here imply that in CIS countries, firms that face near-perfect competition are 40 to 60 percent more efficient than enterprises that operate in near-monopoly markets, while the efficiency gain is 30 percent in non-CIS countries. This difference may be due to the fact that changes in enterprise restructuring in response to changes in market structure exhibit diminishing returns. Since the non-CIS countries started the transition process earlier, the effects of additional changes in competitive pressures may be smaller.

8. The Role of Institutions in Enterprise Restructuring

The beginning of transition coincided with the publication of North's (1990) influential book, with its central message that institutions provided a crucial underpinning to market capitalism and that the process of building these institutions was fraught with difficulties. This message was not at the forefront of policy discussions during the early years of transition. Stabilization, privatization, and liberalization dominated the agenda. Gradually the focus has changed, spurred by studies showing the hefty costs of inefficient state administrations and corruption (Kaufmann1994) and by the recognition that the relatively poor performance of the CIS countries was not easily explained by differences in more standard reforms. Some scholars have also ascribed the disappointing Czech economic performance to a lack of attention to corporate governance and the financial system during mass privatization (Coffee 1996). Now, in contrast to the early neglect, institutions are in vogue (Johnson, Kaufmann, and Shleifer 1997; Blanchard and Kremer 1997; Stiglitz 1999).

Restricting ourselves to enterprise-level empirical studies of the determinants of enterprise restructuring, as we do in this paper, there is only a relatively small amount of evidence on the importance of institutions. One reason for this is that research has tended to follow policy, focusing on privatization, competition, and soft budgets rather than on institutions. Thus, our review of the evidence on institutions necessarily examines only a small number of studies. Since these studies vary widely in methodology and focus, we cannot synthesize the results using the methods of previous sections. The findings in this section are less emphatic: the enterprise-level evidence on the link between institutional reform and enterprise restructuring is still thin.

An influential paper by Blanchard and Kremer (1997) has claimed that the absence of contract enforcement mechanisms was a primary factor in causing the dramatic fall in output during early transition in the CIS. They hypothesize that weak contract enforcement will be more critical for those enterprises whose input-supply relationships are more complex, a prediction that also follows from the observation that the supply of information and the coordination of decisions was a central task of the now-defunct planning apparatus (Murrell 1992). There are several papers that test this hypothesis using enterprise-level data, leading to only weak support for the Blanchard-Kremer hypothesis. But the results are also consistent with the view that the breakdown of old relationships, that is, the destruction of information and relationships, might be the critical factor rather than weak institutions.

Institutional reform can lead to improved enterprise efficiency when legal rules are effective in structuring economic transactions and resolving disputes. Economic agents can then turn to public bodies, such as the courts and the police, to enforce those rules. Institutional reforms may therefore enhance enterprise restructuring if the legal system replaces more costly private mechanisms of supporting transactions. Focusing on private Vietnamese firms, McMillan and Woodruff (1999a, b) document the nature of enforcement of trading relations when formal institutions are virtually nonexistent. Trading relations depend on reputation, which are built using information from business networks or prior experience, with networks used to sanction defaulting customers. But these private mechanisms may lead to inefficiency. Reliance on private sources of information requires firms to continue to deal with customary trading partners, which means refusing to deal with new entrants, and consequently less restructuring in procurement activities.

Formal business associations and informal networks can also serve as repositories of information and disposers of sanctions, supporting transactional activities. Such associations have emerged spontaneously during the transition process, and there is some evidence that their members are more likely to undertake restructuring activities.

Some commentators have argued that the absence of institutions can lead to a reliance on criminals as contract enforcement agents, perhaps even spurring the rise of such groups. The overall picture, obtained from the rather small amount of evidence available, does not suggest the extreme

failure of formal contract enforcement institutions and heavy reliance on extra-legal methods of enforcement that had sometimes been suggested.

The more usual way in which criminal groupings are expected to affect businesses is when such groupings wield their comparative advantage, for example, by running protection rackets and stealing goods and cash. Such criminal activity certainly represents a failure of institutional reform, in this case of law enforcement institutions. Johnson, McMillan, and Woodruff (1999) find remarkable variation in such activity across Eastern Europe: while less than 1 percent of Romanian firms make payments for protection, more than 90 percent of Russian firms do so. But these direct costs are only part of the picture, since criminal activity also reduces the incentive for enterprise restructuring. Using the opinion of managers on whether courts can enforce contracts as a measure of property rights enforcement, the same authors estimate that firms perceiving property rights to be insecure invest nearly 40 percent less than firms that perceive property rights to be adequate. These studies suggest that, at low levels of institutional development, lack of enforceable property rights might be more important than the absence of external financing in determining investment in new projects or expanded capacity.

The creation of effective mechanisms of corporate governance was at the heart of the early institutional reforms that were aimed at the firms on which this paper is focused: the large firms beginning the transition in the state sector. Surprisingly, however, there has been little systematic empirical work at the enterprise level on the effects of corporate governance institutions. While Black, Kraakman, and Tarassova (1999) and Fox and Heller (1999) for Russia, and Stiglitz (1999) more generally, claim that the failure of corporate governance institutions has been of great importance, their evidence is anecdotal. Anderson, Korsun, and Murrell (1999) do use systematic survey evidence to show that corporate governance laws work poorly in Mongolia, but they present no evidence on whether there is a cost in terms of foregone restructuring. Similarly, the evidence that we present in section 4 on the effects of different owners in the CIS and Eastern Europe is consistent with greater dysfunction of corporate governance institutions in the CIS, but the argument is indirect. Further enterprise-level work on the effects of corporate governance institutions is certainly of some urgency, given the present policy importance of the topic and the paucity of existing evidence.

The above paragraphs have focused on the direct effects of institutional reform on enterprises. But indirect effects might be just as important. When good institutions are lacking, costly substitutes might be needed. Those owners who are most effective in a world of perfectly functioning institutions might be relatively less effective when corporate governance institutions do not function well or when contract enforcement is weak. For example, Hendley, Murrell, and Ryterman (forthcoming) find that increases in both state ownership and employee control raise the effectiveness of enterprise transactions. A decrease in competition increases the success of transactions. The explanation for these results is that alternative mechanisms substitute for weak institutions. In the dire economic conditions of Russia, the probability that the enterprise will survive and the probability that enterprise personnel will be around to implement long-term agreements are greater the smaller nonstate outsider ownership is. Similarly, when contracts are poorly enforced, increases in competition expand the opportunities for firms to use threats of defaulting on their contracts. This analysis suggests that institutional weaknesses can reduce the potency of policies that previous sections have shown to be effective.

Conversely, institutional innovations can help to moderate the deleterious effects of less-than-optimal policies. Prasnikar and Svejnar (1998) show that Slovenian workers in state-owned firms appropriate depreciation funds less than other funds, because of a rule that these must be used for investment. Hence a crude institution, a rule and its enforcement, can counter deficiencies in policies elsewhere, for example, when workers might be tempted to decapitalize state-owned firms. This study also shows that state-enterprise managers who have their own private firms do not siphon off cash flows to those firms. The authors interpret this as evidence of a well-functioning system of penalties for breach of management contracts. However, seemingly sensible second-best institutions fail as well, as Djankov (1999) shows for the enterprise isolation program in Romania.

This section is ample testament to the disjointedness in the enterprise-level evidence on the effect of institutions on restructuring. Thus, the major difference between this and the preceding sections, which is the absence of tables synthesizing the major results, reflects the state of the literature. Evidently, if institutions are to deserve the prominence in policy deliberations that they presently have, empirical work at the enterprise level is a matter of some urgency.

9. Summary

This study documents and synthesizes the empirical evidence on the determinants of enterprise restructuring in the early years of transition from central planning to a market economy. The purpose here has been to present the evidence in an unvarnished manner, rather than providing interpretative commentary that emanates from the authors' own views of the transition process. Similarly, in this conclusion we refrain from making any judgments on the implications of the results for the choice of policies for the future or on decisions made in the past. We believe that there are a large number of implications that our presentation of facts has for policy, but discussion of those implications is best reserved for different papers. In that way, we can make the clearest statement of what exists in the empirical evidence.

In this spirit, we will not provide an overall conclusion, but rather a summary of the evidence presented above as we see it. The following are the main facts revealed by the synthesis of the empirical evidence on restructuring in transition economies:

1. Privatization is strongly associated with more enterprise restructuring. However, the evidence varies between geographical regions. The empirical literature resoundingly endorses the hypothesis that private ownership produces more restructuring than does state ownership in the non-CIS region. In contrast, evidence is mixed for the CIS: the most reasonable interpretation of the evidence for that region is that there is no reason to conclude that either private ownership is superior to state ownership or the reverse.
2. Not surprisingly, given the previous point, the move from state to private ownership has a much stronger effect in the non-CIS countries than in the CIS countries. The privatization effect in the non-CIS countries is more than twice the size of that in the CIS countries.
3. Different types of private owners have very different effects. The most effective privatization (to foreigners) is 10 times as productive as the least effective privatization (to diffuse individual ownership). Managers are more than nine times as productive as diffuse individual ownership. Privatization to outsiders is associated with 50 percent more restructuring than is privatization to insiders (managers and workers). State ownership within traditional state firms is less effective than all other ownership types.
4. At a rough approximation, there are three groupings of owners. At the bottom, traditional state ownership and diffuse individual ownership have similar effects. In the middle, insiders, outsiders, workers, banks, and commercialized state ownership are clustered. The most effective owners are managers, concentrated individual ownership, investment funds, and foreigners.
5. Undifferentiated insiders are not as good owners as are managers and workers separately, implying that privatizing to heterogeneous groups might be worse than privatizing to homogeneous groups.
6. A notable result is that state ownership in commercialized enterprises is quite effective. This result appears across a wide range of studies, from Mongolia to Central Europe.
7. The relative effects of different owners vary between regions. Workers and outsiders are relatively better owners outside the CIS than in the CIS, while banks and concentrated individual ownership are more effective in the CIS than elsewhere. Indirect evidence suggests that these differences are

at least in part due to regional variations in the strength of the legal and institutional environment.

8. The effectiveness of privatization in the CIS, relative to non-CIS countries, has been diminished by two factors. First, ownership in the CIS is higher among those types of owners who are less effective everywhere. Second, the types of owners that need institutional help have received less assistance from institutions in the CIS than elsewhere.
9. Management turnover is associated with improved enterprise performance, in both the CIS and non-CIS countries. We find no evidence that the strengthening of managerial incentives, on its own, leads to more restructuring. Management turnover is much more effective in producing restructuring than are changes in incentives.
10. The hardening of budget constraints has had a beneficial effect on enterprise restructuring in the non-CIS countries. For the CIS, however, the effects of hardened budget constraints do not appear in the data on enterprise performance. Nevertheless, differences between regions are not clear: the non-CIS countries and the CIS show effects of similar magnitude, which are not significantly different from each other.
11. Product market competition has been a major force behind improvements in enterprise productivity in transition economies.
12. There is no evidence that competition from local producers has a stronger effect than does import competition.
13. Competition has a stronger effect in explaining enterprise restructuring in non-CIS countries than in CIS countries. This is due to import competition, which has a larger effect in the non-CIS than in the CIS countries. There are no discernible patterns in the way in which the restructuring effects of domestic market structure differ between the CIS and non-CIS countries.
14. Restricting ourselves to enterprise-level empirical studies of the determinants of enterprise restructuring, as we do in this paper, there is only a relatively small amount of evidence on the importance of institutions.
15. The literature suggests that when effective institutions are lacking, costly substitutes emerge in their place. This, in turn, implies that benefits could flow from second-best measures in other policy areas. Institutional development can foster progress in two ways, by helping to moderate the deleterious effects of suboptimal policies and by creating fertile territory for the implementation of first-best policies.
16. A central finding of the paper is that transition policies have had similar effects on the restructuring process in CIS and non-CIS countries in terms of direction, but not in terms of economic or statistical significance. In particular, privatization, hardened budget constraints, and product market competition all appear to be important determinants of enterprise restructuring in non-CIS countries, while they are less obviously so in the CIS. The evidence suggests, but not with any great certainty, that the difference in impact is due to the varying degree of institutional development between the two regions

References

Anderson, James H., Georges Korsun, and Peter Murrell. 1999. "Ownership, Exit, and Voice after Mass Privatization: Evidence from Mongolia." *Economics of Transition* **7**(1): 215–43.

Anderson, James H., Young Lee, and Peter Murrell. Forthcoming. "Competition and Privatization Amidst Weak Institutions: Evidence from Mongolia." *Economic Inquiry*.

Balcerowicz, Leszek. 1995. *Socialism, Capitalism, Transformation*. Budapest: Central European University Press.

Barberis, Nicholas, Maxim Boycko, Andrei Shleifer, and Natalia Tsukanova. 1996. "How Does Privatization Work? Evidence from the Russian Shops." *Journal of Political Economy* 104 (4): 764–790.

Berliner, Joseph. 1976. *The Innovation Decision in Soviet Industry*. Cambridge, Mass.: MIT Press.

Black, Bernard, Reinier Kraakman, and Anna Tarassova. 1999. "Russian Privatization and Corporate Governance: What Went Wrong?" Working Paper 178, Stanford Law School.

Blanchard, Olivier, and Michael Kremer. 1997. "Disorganization." *Quarterly Journal of Economics* 112(4): 1091–1126.

Boycko, Maxim, Andrei Shleifer, and Robert W. Vishny. 1995. *Privatizing Russia*. Cambridge, Mass. and London: MIT Press.

Claessens, Stijn and Simeon Djankov. 1998. "Politicians and Firms in Seven Central and Eastern European Countries." Policy Research Working Paper 1954. World Bank, Washington D.C.

———. 1999. "Enterprise Performance and Management Turnover in the Czech Republic." *European Economic Review* 43**(**4–6): 1115–1124.

Coffee, John C., Jr. 1996. "Institutional Investors in Transitional Economies: Lessons from the Czech Experience." In Roman Frydman, Cheryl W. Gray, and Andrzej Rapaczynski, eds., *Corporate Governance in Central Europe and Russia*. Budapest: Central European Press.

———. 1999. "Privatization and Corporate Governance: The Lessons from Securities Market Failure." *Journal of Corporation Law* 25: 1–39.

Djankov, Simeon. 1999. "The Enterprise Isolation Program in Romania." *Journal of Comparative Economics* 27(2): 281–293.

Djankov, Simeon, and Peter Murrell. 2000. "Enterprise Restructuring in Transition: A Quantitative Survey." http://www.bsos.umd.edu/econ/murrell/.

European Bank for Reconstruction and Development (EBRD). 1998. *Enterprise Performance and Growth: Transition Report*. London.

———. 1999. *Ten Years of Transition: Transition Report*. London.

Fox, Merritt, and Michael Heller. 1999. "Lessons from Fiascos in Russian Corporate Governance." Working Paper 282. William Davidson Institute, University of Michigan Business School, Ann Arbor, Michigan.

Frydman, Roman, Cheryl Gray, Marek Hessel, and Andrej Rapaczynski. 1999. "When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in the Transition Economies." *Quarterly Journal of Economics* 114(4): 1153–1191.

Frydman, Roman, Marek Hessel, and Andrej Rapaczynski. 1998. "Why Ownership Matters? Entrepreneurship and the Restructuring of Enterprises in Central Europe." New York University Working Paper.

Granick, David. 1987. *Job Rights in the Soviet Union: Their Consequences*. Cambridge: Columbia University Press.

Havrylyshyn, Oleh, and Donal McGettigan. 1999. "Privatization in Transition Countries: A Sampling of the Literature." IMF Working Paper WP/99/6.

Hendley, Kathryn, Peter Murrell, and Randi Ryterman. Forthcoming. "Law Works in Russia: The Role of Legal Institutions in the Transactions of Russian

Enterprises." In Peter Murrell, ed., *Assessing the Value of Law in Transition Economies*. Ann Arbor, Michigan: University of Michigan Press.

Johnson, Simon, Daniel Kaufmann, and Andrei Shleifer. 1997. "The Unofficial Economy in Transition." *Brookings Papers on Economic Activity* 0(2): 159–221.

Johnson, Simon, John McMillan, and Christopher Woodruff. 1999. "Why Do Firms Hide? Bribes and Unofficial Activity After Communism." Center for Economic and Policy Research (CEPR) Discussion Paper 2105, London.

Kaufmann, Daniel. 1994. "Diminishing Returns to Administrative Controls and the Emergence of the Unofficial Economy: A Framework of Analysis and Applications to Ukraine." *Economic Policy* 9(19): 51–69.

Kornai, Janos. 1979. "Resource-Constrained Versus Demand-Constrained Systems. *Econometrica* 4(4).

———. 1986. "The Hungarian Reform Process: Visions, Hopes and Reality." *Journal of Economic Literature* 24(4): 1687–1737.

———. 1990. *The Road to a Free Economy*. New York: Norton.

———. 1992. *The Socialist System: Political Economy of Communism*. Princeton University Press.

———. 1998. "The Place of the Soft Budget Constraint Syndrome in Economic Theory." *Journal of Comparative Economics* 26(1): 11–17.

Korsun, Georges, and Peter Murrell. 1995. "The Politics and Economics of Mongolia's Privatization Program." *Asian Survey* 35(5): 472–486.

Lipton, David, and Jeffrey Sachs. 1990. "Creating a Market Economy in Eastern Europe: The Case of Poland." *Brookings Papers on Economic Activity* 1: 75–148.

Maskin, Eric. 1999. "Recent Theoretical Work on the Soft-Budget Constraint." *American Economic Review* 89(2): 421–425.

McKinsey Global Institute. 1999. *Unlocking Economic Growth in Russia*. Washington, D.C.

McMillan, John, and Christopher Woodruff. 1999a. "Interfirm Relationships and Informal Credit in Vietnam." *Quarterly Journal of Economics* 114(6): 1285–1320.

———. 1999b. "Dispute Prevention without Courts in Vietnam." *Journal of Law, Economics, and Organization* 15(3): 637–658.

Murrell, Peter. 1990. "Behavioral Regularities of Socialist Systems." *The Nature of Socialist Economies: Lessons from Eastern European Foreign Trade*. Princeton, N.J.: Princeton University Press.

———. 1992. "Evolution in Economics and in the Economic Reform of the Centrally Planned Economies." In Christopher Clague and Gordon C. Rausser, eds., *Emergence of Market Economies in Eastern Europe*. Cambridge, Mass. and Oxford: Blackwell Publishers.

Nellis, John. 1999. "Time to Rethink Privatization?" IFC Discussion Paper 38, World Bank, Washington D.C.

North, Douglass C. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge, Mass., New York, and Melbourne: Cambridge University Press.

Pinto, Brian, Marek Belka, and Stefan Krajewski. 1993. "Transforming State Enterprises in Poland: Evidence on Adjustment by Manufacturing Firms." *Brookings Papers on Economic Activity* 23(1): 213–261.

Pohl, Gerhard, Robert E. Anderson, Stijn Claessens, and Simeon Djankov. 1997. "Privatization and Restructuring in Central and Eastern Europe: Evidence and Policy Options." World Bank Technical Paper 368. The World Bank, Washington D.C.

Prasnikar, Janez, and Jan Svejnar. 1998. "Investment and Wages during the Transition: Evidence from Slovene Firms." Davidson Institute Working Paper 184.

Schaffer, Mark. 1998. "Do Firms in Transition Economies Have Soft Budget Constraints? A Reconsideration of Concepts and Evidence." *Journal of Comparative Economics* 26(1): 80–103.

Shleifer, Andrei, and Robert Vishny. 1994. "Politicians and Firms." *Quarterly Journal of Economics* 109(4): 995–1025.

Stiglitz, Joseph. 1999. "Whither Reform? Ten Years of the Transition." Paper presented at the Annual Bank Conference on Development Economics, Washington, D.C., April.