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Research for Action 39

**The Determinants of
Economic Performance
in Transitional Economies**

The Roles of Ownership,
Incentives and Restructuring

Derek C. Jones

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UNU World Institute for
Development Economics Research
(UNU/WIDER)

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This study has been prepared within UNU/WIDER research on the Transition Strategies, Alternatives and Outcomes (Economic Theories and Strategies of the Transition), which is co-directed by Professor Giovanni Andrea Cornia and Professor Vladimir Popov.

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LIST OF ACRONYMS

CEO	Chief Executive Officer
CIS	Commonwealth of Independent States
EBRD	European Bank for Reconstruction and Development
ESOPS	Employee stock ownership plans
GDP	Gross domestic product
HD	Human development
ILO	International Labour Organization
LC/S	Labour costs to sales
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary least squares
STE	Soviet type economy
TC/S	Total costs to sales
TVE	Township and village enterprise

FOREWORD

This study by Derek C. Jones continues and augments UNU/WIDER's research on the economics of transition started in the early 1990s and expanded substantially since 1996. UNU/WIDER is currently carrying out three major projects on transition economies.

The first project – Economic Shocks, Social Stress and the Demographic Impact of Sudden Impoverishment – seeks to explain the recent unfavourable fertility and mortality changes observed in economies (mostly in Eastern Europe and former Soviet republics, but also elsewhere) hit by sudden economic shocks and mounting uncertainty. The second project – Poverty, Income Distribution and Well-Being in Asia During Transition – focuses on social consequences of reforms in Asian transition economies.

The third project – Transition Strategies: Alternatives and Outcomes – is aimed at comparing different models of transition observed so far in East European countries, the former Soviet Union, China, Mongolia and Vietnam. The emphasis of this latter project is not only on strategies of transition (shock therapy versus gradual reforms, etc.) but also on the outcomes of the process. We try to establish what market stereotypes are emerging in the post-socialist world (income and asset distribution; the role of the state; industrial structure and international trade specialization) and what patterns of long term development will prevail in these countries in the future.

Being part of this third research project, this study examines recent patterns of change in ownership and control in East European countries (Bulgaria and Baltic states) as well as in Russia, with an aim to explore how these changes affect economic restructuring and efficiency. The paper focuses on employee-ownership since, somewhat unexpectedly, privatization in transition economies led to the wide proliferation of enterprises owned by work collectives.

The conventional property rights theory predicts that private firms should be more efficient than state-owned companies; that enterprises controlled by outsiders should be more efficient than that controlled by insiders; and that manager-controlled companies should be more efficient than worker controlled companies. The author tests all such theses on survey-based data and does not find any conclusive evidence to support them – which is consistent with the results of the other recent studies reviewed in the paper. Even more interesting, the author reports that in many instances privatization did not produce any fundamental changes in the inherited patterns of corporate governance, but rather served to strengthen managerial control. That some degree of employee participation in ownership and control may be beneficial for performance, and that there is a link between managerial incentive schemes and the productivity of firms.

Derek C. Jones arrives at conclusions which are strikingly consistent with those reached in another UNU/WIDER study by Laixiang Sun on *Emerging Unorthodox Ownership and Governance Structures in East Asia*. This latter study argues that the performance of different business entities depends mostly not on the formal ownership and control, but rather on the incentive structure and type of budget constraints.

I enthusiastically recommend the reading of this study to academics, policy makers and takers, and professionals interested in the well-being and future of transition economies.

Giovanni Andrea Cornia
Director, UNU/WIDER
August 1997

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Derek C. Jones
London, July 1997

ABSTRACT

This paper reviews empirical evidence for key matters concerning new patterns of corporate governance and the determinants of economic performance in transitional economies. Many findings reported draw on new and unusual data for large samples of firms in the Baltic Republics, Russia and Bulgaria, and sometimes the data are in the form of panels.

In Russia and Bulgaria we find that privatization and early transition typically have not produced fundamental changes in inherited patterns of corporate governance but, rather, have served to strengthen managerial control. Econometric evidence for Russia, the Baltic Republics and Bulgaria points to the beneficial effects of structures that provide for some degree of employee participation and/or employee ownership. For both managerial pay systems and compensation schemes for other workers, econometric evidence of the beneficial effects of schemes which provide for earnings being related to firm performance is reported. In examining restructuring and the search for packages of policy measures that facilitate enhanced enterprise performance, consistent with theory we find evidence of the existence of positive feedback – for example between different ownership structures and forms of compensation. However, in attempting to uncover broad bundles of restructuring initiatives to date empirical work has made only limited progress.

Our findings point to the importance of *microeconomic* factors in determining economic performance and suggests that specific institutional features are an important influence of economic outcomes in different transitional countries and that widely differing ownership structures may be most appropriate when institutional contexts vary.

I INTRODUCTION

The principal aim of this paper is to examine for transition economies empirical evidence for key matters concerning the determinants of economic performance. While selected macro-economic evidence is reviewed, our focus is on particular microeconomic influences, notably different forms of private ownership (especially employee ownership) and alternative forms of compensation (especially new incentive systems for managers), though evidence on broader combinations of changes is also considered. Many findings draw on new and unusual data for large samples of firms in the Baltic Republics, Russia and Bulgaria, and sometimes the data are in the form of panels.¹

We continue by reviewing the essential features of the conventional theoretical wisdom. In the main it is argued that, for effective economic performance, what is needed in the former planned economies is more *liberalization*, key features of which include privatization (with outsider ownership strongly preferred to ownership by insiders) and pervasive competition in all markets (e.g. EBRD 1995 and 1996). However, examination of the available macro evidence (e.g. de Melo, Deninzer and Gelb 1995; World Bank 1996), as well as evidence derived from some new exercises, suggests that support for this thesis often is quite weak. We conclude that, at this stage, the heterogeneity and special conditions of transition economies mean that more modest objectives may be more appropriate than the search for general conclusions on the economic determinants of systemic performance.

A more fruitful path may be to concentrate on microeconomic studies; in the rest of the paper we follow that direction. Building on a long tradition of work in comparative systems that stresses the role of organizations that influence decision-making and motivation by economic agents in influencing economic performance, first we discuss conceptual issues concerning relevant microeconomic institutions, especially new patterns of enterprise ownership and control and incentive systems. The *form* of privatization is all the more salient because some types, notably employee ownership, which in general is unwelcomed by economists, unexpectedly has proven to be a widespread feature of the privatization process in several transition economies (Nuti 1995; Vaughan-Whitehead and Uvalic 1997). Based on preliminary findings, we conclude that there does not appear to be much support for the claim that employee-owned firms typically are worker-controlled. Our findings suggest that often privatization has not produced fundamental changes in inherited patterns of corporate governance but rather has served to strengthen *managerial* control. (Indeed these patterns may sometimes be more evident in privatized firms than in firms that have

¹ The process of data collection is ongoing, hence many findings are preliminary and represent the first stage in a longer term, cross national project. Some of the work reported herein draws on other papers, notably Jones (1995); Jones and Weisskopf (1996); Jones and Kato (1996); Jones and Mygind (1997a, 1997b); Jones, Klinedinst and Rock (1996); Jones and Nikolov (1997); and Spenner *et al.* (1997).

remained in state-ownership.) Moreover, there is no strong evidence that the key obstacle to enhanced performance is employee ownership; indeed enterprise performance is often enhanced by employee ownership. We conclude that there is no strong evidence that a single form of private ownership is more efficient or that rapid privatization is always to be encouraged.

In examining evidence on incentive systems, special attention is given to managerial pay systems. Econometric evidence on the determinants of executive compensation in transition economies (e.g. Jones and Kato 1996) points to the key role of well-designed managerial incentives for successful transition. In addition we report findings for other countries which suggest that economic incentives for non-managerial workers also play an important role in influencing economic performance.

Finally we consider the literature which searches for *packages* of complementary reform initiatives to facilitate restructuring. In part because of the strong conceptual basis (e.g. Friedman and Johnson 1996), this is a very promising line of research. However, to date there is a large gap between theory and empirical work. In searching for feasible bundles of restructuring initiatives, empirical work has made only limited progress.

II THE CONVENTIONAL WISDOM AND MACRO EVIDENCE

2.1 Theoretical background²

There are several interrelated dimensions to the conventional wisdom in this broad area.³ For many, what is of most importance in creating systemic efficiency is competition. It is argued that when there are competitive markets there is a sharpening of effort by all economic agents, especially by managers, thus leading to enhanced performance by firms (e.g. Stiglitz 1994). A reduction in monopoly power is expected to result in less organizational slack, to enhanced incentives for investment expenditures by firms and to a much more dynamic environment. To foster competition requires several measures, in particular a de-monopolization policy to break up firms from the past that typically were deemed to be far too big. Also firms must operate under hard budget constraints and in open markets. One consequence that would be expected from all of this is the development of a radically altered sectoral composition of firms with, unlike in the past, far less emphasis on industry (e.g. Hare and Hughes 1994).

It is argued that facilitating the entry of new private firms (sometimes called 'privatization from below') will have a vital role to play in producing a more efficient economy (Brezinski and Fritsch 1996). Together with the privatization of former state-owned firms (privatization from above), spawning the entry of new private firms which operate in competitive markets arguably has a vital role to play in stimulating competition (Estrin and Cave 1993). New firms are needed to help to plug the 'socialist red hole' – a size distribution of firms in the past in which small firms were virtually absent.⁴ Policies should be introduced which help to spawn the entry of new firms and thus create a very different size distribution of firms. New firms are also needed for reasons of dynamic efficiency, to facilitate Schumpeter's process of creative destruction. Also, in view of the inherited distorted industrial structure, with too much emphasis on industry, policies should aim to encourage exit from those areas and entry into other sectors.

While not everyone will agree that this is an accurate portrayal of the conventional wisdom in all respects, the above presentation is useful insofar as it carries with it a

² For recent discussions, especially concerning transition economies see Stiglitz (1994), World Bank (1996), EBRD (1996), Brezinski and Fritsch (1996) and Estrin and Caves (eds. 1993). Also, see Nickell (1996) and Porter (1990).

³ Besides those themes which we discuss here, other themes involve stressing economic distortions that were inherited by the transition economies. Another theme which is discussed below is that systemic efficiency (as well as individual firm efficiency) demands that private ownership be the norm and that privatization is rapidly introduced to help to make the private sector grow rapidly.

⁴ For evidence on size distribution for the Bulgarian case, see Jones and Parvulov (1995).

clear set of policy implications. The most successful economies are expected to be those which have introduced those policies which best promote entry of new firms and competition. In turn the expectation is that, other things equal,⁵ systemic efficiency will be higher in economies where there is: lots of competition in all markets; much growth in the number of new firms; an industrial sector that is much diminished in importance within the economy; and a size distribution of firms that is being tilted towards small firms.

Equally, it is clear that there are views which differ quite substantially from mainstream theory in important respects. For example, the conventional wisdom concerning the beneficial role of competition ignores or downplays the possible advantageous effects of cooperative behaviour amongst firms that may exist in some circumstances (e.g. Aoki and Kim 1995). Mainstream theory tends to underestimate the possible role of network capital and the size of transactions costs. As Ickes and Ryterman (1993) have shown some of these matters are potentially likely to be especially important in at least some transition economies that previously were very integrated and where markets are often incomplete. In addition, in advocating the entry of new small firms, it sometimes seems as though the view is that economies of scale are always quickly exhausted and that there are little benefits from size.⁶ Also, in its emphasis on the role of markets, mainstream theory also tends to underestimate the vital role of the creation of new institutions to support a mixed economy and to proceed as though adjustment costs are small. If we take some or all of these arguments on board then, compared to the mainstream view, the empirical implications are much more ambivalent (and the difficulties of undertaking empirical work in the turbulent conditions confronting the transition economies are much more difficult).

In appraising the available macro-evidence concerning the factors influencing systemic performance in transition economies, we note that, for the most part, empirical work is confined to traditional areas – such as the impact of differences in macro policies on major macro indicators like inflation and growth (e.g. Fischer *et al.* 1996). Many note that the data on economic outcomes during early transition indicate much more diversity than many had initially predicted (e.g. Blanchard 1996). Importantly, these studies often find that, in accounting for variation in performance across countries, differences in legacies and institutions matter much. Success is not just a matter of letting the planners move out and markets move in.

In the main there do not appear to be many studies which have attempted to test particular hypotheses along the lines described above, for example the hypothesis that there will be strong links between the spread of competition and systemic performance. However, a notable exception is de Melo, Deninzer and Gelb (1995) who have undertaken a much more ambitious analytical exercise in an attempt to uncover the factors behind differences in systemic performance. They draw on several dimensions of

⁵ Of course, in practice this will not be the case. For example, there are large differences in initial conditions, e.g. countries' levels of development.

⁶ For a review of the arguments and evidence on the value of bigness for the case of China, see Nolan (1996).

orthodoxy to construct a liberalization *index* and then find evidence of links between that index and systemic indicators of performance, mainly the growth of GDP. However, while acknowledging the difficulties that confront pioneers, like many (e.g. Murrell 1996; Brada 1996) we are dubious as to the reliability and the interpretation of these empirical findings. In particular, the theoretical underpinnings of the index itself are rather weak. When constructing such a composite index there is no generally accepted theory with which to guide the aggregation of the 'scores' on different facets of liberalization. Not only are there problems of aggregation and the weighting of components, but also there is the equally difficult matter of which items to include in the overall index. In any event, even the attempts to link macro indicators and the cumulative liberalization index during 1989-95 have not yielded very impressive results.

While at this stage of knowledge, we view attempts to construct and explain variation in *aggregate* indices as rather premature, there may be value in more disaggregated exercises – i.e. in attempting to explain variation in various dimensions of liberalization (e.g. the components of the EBRD rankings) and relationships between such measures and macro outcomes. At the same time, we recognise that empirical implementation of such exercises is an extraordinarily difficult task that must involve heroic assumptions (e.g. concerning the nature of other factors that potentially influence performance.)

Notwithstanding these difficulties, in an attempt to test some of the hypotheses outlined above, we undertook some exploratory exercises of this type. For example, the conventional wisdom implies that one would expect to find a relationship between the growth of the private sector and economic performance. To try to see whether or not there is evidence of links between the growth rate of the larger private sector and *systemic* improvements in economic performance we estimated simple, first-cut OLS regressions of the form:

$$y = aX + b + e$$

where:

y is the average annual rate of growth (or the level) of some macro indicator, for example the average annual rate of growth of GDP during a particular period;

X is the average annual rate of growth (or the level) of the private sector;

and e is an error term.

From our preliminary estimates that use this approach, in the main we do not find that there are statistically significant links between the growth of the private sector and GDP.⁷

⁷ The key data which we use in these exercises are derived mainly from information provided in issues of the EBRD Transition Reports. While sometimes these data are available annually for all years during the period 1989-96, unfortunately often the data are quite patchy. For example, information on the size of the

Hence, at this stage, we conclude that the available macro evidence does not give good guidance on the question of the determinants of economic performance. We have strong reservations as to our technical abilities to construct reliable aggregate indices and the more parsimonious approach (to see if there are relationships between a component of the index and the economic outcome of interest) encounters major empirical problems. To date neither approach has yielded strong evidence. While it is, of course, important to continue empirical macro work of this kind, at this stage we assume that empirical work with a more microeconomic focus may be a more promising strategy in searching for the sources of economic success. Hence, in the balance of the paper we turn to micro evidence where we note that already other work has uncovered stronger evidence on some points; for example evidence of the beneficial effects of new private firms and the key role of human capital (e.g. Barberis *et al.* 1996).

private sector (as a per cent of GDP) is not available at all for Moldova and Latvia, while for many countries this measure is available only for some years. Also, the estimates of the size of the private sector that are reported often are not based on consistent measures; for example some include and others exclude the cooperative sector (as part of the private sector). In our preliminary estimates we respond to these difficulties by trying to make the most use of the available data by estimating several different regressions that differ in the combinations of years and countries.

For example, when we analyse the relationship between the average rate of growth in the private sector during 1992-94 and the average rate of growth in GDP during that period, we find:

$$y = 27.62 + 0.105 \quad (N=18; R^2 = 0.003).$$

Also we attempted to see whether there was support for the view that other indicators of liberalization such as competition policies and the number of new firms, led to better socio-economic outcomes. Again our strategies were exploratory; e.g. the use of simple regression analysis to see if there are relationships between a particular measure of change and conventional indicators of success, notably GDP. Based on these preliminary findings we do not find that there is a close link between either the extent of competition or the number of small firms and systemic efficiency.

III MICROECONOMIC INFLUENCES ON ECONOMIC PERFORMANCE: CONCEPTUAL ISSUES

In this section we discuss conceptual issues which stress the implications of particular micro-economic dimensions of the firm for economic performance. Building on a long tradition of work in comparative systems that stresses the role of organizations that influence decision-making and motivation by economic agents in influencing economic performance (e.g. Ben-Ner *et al.* 1993) our emphasis is on two particular themes – different forms of ownership and control and incentive systems. However, we conclude by examining issues relating to the alleged benefits of considering broader and complementary combinations of measures.

3.1 The preferred form of privatization

The theoretical case for privatization rests on several arguments (e.g. Boycko *et al.* 1996) including an alleged need for depoliticization and the view that it is only non-state forms of ownership that will produce an environment conducive to nurturing financial discipline in firms. While not everyone accepts these views and there is also empirical evidence, both for China as well as for state-owned firms in former communist countries transition (e.g. Pinto *et al.* 1993 for Poland) which suggest that the issue is not as clear cut as the proponents believe. In this section we accept the need for a large non-state sector and instead discuss the arguments for the *preferred form of private ownership*.

In considering these issues, the dominant approach in the corporate governance literature is based on classifying firms by ownership. An 'open joint-stock company' issues publicly traded ownership shares; the company's assets are owned by individuals in proportion to their share holdings, and the firm is controlled by those who own a controlling packet of shares. A 'closely held firm' is owned and operated by a person or group closely attached to the firm as owner(s) and/or manager(s). In the case of open joint-stock companies, two alternative possibilities with respect to the exercise of effective control over enterprise operations may be distinguished: predominant ownership by *insiders* or by *outsiders* (Bim, Jones and Weisskopf 1993). Insiders include all the people working in the enterprise. An insider-controlled firm may be effectively controlled by its managers, by its workers (either directly or indirectly, e.g. via a workers' council), or by some combination of the two. Outsiders include those whose attachment to the enterprise is based on an ownership stake rather than on work within the enterprise. Outsiders may be individual owners or shareholders, or they may be institutional shareholders (i.e. financial intermediaries such as investment trusts.).

The case for open joint-stock companies – and an active capital market in company shares – rests mainly on the putative advantages of such a system in raising capital funds, in allocating those funds flexibly among competing enterprises and in disciplining managers. Outsider control means that agency problems will be minimized

and enterprise decisions will be guided primarily by the objective of maximizing returns on investors' capital. The justification for this approach is that only outsiders can be expected to proceed rapidly with enterprise restructuring, not hesitating to liquidate unprofitable assets and to dismiss redundant workers; moreover, outsiders are more likely to be able to mobilize new resources to invest in the enterprise and less likely to be able to evoke and to rely on soft government budget constraints. Critics question whether stock markets actually perform their intended functions effectively, especially in the context of formerly centrally planned economies with very underdeveloped capital market institutions. Advocates of closely held firms argue that such firms are more likely to be characterized by a focused, tightly-knit, flesh and blood ownership group with a strong stake in enterprise performance – as compared with the alternative of external ownership of joint stock companies.

The outsider-control model has several variants depending on the locus of effective control and the terms on which shares are made available to buyers. On the one hand, there could be open sale of shares in corporatized state enterprises in the hope that a 'strategic (core) investor' (domestic or foreign) will turn up and take over control, or in the expectation that an active stock market will discipline management even in a context where share ownership is widely dispersed among many small investors. On the other hand, there could be established strong financial intermediary institutions (holding companies, mutual funds, etc.) which are expected to buy controlling packets of shares in companies and proceed to restructure and monitor them. There also exists, however, the possibility of a different outcome in the event that no external strategic investor takes over control (because shares are diffused to many small investors, or because the bulk of the shares can't be sold and remain in the hands of state property agencies), and no appropriate financial intermediary institutions emerge, and no well functioning capital market develops. This default outcome is that the locus of effective control over the 'privatized' state enterprises really does not change – it continues to be run by previous managers, influenced by workers, with government authorities continuing to take a strong interest in the enterprise.

In *insider controlled* firms, the security and stability of the enterprise and its work force will weigh more heavily in decision-making. Many economists believe that insider ownership in general, and worker ownership in particular, will result in economic performance inferior to that of externally owned and controlled firms (e.g. Hinds 1990). It is argued that the perceived interests of enterprise workers are likely to conflict in important respects with the long-run interests of their enterprise. In particular it is held that in firms in which non-managerial workers dominate, that there will be under-investment in capital equipment, that productivity will be low as worker-owners expend little effort and that layoffs will be resisted. The conventional wisdom is that significant employee ownership will have detrimental effects on enterprise performance and undermine the ability of newly privatized firms to undertake meaningful restructuring (e.g. Frydman *et al.* 1993b).⁸ For reasons including allegedly superior solutions to

⁸ There are, of course, many other forces besides ownership structure that potentially affect enterprise performance. Historical factors and the institutional and regulatory framework may be especially important in firms in transitional economies; see Clague and Rausser (1992); Stark (1992). In an uncertain

agency problems, it is argued that when insiders dominate, the most efficient form of insider ownership is manager (rather than worker) ownership (e.g. Boycko *et al.* 1996).

There are several reasons why the framework outlined above may not always be most appropriate for transition economies and why an alternative conceptual framework is needed. For example, Aoki and Kim (1995) note that much of the traditional analysis assumes an idealized view of advanced market economies and that the argument for the promotion of outside ownership and efficient securities markets ignores crucial matters such as inherited factors and assumes competitive product and labour markets. Especially in the context of transition economies, Earle and Estrin (1996) argue that the effects of employee ownership may be dependent on a host of factors such as market conditions and that, in particular cases, some forms of employee ownership may be the best feasible solution to the choice of ownership structure.

While we are in agreement with most of these observations, we wish to emphasize what we believe is a particular shortcoming of the mainstream, specifically the use of a conceptual framework that in its conception of organizational processes is quite narrow. In particular there is a tendency to identify ownership with control and to take an overly static view. To illustrate these points, elsewhere we have developed a typology of ownership arrangements (e.g. Ben-Ner and Jones 1995) to investigate firms in the west. In that typology, it is noted that ownership of an asset consists of two central rights – the right to control its use and to enjoy its returns. Diverse allocations of control and return rights between two major groups in organizations, employees and owners of capital who are not employees are identified (see for example Table 1).

This alternative conceptual framework may also be used to examine the expected economic effects of different ownership structures. While the argument is developed more fully elsewhere (e.g. Ben-Ner and Jones 1995), contrary to the conventional wisdom, it is argued that some types of insider owned structures can be justified on several grounds (Ben-Ner 1993). This is shown to be especially the case when insider owned structures exist in combination with participatory human resource management policies. Insider ownership and control is arguably more conducive to enterprise stability and long term employment relationships and thus may contribute to better economic performance in a number of ways. The closer alignment of the goals of the different economic agents within firms may better motivate workers to join in restructuring efforts and to better use their accumulated experience and firm-specific knowledge. In particular, if enterprise success is reflected in a higher stock price, ownership by non-managerial employees (as well as managers) will have a direct positive effect; the interest of the firm is then more aligned with the interest of its employees. For several reasons, these interest alignment effects can be expected to be more significant in firms in which the precise institutional arrangements enable broad participation by employees (not restricted to executives) and in which employee ownership constitutes a significant part of the average employee's wealth.⁹

environment managers and workers may form strategic alliances and focus on short term survival and the scale of inter-enterprise debt is also clearly important; see Ickes and Ryterman (1993).

⁹ Analogous arguments can be developed for profit sharing. While many argue that profit sharing plans are subject to the 'free rider' problem, arguably this will be alleviated when workers develop a strong long-

TABLE 1
 TYPOLOGY OF PARTICIPATION IN CONTROL AND IN RETURN RIGHTS

Financial return rights held by employees	Participation/control rights held by employees			
	None	Participation in control	Sharing of control	Dominant control
None	OA1 Conventional firms	OA2 Quality circles involving majority of workers	OA3 Employee reps on board: e.g. Germany	OA4 British ICOM*
Small	OA5 Profit sharing; British SAYE schemes e.g. Sainsbury	OA6 Profit sharing with participation programmes	OA7 e.g. Swedish co-determination plus convertibles	OA8 British retail co-ops, ICOM*
Moderate	OA9 ESOPs	OA10 Japanese ESOPs, Polaroid, Weirton	OA11 Producer co-ops	OA12 Producer co-ops
Majority	OA13 ESOPs	OA14 e.g. John Lewis Carl Ziess	OA15 e.g. United Airlines, Tullis Russell	OA16 Producer co-ops e.g. Italy, Mondragon, Allied Plywood

* Industrial Common Ownership Movement.

+ Employee Stock Ownership Plans: ESOPs could be placed in every cell in this grid except OA1. They come in all sizes, sometimes being used as the vehicle for 100% employee ownership and at others owning tiny minorities of the overall capitalization.

Note: The definition of control used here is percentage of board membership by non-managerial employees in the case of co-ops and percentage of equity elsewhere. This is an updated version of a grid which appeared in Ben-Ner and Jones (1995). Additional examples are mostly from Oakeshott (1997).

Goal alignment effects of employee participation via information sharing (e.g. small group activities) are more subtle (but not necessarily weaker) than effects through ownership. Small group activities may provide valuable opportunities for both management and workers to learn about each other in a more cooperative atmosphere than traditional collective bargaining settings, and thus develop stronger trust. With stronger trust, sharing vital business information with workers will help convince them that it is in their interest to improve productivity and firm performance. Various forms of employee participation may play an important role of providing employees a voice in the firm and thus reduce the costs of exit from the firm, saving specific human capital. In the absence of unions, these arrangements may provide the sole voice mechanism, while in the presence of unions they may supplement the direct voice mechanism of unions. Also, greater enterprise stability may encourage more salvaging of still useful capital stock, and it may help to avoid a cascade of business failures due to the

term commitment to the company and/or when workers engage in active peer monitoring. Also, information sharing can be thought of as a mechanism to facilitate the development of a long term commitment to a firm by its workers. It follows that the favourable productivity effects of financial participation are complemented by information sharing.

shutdown of one key enterprise in a productive structure still characterized by an inflexible network of input sources and output outlets.

At the same time it is important to recognize that the relationship between alternative ownership arrangements and individual motivation, individual performance, organizational structural variables and ultimately organizational performance is expected to be quite complex. In particular, while in general we expect to see a strong and mainly positive interaction between control and return rights, the relationship between employee ownership with balanced control and return rights on the one hand and productivity on the other hand is not monotonic. Rather, a well balanced employee ownership arrangement will initially induce a positive productivity effect, then, while combining moderate returns rights with comparable control rights, for reasons such as agency problems, the effect may become negative, and only when switching to dominant employee ownership that the effect becomes positive again, relative to the conventional firm.¹⁰

3.2 The preferred forms of compensation

In the main, the conventional wisdom is that more market-based arrangements are needed to replace the payment systems that existed under planning. Furthermore, for non-managerial workers, reflecting a preference for what are understood to be the dominant schemes in the west, the conventional wisdom would argue for system of time wages (or possibly individual piece rates). However, from the framework considered above, it is clear that more favourable effects on enterprise performance can be expected from alternative compensation systems, especially those that provide for participation in economic returns. Moreover, recent theoretical work on compensation suggests that in order to motivate employees to work harder and smarter when it is difficult to monitor their effort, various compensation practices may be appropriate, with the effectiveness of a practice varying with firm characteristics. Thus, Polachek and Siebert (1993) argue that larger firms and larger establishments have greater difficulty monitoring their workers and thus that group incentive schemes may be more appropriate in such cases.¹¹ Since average firm sizes in former state-owned firms are typically quite large and given the legacy of group-based (rather than individual) schemes of compensation in former planned economies, this suggests that group-based incentive schemes may be expected to be especially appropriate (and effective) for the case of transition economies.

Also it is believed that arrangements in Soviet type economies (STEs) resulted in acute incentive and motivational problems for managers (e.g. Bonin 1976; Weitzman 1976) and that reforms of the managerial labour market might be expected to produce success in overall reform during transition (e.g. Aghion *et al.* 1994). While top managers of 'firms' STEs were as clearly identifiable as their western counterparts, managers in STEs were posited to have much more limited autonomy or scope for discretionary power

¹⁰ Smith *et al.* 1995 also argue why employee ownership may be expected to have effects on enterprise performance that are enhanced by the presence of other forms of ownership, such as foreign ownership.

¹¹ For a more thorough discussion on these points see Jones and Pliskin (1997).

than top executives in western firms (Linz 1988).¹² The main component of managerial reward systems in STEs was a base wage, with limited variation with respect to success indicators such as plan fulfilment. Consistent with egalitarian values, the pay of top managers was a low multiple of the average wage. Indeed not only was the chief executive pay affected by the phenomenon of wage levelling, but in many industries in the past chief executives were not even amongst the highest paid.

To try to overcome the tendencies for managerial slack, risk aversion and the pursuit of a quiet life (Kornai 1992) that these arrangements would be expected to produce, the conventional wisdom is to argue for guaranteed pay for top executives. In part this reflects a view derived from agency theory. In addition, the empirical evidence for western firms is believed to find a link between executive pay and firm performance that is very weak, and also that efficient wages for top managers require very high wage differentials between managers and the average worker. Yet, in order to facilitate successful overall reform during early transition, the case for performance-based pay for managers seems to be strong. For instance, more market-oriented managerial behaviour will be encouraged when executive compensation is structured so as to provide pecuniary incentives for managers to pursue profitability.

In the context of early transition, downsizing of overstuffed state-owned firms and productivity increases appear to be key ingredients of successful reform. Arguably such adjustments will be facilitated when executive compensation is structured so as to reward managers for rational downsizing, productivity increases and corporate investment. Moreover there is a growing body of theoretical and empirical evidence which finds that executive compensation is highly responsive to firm performance, that wage differentials between executives and others need not be huge (e.g. see Kato and Rockel 1992 for comparative evidence for Japan and the USA), and that executive compensation tends to be lower in firms that belong to corporate groups (Kato 1997). Such attributes of executive compensation may have especial relevance given the egalitarian legacies in many former command economies and the possibilities of banks playing a monitoring role concerning corporate governance.

3.3 Restructuring: complements and substitutes

Thus far, in assessing factors which arguably affect the economic performance of firms, we have restricted attention to selected factors and also we have considered such factors rather narrowly. However, it is clear that reform requires change in many other areas (e.g. in organizational structure and product range). Moreover, there is a growing theoretical literature which argues that particular combinations of measures may be *complementary* (e.g. Milgrom and Roberts 1990) and '...increasing one element raises the payoff to increasing any other element' (Friedman and Johnson 1996). Measures for which beneficial interactive effects allegedly exist include providing for improved incentive systems for managers, macro stabilization, greater competition in all markets

¹² Knowledge of the nature and effects of the managerial labour market both during planning in STEs and during early transition typically is scant - for example, note the need to derive information on managers during communism from Russian emigrés, e.g. Linz (1988). See also Jones, Kato and Avramov (1995).

and the creation of effective corporate governance (e.g. Aoki and Kim 1995; Boycko *et al.* 1993).

Equally, some reform measures may be *substitutes* in that '...introducing one reform has less impact if another reform is already in place' (Friedman and Johnson 1996). Thus, the Chinese experience had led some to argue (e.g. Macmillan 1995) that ownership changes may not be needed but that instead '...contractual incentives (offered by the government to managers' can substitute for privatization' (Friedman and Johnson 1996).

We find that these lines of argument are persuasive. In part this is because some of the arguments in this area are quite consistent with our own discussion above concerning the benefits to introducing measures which combine participation in economic returns with participation in decision-making. Also, the arguments are reminiscent of views in the broader areas of human management resource practices that bundles of innovative practices have a bigger payoff than does the introduction of piecemeal reforms (e.g. Ichinowski 1995). Also, there is a growing body of empirical literature which suggests that restructuring in transitional economies is multi-dimensional (e.g. Pinto *et al.* 1993; Estrin *et al.* 1995). At the same time we note that theoretical work has not yet advanced to the stage at which it is possible to identify particular sets of complements and substitutes *a priori*, especially sets of feasible measures that are believed to operate in different countries and at different times. Hence, the operational value of this type of work may as yet be limited.

IV MICROECONOMIC EVIDENCE ON SOME FACTORS INFLUENCING ENTERPRISE PERFORMANCE

4.1 A review of existing evidence

Before reporting evidence based on our new data first we review existing evidence in the three areas of interest. Since several good reviews of work on some of these matters already exist – in particular see Svejnar (1996), EBRD (1995) and World Bank (1996) – here we briefly sketch some of the main findings from those reviews. We concentrate on the evidence for the case of Russia and also briefly discuss evidence for China (for evidence for other countries, especially the Visegrad countries, see the reviews mentioned above). The available evidence shows that while very different patterns of ownership are emerging within privatized Russian firms, in the majority of medium- and large-scale Russian enterprises, privatization predominantly has led to insider ownership. Moreover, this has typically facilitated managerial rather than worker control. Thus far, one of the largest bodies of evidence for Russian firms is survey data by Blasi (1994 and 1995).¹³ Using various measures for a non-random sample of enterprises, he finds that in 1993 worker ownership typically co-existed with managerial control and that this had not changed much a year later.

Other studies have also appeared which have begun to analyse in more detail diverse aspects of these changes in ownership, including relationships with enterprise performance. With some important exceptions (see on) typically the limited work to date has been undertaken for rather small samples of firms and employs methods that are predominantly qualitative and does not attempt to test hypotheses using statistical methods. While these studies for Russian firms tend to find that the performance of newly privatized firms typically disappoints, in the main the evidence that is presented to account for this record tends to be largely anecdotal.

Perhaps the best known exceptions are the several studies which draw on a data collection exercise organized by the World Bank for a representative sample of 394 manufacturing firms (e.g. Commander (ed.) 1996). For our purposes, the most useful study that draws on this data is Earle, Estrin and Leschschenko. (e.g. 1995).¹⁴ This paper provided evidence relevant to the conventional wisdom, namely that for reasons including easier access to capital markets, firms with outside ownership are expected to be more efficient than firms with insider ownership (e.g. Boycko *et al.* 1993). In addition, for reasons including allegedly superior solutions to agency problems, it is argued that the most efficient form of insider ownership is manager (rather than worker) ownership (e.g. Earle, Estrin and Leschschenko 1995; Boycko *et al.* 1996). To provide evidence on these propositions the authors are able to categorize firms by dominant

¹³ Some of these findings are similar to those reported earlier, e.g. by Ash and Hare (1994).

¹⁴ These studies cover a range of issues and together constitute an impressive body of work. For a review see Alfrandi and Lee (1995).

ownership and estimate a variety of regression models to examine relationships between indicators of restructuring (e.g. employment adjustment and capacity utilization) and ownership. However, in the main the authors find, at best, only weak evidence of such links especially for privatized firms with different dominant owners.¹⁵

There have also been some useful studies by the ILO, e.g. Standing (1995). In that paper, the ambitious aim is to identify, both in theory and in practice, firms that have '... exemplary labour and employment practices and mechanisms to ensure development in terms of skill, social equity, economic equity and democracy' (1995:3). After operationalizing a measure of 'human development' in the enterprise, the impact of differences in human development (HD) for enterprise performance is then evaluated by using data for 384 Russian firms. Preliminary empirical work suggests an inverse association between measures of performance such as labour costs/total costs and values of HD.

Whereas in the countries of the former USSR and Central and Eastern Europe, the most unorthodox form of ownership that has assumed greatest significance is employee ownership, in China diverse forms of ownership have emerged. Many of these clearly differ in key ways from traditional state or private ownership; sometimes the labels attached to these new forms of ownership are familiar (including employee ownership). However, attempts to *precisely* specify many of these new kinds of property rights (and the implications for corporate governance) have sparked much controversy. The difficulties are perhaps largest for the most famous of these new forms of ownership, the township and village enterprises (TVEs). For these, as Sun (1996) notes, a broad range of ownership forms are encompassed by this label including collective ownership by township and village communities and joint ownership by individual domestic shareholders.

Notwithstanding these definitional difficulties, it is abundantly clear that, according to a broad range of economic indicators, including productivity and growth, the economic performance of TVEs has been remarkable. Thus the annual rate of growth of total factor productivity is estimated to be as much as 12 per cent during a decade (Jefferson and Rawski 1994). Also, TVEs have been found to be at least as efficient as private enterprises (Pitt and Putterman 1992).¹⁶ In accounting for this outstanding track record some theorists (e.g. Weitzman and Xu 1994; Li 1996) have argued that the unorthodox community based ownership arrangements are a key factor. Moreover, in view of the distinctive cooperative culture in China and the existence of incomplete and imperfect markets, such ownership arrangements represent a sound institutional response to such circumstances. Taken as a whole these recent studies provide us with important information on several matters, for example on the *nature* and *effects* of the new forms

¹⁵ There are other studies of Russian firms that use multivariate analysis and which focus on issues other than links between corporate governance and economic performance. For example, to examine the links between market structure and enterprise adjustment, Ickes and Ryterman (1993) use data for 150 firms in five regions. They find strong support for their view that market structure plays an important role in the decision to adjust.

¹⁶ In addition employee-owned firms appear to have performed far better than the state-owned firms from which they emerged (Sun 1996:24).

of ownership and control in privatized firms in select countries. However, for several reasons, often there are important weaknesses with the available evidence. For one thing, often there is very little information on the dynamics of the new forms of ownership and control – existing information tends to be of a snapshot nature.¹⁷

Second, most microeconomic studies have been restricted to selected transitional countries, mainly the Visegrad countries, Russia and China.

Third, in many studies there are important gaps between conceptual frameworks and empirical strategies. Thus our alternative conceptual framework indicates that the degree of employee return rights (e.g., the percent of ownership by employees or the percent of profit allocated to employees) and its nature (e.g., current versus delayed compensation) and the specific form of employee control rights take (e.g., quality circles and self-managed teams) matter to performance. However, few studies (for the west, let alone transition economies) are able to include variables that capture the diversity in programmes of participation in returns and decision making, and hence their findings are biased in an unknown direction. Also, currently there are few data available at enterprise level with which to gauge what is actually happening with respect to the distribution and the dynamics of ownership, (as well as the relations between ownership and control). Moreover, differences in employee control measured at different levels of control rights held by employees may differ not only in magnitude but also in sign.¹⁸

Fourth, much empirical work which examines enterprise change in transition economies, uses rather *ad hoc* empirical strategies, rather than empirical approaches which are well grounded in established econometric frameworks. Finally, often the data that are used have important weaknesses, particularly an inability to employ reliable measures of key variables and also insofar as data sets that underpin empirical work seldom have been assembled scientifically.

¹⁷ At the same time, an implication of the conceptual framework reviewed in the previous section is that even at the best of times it will be difficult to do good empirical work in this area; in a context of systemic change these difficulties are greatly magnified and must lead us to be quite cautious in evaluating the evidence to date. For example, when examining the effects of privatization upon enterprise performance and enterprise adjustment, most studies include variables only on financial participation (return rights) or participation in decision making (control rights), but not both. This is extremely problematic because, as we have argued, there are strong theoretical reasons to believe that the two rights interact with each other and do so non-monotonically. The enormous difficulties of undertaking field work in transition economies means that studies must often be based on small samples, and that details on the often complex links between ownership and control are often very sketchy. As a result, there is not much systematic evidence concerning linkages between structures of ownership and formal mechanisms for control (e.g. board composition, joint labour management committees) and employee influence and the dynamics of ownership and formal control and employee influence. The omitted-variables problem is severe, and the estimates on employee ownership variables that arise from such studies may have the wrong sign.

¹⁸ In addition, most studies adopt an economic approach and concentrate on the link between a particular structure of ownership and organizational performance. However, both individual factors and structural organization variables affect organizational performance, and may do so in opposite ways, and empirical studies should investigate both types of variables. Also, whereas the theory on restructuring suggests that there may be important complementarities between different combinations of changes, most empirical work is unable to adequately take this into account as yet.

In the rest of the work reported here we attempt to show ways in which our findings may help to make progress on some of these matters and thus help in the search for the microeconomic determinants of enterprise success. For example we provide information on important aspects of the *dynamics* of certain processes, especially changes in ownership. Also, our findings, which are derived from our ongoing work, use micro data sets for large samples of firms in Bulgaria, Russia and each of the Baltic Republics. As such we extend the range of countries that have been covered in earlier work and also often use samples that may be more reliable than those used in much earlier work. Also, on some exercises, we apply econometric methods that have proven their usefulness in other contexts; for example, we use a production function framework to examine for the effects of ownership and control on productivity. Our findings, which are reported in greater detail elsewhere, are presented here under three main headings.¹⁹ We continue by presenting evidence on the nature, dynamics and effects of new forms of ownership and control.²⁰

4.2 The nature, dynamics and effects of ownership and control

4.2.1 *Russia*

To begin to provide additional information on some of these matters, we arranged for surveys to be administered to two samples of firms in the St. Petersburg region.²¹ The first of these samples was administered in 1993 to 72 manufacturing firms in St. Petersburg. All of the firms in the sample had operated as state-owned enterprises during the Communist era, but some had been privatized and others not. Sixty-seven of the 72 firms provided information that was usable. The second sample was administered in 1994 to 60 manufacturing firms; in this sample most of the firms had already been privatized. This was a completely different and smaller sample than in the previous year; nearly all of the firms that were approached provided at least partial information.²²

¹⁹ For a fuller discussion of these issues see for Russia Jones (1996); for the Baltic Republics, Jones and Mygind (1997); and for Bulgaria, Jones, Klinedinst and Rock (1996), Jones and Nikolov (1997) and Spenner *et al.* (1997).

²⁰ Note that these countries represent a good mix in terms of characteristics such as size and degree of liberalization. They provide a nice complement to other evidence most of which is for the Visegrad countries.

²¹ Again, this is part of an on-going data collection process that *eventually* will include detailed data that will be comparable in coverage across several countries and which will be collected in cooperation with the relevant statistical authorities. These data will cover many areas, including information on the distribution and amounts of ownership amongst employees, managers, key groups of outsiders and the state. Concerning employee involvement, there will be detailed information on structures and patterns of control over time by key agents, though the different institutional arrangements will likely mean that such information will not be directly comparable. By comparison, the data discussed in this paper are much more limited and the samples are largely samples of convenience.

²² In addition, to examine aspects of changes in compensation systems, we draw on a third and more recent sample for 110 firms in St. Petersburg for 1992-96. However, we are unable as yet to examine these data in any depth

TABLE 2
EMPLOYEE OWNERSHIP IN ST. PETERSBURG

PART A: FIRST SAMPLE

Share ownership by groups	Group	% of total share owned	
1. All firms:	Insiders, of whom		36.1
	- Employees	31.6	
	- Managers	04.5	
	Outsiders		63.9
			100.0
2. Privatized firms:	Insiders, of whom		62.8
	- Employees	55.1	
	- Managers	7.7	
	Outsiders		37.2
			100.0

PART B: SECOND SAMPLE

Distribution of insider share ownership (joint-stock firms)		
% of ownership	No. of firms	% of firms
75.01-100	13	35.1
50.01-75	11	29.7
25.01-50	8	21.6
10.01-25	5	13.5
00.00-10	0	0
	37	99.9
Distribution of outsider share ownership (joint-stock firms)		
% of ownership	No. of firms	% of firms
75.01-100	4	10.8
50.01-75	9	24.3
25.01-50	11	29.7
10.01-25	3	8.1
00.00-10	1	2.7
00.00	9	24.3
	37	99.9

The information we obtained from the first two samples on the structure of enterprise ownership is reported in Table 2, Parts A and B. The data in Part A show that, on average, firms in our first sample had 36 per cent insider ownership, of which 4 per cent was managerial ownership. But when we restrict attention to firms that had been privatized, the corresponding figures are considerably higher – 63 per cent and 8 per cent.²³ Among firms in the second sample (Table 2, Part B), we see that there is again evidence of substantial insider ownership in privatized (joint stock) firms. In almost two-thirds of the cases (24/37) insiders owned a majority of shares. In all cases there was some

²³ The outsider 63 per cent ownership includes private individuals, private firms and state agencies; in enterprises yet to be privatized, most if not all the shares are in the hands of state agencies.

insider ownership. As such these data are broadly comparable to overall patterns of ownership during this period; see, for example, the data assembled by Bogomolov and reported in Table 3.²⁴

TABLE 3
DISTRIBUTION OF OWNERSHIP IN PRIVATIZED RUSSIAN FIRMS

	4/94	12/94	6/95	7/96
Insiders: total	62	60	56	51
employees	53	49	43	35
managers	9	11	13	45
Non-state outsiders	21	27	33	45
State	17	13	11	4

Source: Bogomolov (1996).

Table 4 details different dimensions of employee involvement; again our findings are based on the two samples previously discussed. From the first sample we have data on board composition for 41 privatized firms in 1993 (see Table 4, Part A). These show that, on average, insiders accounted for about 45 per cent of members of the board of directors – considerably less than the average share of insider ownership. In most cases (26/41) employee representation on the board amounted to 10-25 per cent of the total (compared to employee ownership levels that average more than 55 per cent). By contrast, about 1 in 6 members on the board was a manager – about twice as high as the average level of managerial ownership.

From both samples we gathered information on employee perceptions of influence on four key issues. In both cases information was solicited both at the time when the questionnaire was administered (i.e. 1993 for the first sample, and 1994 for the second sample) as well as for an earlier time (1991 in each case). Data were gathered from both privatized and non-privatized firms. In assessing employee participation, a five point scale was used (with '1' representing a very low degree of employee influence, '2 and 3' reflecting moderate employee influence through mechanisms such as consultation and the provision of information, '4' indicating that management and workers jointly decided an issue and '5' reflecting employees perceiving that they alone make decisions on an issue). However, since there were no responses of '5', Table 4B contains only four categories.

From Table 4, Part B we see that, for firms in both samples, levels of employee influence were typically perceived as quite modest. Thus the bulk of respondents felt that in four issue areas – method of privatization, choice of supervisors, wage policy, and employment policy – there was either no employee influence (administration decides) or a modest amount of employee influence (falling well short of management and workers jointly deciding). For example, this is the case in 1993 for the first sample in 39/50 responses concerning

²⁴ Table 2 also provides information on the overall dynamics of ownership patterns in Russia. From this we see that: (i) the formal powers of insiders appear to be being matched more and more by those of outsiders; (ii) amongst insiders, much ownership by employees is falling rapidly and that of managers growing quite considerably.

privatization and on 46/56 cases concerning employee influence on employment policy. For both samples, there is some evidence that employee influence was relatively weakest concerning issues of employment and wage determination and relatively strongest concerning choice of supervisors.²⁵

TABLE 4
CONTROL AND EMPLOYEE INFLUENCE IN ST. PETERSBURG

PART A: BOARD COMPOSITION

FIRST SAMPLE	Group	% of the board
1. Composition of the board in privatized firms (N=41)	Insiders, of whom:	45.2
	- Workers	28.8
	- Managers	16.5
	Outsiders	54.8
		100.0
2. Distribution of worker composition of the board		
% of the board	No. of firms	% of firms
50.01-100	6	14.6
25.01-50	9	22.0
10.01-25	26	63.4
00.00-10	0	0.0
	41	100

(Table 4, Part B follows)

It is interesting to note that the evidence from the first sample in both 1991 and 1993 suggests that the degree of employee participation is not substantially different for firms which have been privatized (and in which employees typically own many shares) and for firms which remain in the state sector. For example, in 1993 both the average levels of employee participation on particular issues as well as the distribution of responses is quite similar. Moreover, t tests typically²⁶ indicate that there are no statistically significant differences in the average level of perceived employee participation for privatized and non-privatized firms. To explore some of these relations further, we examined correlation coefficients between employee ownership and various measures of employee influence. Typically, we found a negative relationship between employee ownership and employee participation; i.e. increases in employee ownership are associated with reductions in employee influence. So far as board composition is concerned, the correlation coefficient is only 0.07. A simple regression accepts the hypothesis that there is no correlation between employee ownership and employee membership on the board.

²⁵ To some degree this pattern reflects the structures that prevailed in the former USSR; while wages and employment were centrally determined, employees had considerable influence in other areas including election of supervisors. See Jones (1995a).

²⁶ The single exception is for the issue of privatization in 1991. At that time a variety of procedures for privatization (including the role of employees in choosing a privatization option) were being actively discussed.

TABLE 4, PART B:

FIRST SAMPLE 1993	Employee influence in issues relating to:			
	Privatization	Supervisors	Wages	Employment
1. Privatized firms:				
Administration decides	21	10	36	29
Tiny	18	18	12	17
Moderate	9	28	8	10
Co-determination	2	0	0	0
N	50	56	56	56
Mean	1.84	2.32	1.50	1.66
Std. deviation	(0.93)	(0.77)	(0.74)	(0.77)
2. Non-privatized firms:				
Administration decides	7	5	14	11
Tiny	8	1	5	5
Moderate	3	16	3	6
Co-determination	0	0	0	0
N	18	22	22	22
Mean	1.78	2.50	1.50	1.77
Std. deviation	(0.73)	(0.86)	(0.74)	(0.87)

Hypothesis tests:

Difference in means on issue of privatization in privatized and non-privatized firms; t-statistic = 0.90

Difference in means on issue of supervisor in privatized and non-privatized firms; t-statistic = 0.34

Difference in means on issue of wages in privatized and non-privatized firms; t-statistic = 0.00

Difference in means on issue of employment in privatized and non-privatized firms; t-statistic = 0.56

1991	Employee influence in issues relating to:			
	Privatization	Supervisors	Wages	Employment
1. Privatized firms:				
Administration decides	12	4	27	21
Tiny	12	13	15	22
Moderate	25	38	14	11
Co-determination	5	0	0	0
N	54	55	56	54
Mean	2.42	2.62	1.77	1.82
Std. deviation	(1.01)	(0.62)	(0.83)	(0.75)
2. Non-privatized firms:				
Administration decides	6	2	10	7
Tiny	5	5	4	7
Moderate	4	10	3	3
Co-determination	0	0	0	0
N	15	17	17	17
Mean	1.87	2.47	1.59	1.77
Std. deviation	(0.83)	(0.72)	(0.79)	(0.75)

Hypothesis tests:

Difference in means on issue of privatization in privatized and non-privatized firms; t-statistic = 2.07 (5% sig.)

Difference in means on issue of supervisor in privatized and non-privatized firms; t-statistic = 0.82

Difference in means on issue of wages in privatized and non-privatized firms; t-statistic = 0.71

Difference in means on issue of employment in privatized and non-privatized firms; t-statistic = 0.24

SECOND SAMPLE	Employee influence in issues relating to:			
	Privatization	Production	Wages	Employment
1994				
Administration decides	2	24	19	25
Tiny	6	23	32	22
Moderate	5	6	2	6
Co-determination	0	0	0	0
N	13	53	53	53
Mean	2.2	1.7	1.7	1.6
Std. deviation	(0.7)	(0.7)	(0.5)	(0.7)
1991				
Administration decides	3	23	14	21
Tiny	7	24	30	22
Moderate	12	6	9	10
Co-determination	1	0	0	0
N	23	53	53	53
Mean	2.5	1.7	1.9	1.8
Std. deviation	(0.7)	(0.7)	(0.7)	(0.7)

Hypothesis tests:

Difference in means on issue of privatization in 1991 and 1994; t-statistic = 1.69 (10% sig.)

Difference in means on issue of employment in 1991 and 1994; t-statistic = 1.47

Finally, in both samples, there is evidence that in 1993 and 1994, compared to the situation that prevailed during the final days of the Communist era in 1991, there has been some slight fall in the perceived degree of employee influence on particular issues. This reduction in employee perceptions of influence is especially pronounced in firms that have privatized. For example, comparisons of the average level of participation on an issue for 1993 and 1991 for privatized firms in the first sample always reveals a fall in employee influence. A similar picture prevails using data for the second sample of firms (which lumps together privatized and non-privatized firms).

In Jones (1996), the results of a variety of exercises for Russian firms during early transition to both examine adjustment paths and to see if ownership and control influence economic outcomes are reported. The work focused on firms in the first sample (in principle this comprises firm level data for six reporting periods, for every six months from the end of 1991 to the start of 1994).

In some of these exercises we emulate what we label a qualitative approach, and as used by Estrin, Gelb and Singh (1995) in their cross national study. In this, one computes a key indicator, including labour costs to sales (LC/S), total costs to sales (TC/S), and liabilities to sales (L/S), and examines both how it changes over time and also whether it is associated with variables such as forms of ownership. In other exercises we follow

some of the literature (e.g. Earle, Estrin and Leschchenko 1995) and attempt to test for statistical significance in patterns of evolution by estimating fairly simple cross sectional regressions. In these the dependent variable is a selected measure of performance and the set of explanatory variables includes measures of ownership (and/or employee influence) and usually a lagged value of the dependent variable. At the outset we note that there are difficulties with both procedures in part because the sample size is small and also because there are many gaps (missing variables) in the data.

To examine the hypothesis that ownership affects economic outcomes we computed key indicators such as TC/S and LC/Ss for each 6 month period for groups of insider and outsider owned firms. In the vast majority of cases there were no statistically significant differences in adjustment at a given point in time for firms in different ownership classes. However there were exceptions and typically these reject the hypothesis that insider owned firms are less efficient. For example, for firms that are owned by insiders in early 1994 we find that the ratio of total costs to sales averaged 1.61 (n = 15) as compared with 4.97 (n = 31) in outsider owned firms. The t value for the difference in means was 1.74 (significant at the 10 per cent level).

In the vast majority of cases when we estimated simple regressions we did not find statistically significant results. For example, in none of the regressions of the form $TC/S_t = \text{cons} + TC_{t-1} + \text{INS}$ were the coefficients on ownership structure (in this case INS) significant. Thus based on the results of this small survey there is no support for the view that insider ownership has deleterious effects on economic performance or that it hinders restructuring. In turn these findings suggest that, in the dynamic context of transitional economies, the links between ownership and control may be more complex than originally suggested by many.

4.2.2 *The Baltic Republics*²⁷

Compared to the Russian case (and also those of Poland, Hungary and the Czech Republic), unsurprisingly not only have the Baltic States received much less attention, but also much less is known about them.²⁸ What is known is sometimes quite surprising. Thus, in Lithuania privatization has proceeded even faster than in the Czech Republic and, as in Russia, the privatization programme apparently has resulted in the development of extensive employee ownership. Moreover, this outcome has been consciously and consistently encouraged by a favourable political climate with legislation introducing devices including concessional shares for employees (and not encouraging foreign ownership.). Also, while vouchers have been used, unlike the case of Russia, vouchers had limited rights of transferability. Consequently, it appears that the bulk of enterprises in Lithuania are majoritarian employee-owned (Mygind 1995).

By comparison, in Estonia the employee ownership that has emerged apparently has largely occurred in spite of legislation and a political climate which mainly had other

²⁷ Our account draws heavily on (Mygind 1995: ch.7). We do not consider the fading days of communism and, for example, attempts at reform by leasing. On this see Mygind (1995) and Frydman *et al.* (1993a).

²⁸ For accounts of these countries which also document the substantial differences in policies besides privatization, see the country reports of the World Bank.

objectives. Thus there has been limited use of vouchers and the bulk of the privatization of big firms has come through mechanisms resembling those used in the former East Germany – with a Treuhand-like privatization agency soliciting tenders for state firms. A core investor model has been encouraged and foreign ownership has been aggressively and fairly successfully sought. While initially there was some mild support for employee ownership – best represented by the nurturing of a handful of 'people's enterprises' – the privatization legislation did not convey special advantages to employees. Yet concerning the privatization of small firms, some advantages were given to employees e.g. through concessional shares.

In Latvia, soon after separation from the USSR, there was an active debate on employee ownership. While the details are sketchy it appears that the law on large scale privatization does not provide for any special advantages for employees. However, in practice, it appears that insiders have been favoured. In some cases, this appears to have resulted from a management and/or an employee buyout after a leasing plan had initially been introduced. But large scale privatization has proceeded rather slowly in Latvia with the EBRD (1994) estimating that only 85 of 698 large firms having been privatized by mid 1994.²⁹ However, small scale privatization has proceeded faster and often, in part because of the influence of local authorities in the privatization process, it appears that insiders have been favoured.

While the discussion thus far suggests that there are believed to be very different patterns of *ownership* emerging across and within the three Baltic Republics, at the same time, the data available at enterprise level with which to gauge what is actually happening, are often quite limited. For example, the pioneering study of privatization in the Baltics by Frydman *et al.* (1993a) does not contain much enterprise-level information.³⁰

To begin to provide concrete information on some of these processes in the survey countries, we draw on new survey data.³¹ So far as employee ownership is concerned, in many respects we have data that are comparable in coverage across countries and also cover many areas, including information on the extent of ownership amongst employees, managers, key groups of outsiders and the state. At the same time, owing to the differing procedures in the three countries, there are also some important differences in coverage. By using data for a large sample of privatized Lithuanian firms in 1994, Jones and Mygind (1997) find that, on average, insider ownership was quite extensive,

²⁹ Mygind (1995) provides more recent data.

³⁰ Even elsewhere the evidence is not as sharp as might appear at first glance. For example, from survey data for firms throughout Russia Blasi (1995) finds that in 1993 the typical Russian firm was owned by insiders, though managers appeared to be in control. This had not changed much a year later. More recently Jones and Weisskopf (1996), based on data for firms in St. Petersburg, present similar evidence on ownership and more detail on the realities of control. These findings are similar to those reported earlier by Boycko, Schleifer and Vishny (1993) and Ash and Hare (1994). But these studies are often based on small samples and much less is known systematically concerning the dynamics of ownership.

³¹ These ownership surveys were designed by one of the authors (Mygind) in collaboration with teams of social scientists in each of the Baltic Republics. Each team included a member from the Central Statistical Office. For further information see Mygind (1995).

averaging between 34-37 per cent of the available shares. Moreover, by examining the distribution of insider and outsider ownership, we see that there was some level of insider ownership in *all* firms.

Moreover, if we define 'insider control' as employees and managers owning a *majority* of the shares, then 24 per cent of privatized firms in Lithuania were insider controlled. However, the role played by 'insiders' apparently is markedly reduced once insiders are disaggregated into 'managers' and 'non-managerial' employees. Then, in the sense of majoritarian ownership, only about 8 per cent of privatized sample firms were controlled, by non-managerial employees and only 3 per cent by managerial insiders.

However, if a less stringent criterion is adopted, namely who was the *dominant* owner, then the picture changes. By this measure, about a third (79/239) privatized firms were insider controlled. In this sense of control, when managerial and non-managerial owners are distinguished, now there are 60/231 cases in which one of these two insider blocks is the dominant owner. And of these 60 firms, in 47 instances it is non-managerial employees who own more shares than any other group.

Insofar as corporate control reflects the distribution of ownership, then the information discussed so far may provide insights into patterns of control in privatized Lithuanian firms. By comparison, information on the average value of financial stakes that different insider stakeholders have shows that the bulk of managers and non-managerial employees own stock in this sample of Lithuanian firms. Also the participation rate in equity ownership for managers is higher than that for other insiders. Perhaps more surprising is that it appears that the value of the stake of a manager is not very different from that of other employees.³²

While less detailed information are available for Latvia on ownership, the available information are for quite a large sample, of 608 firms, that was selected so as to emphasize new forms of ownership (and thus is not representative of ownership structures in the overall Latvian economy). Again we find that there is extensive ownership by insiders. About 69 per cent of an average firm is owned by insiders, with the state owning an average of 21 per cent and foreigners the balance of about 10 per cent. In addition there is considerable dispersion in ownership patterns across and within sectors and, in nearly all firms, there is a clearly defined and dominant owner who also owns a majority of the equity.

The information on ownership in Estonia is very rich with detail on both the absolute and relative ownership shares for key groups and on the dynamics of ownership where the starting point is ownership structures when firms were first privatized, which typically was in 1993, and data for the same firms in 1995. At the start, in all except 152 cases in a sample of 403 firms, there was some insider ownership. And during early

³² While these data for Lithuanian firms do reveal a strong presence for employee ownership, it is also clear that the extent of insider ownership in these firms is below the levels which seem to apply in the typical Lithuanian firm. This means that the data for Lithuania are probably not representative of the overall economy (and hence that we must be cautious when drawing conclusions for the case of Lithuania in general). Equally, our data are for some of the largest firms in Lithuania.

1995 in all except 136 of a sample of 403 firms, there was some insider ownership. Moreover, often insider ownership was quite extensive. Thus in 1995 in 170 cases (about 40 per cent of the sample) insiders represented a majority of the stockholders. However, the pattern of insider ownership is rather different than in Lithuania and Russia and, on average, managerial ownership is more pronounced than is non-managerial ownership. Thus, in 1995, in 215 firms there was no non-managerial ownership (compared to 154 firms where managerial ownership was absent). Or, whereas at the beginning of privatization, non-managerial employees owned more than 50 per cent of equity in 67/403 cases (with a comparable figure for managers is 88/403), by early 1995 the comparable figures are 94/403 (non-managerial employees owning more than 50 per cent of equity) and 81/403 (managerial employees owning more than 50 per cent of equity).

Finally, these data reveal that the ownership arrangements that were initially adopted after the state ceased to be the main owner often are not stable. One strong tendency is for situations where initially there was either complete insider ownership or zero insider ownership to have become less common. Thus, whereas initially there was zero insider ownership in 152 firms, by 1995 we find that in 21 of those firms there was some degree of insider ownership. (In addition, in 5 firms for which there was no insider ownership in 1995, initially there had been some insider ownership.) For firms that were completely insider owned the comparable figures are even more striking. Whereas at the start of privatization there were 114 firms entirely owned by insiders, by early 1995 this had shrunk to 86 – a fall of 28 (almost 25 per cent). While these trends might be expected to cancel each other out (so that the average level of insider ownership seems to be unchanged) it does seem that managerial ownership is increasing (and non-managerial ownership is falling). This is seen most clearly in the rise on the number of firms in which managers own a majority of the equity (from 81 to 88 since the beginning of privatization), compared with a fall in the number of firms in which employees have a majority stake (from 94 to 67).

In considering the effects of the new structures of ownership and control on economic performance, since the data for our samples of firms in each of the Baltic Republics typically are both richer and for more enterprises than are the data for our samples of Russian firms, we are able to use more robust estimating methods. In designing our empirical strategy we usually draw on the huge literature for firms in western countries and the limited work for former communist countries.³³ However, at this stage of our work, typically an important restriction is imposed because our data are often cross sectional.

In estimating the impact of various ownership structures on productive efficiency, for each country we will follow the literature and estimate equations of the general form:

³³ For reviews of the western literature see, for example, the essays in Lewin, Mitchell and Zaidi (1996), Doucouliagos (1995), Bonin *et al.* (1993) and Blinder (1990). For evidence on the effects of employee ownership for Polish firms under planning see Jones (1993).

$$Q = F(K, L, H, Z) \quad (1)$$

where:

Q denotes a measure of output;

K and L are a measure of total capital stock and total employment;

H is a vector of variables representing the effects of ownership structures;

and Z is a vector of control variables such as industry and labour quality.

To see how the ownership variables enter equation (1) consider the Cobb Douglas case when the effects of ownership structures are disembodied. In logarithmic form this becomes:

$$\ln Q = \alpha \ln A + \beta \ln K + \gamma \ln L + \delta H + \varepsilon Z. \quad (2)$$

We estimate (1) by using the new enterprise-level data sets for each of the three Baltic Republics.

As is implied in the descriptive data previously discussed, the available data allowed us to devise variables in the H vector that differ across countries. For the most part, and reflecting the importance of the phenomenon of employee ownership in the Baltics, we construct measures which are related to participation in *control*. In the estimates summarized here, the strategy is to construct a series of dummy variable measures for whomever is the *dominant* owner. Thus, in the estimates for Lithuania, we use measures of control and include three dummy variables – EEDOM (non-managerial employees are the dominant owner), MANDOM (dominant owners are managers) and OUTDOM (the dominant owner are others, including foreigners, private citizens and other private firms). By contrast, for Latvia we are unable to separate insiders into managers and employees and thus use a single measure of insider control (INSDOM). Reflecting the fact that hypotheses on the effects of different ownership structures are usually developed with respect to state ownership, in the estimates summarized in Table 5, state ownership is the omitted category.

In addition, for Lithuania, we are also able to include measures that relate more closely to participation in *economic returns*. Specifically we include measures of the average value of financial stakes that different insider stakeholders own (SHKNEE = average stake for employees; SHKMAN = average stake for managers) as well as the extent of share holding amongst insider stakeholders (for example, PARMAN is the fraction of managers that own shares).

In Lithuania and Estonia, the measure of enterprise production we use is the conceptually preferable value added, while for Latvia the available data mean that instead we use sales. For control variables, Z, typically our data allow us to include industry dummies, a dummy that captures an important regional dimension (e.g. in Estonia, location in Tallinn or otherwise).

TABLE 5
THE EFFECTS OF OWNERSHIP AND CONTROL:
RESULTS FROM COBB-DOUGLAS PRODUCTION FUNCTION ESTIMATES

Columns	Lithuania		Latvia	Estonia		Bulgaria
	1	2	3	4	5	6
EEDOM	+	+		+	+	
MANDOM	-sig	-		+	+sig	
OUTDOM	-	-				
INSDOM			+sig			
FORDOM			+sig	+	+sig	
PARNEE		+				
PARMAN		+sig				
SHKNEE		+sig				
SHKMAN		+				
MANCON						+/-
EEINFL						+/-
CODETER						+/-
STATE						+
INDCOOP						-
INDS	+sig	+sig	+sig	+	+sig	+sig
REGION			+sig	+sig	+sig	+sig

Notes:

1. The variables with DOM suffixes refer to dominant ownership by non-managerial employees (EE), managers (MAN), outsiders (OUT), insiders (INS) and foreigners (FOR). PARNEE and PARMAN are the proportion of employees and managers respectively who own shares in the firm. SHKNEE and SHKMAN are the values of the ownership stakes held by the average employee and average manager respectively. MANCON, EEINFLU and CODETER are different types of labour management relations where, respectively, managers control, employees have some influence and issues are jointly determined. STATE are state-owned firms and INDCOOP are firms owned by independent cooperatives. INDS and REGION refer to dummy variables for industries and regions.
2. The column for Bulgaria summarizes findings from several different regressions (See Jones, Klinedinst and Rock 1996).

In all estimates we find that the estimated augmented Cobb-Douglas production functions display reasonably good fits for cross section estimation (with adjusted R^2 of between 0.61-0.81). Also, in general the coefficients on the factor inputs are precisely estimated at plausible levels. In all estimates we find that all key parameter estimates are consistent with economic intuition.³⁴

Moreover, from the different estimates we see that, relative to the omitted category of state ownership, the coefficients on the ownership variables are often statistically significant at conventional levels. For example, from (1) we see that in Lithuania firms in which managers are the dominant owners have a lower level of productive efficiency

³⁴ For example, in (1) the CD factor weights indicate that, on average, Lithuanian firms operate with a 0.88 labour share and a capital share of about 0.20, thus indicating that there are mild returns to scale.

than does the average state-owned firm. From this specification there is no evidence that other forms of ownership are more or less productive than state firms.³⁵

However, from (2) when, as well as dummy variables for ownership shares, we also include measures of the value of the ownership stake that different groups hold (SHKNEE, SHKMAN), the findings change. Now we see that the ownership ratio measures are each individually insignificant – in particular, now there is no evidence that firms in which managers are the dominant owners are less efficient. But higher ownership stakes held by non-managerial employees (SHKNEE) as well as a higher participation rate by managers in the ownership of the firm (PARMAN) are each found to lead to better performance.

Thus, the results for Lithuania may be interpreted as providing some mild support for the hypothesis that insider ownership produces more interest alignment and more involvement of employees and, in turn, better organizational performance (compared to state ownership). The effect flows from more managers owning shares and non-managerial stakes increasing. However, the effect will be offset when managers assume a position of dominant ownership. Equally the results do not provide support for the hypothesis that, compared to state (or non-managerial) ownership, dominant ownership by outsiders will lead to more efficiency in Lithuanian firms.

In examining for the effects of dominant owners in Latvia, we are unable to distinguish between managers and other employees and thus use only a single measure, INSDOM (insiders are the dominant owner) as well as FORDOM (dominant owners are foreign). The coefficients on both FORDOM and INSDOM are each positive and statistically significant. Thus the results for INSDOM are consistent with the hypothesis that employee ownership in Latvia produce more interest alignment and more involvement of employees and, in turn, better organizational performance (compared to state ownership). Analogously, the results for FORDOM also provide support for the hypothesis that, compared to state ownership, foreign ownership leads to less X inefficiency in Latvian firms.³⁶

Results for Estonia, in which we are fortunate to be able to use value added as a measure of output,³⁷ are reported in columns (4) and (5). In examining for the effects of ownership in 1993 (column 4) we see that none of the coefficients on the individual ownership measures attains the customary level of significance. In other words, during early transition in Estonia, so far as economic performance was concerned, ownership did not seem to matter.

³⁵ Similar findings emerge from two sets of unreported regressions in which we use: (i) continuous measures of ownership; (ii) continuous measures of voting strength (based on differing ownership levels).

³⁶ Similar findings emerge from unreported regressions in which we use continuous measures of ownership.

³⁷ By comparison, many studies for both OECD and transitional countries, are forced to use sales as a measure of output.

However, one might expect that the effects of new forms of ownership, particularly insider ownership, would not be evident until the new structures had been in place for some time.³⁸ Consistent with this view, when the exercise is repeated for 1994, in firms in which managers are the dominant owners, evidence is consistently found that such firms are more productive than firms in the base category. However, in other unreported regressions for Estonia, we construct dummies which also allow for the *distribution* of ownership between different categories of insiders – specifically whether non-managerial ownership exceeds that for managers – and whether or not insiders are the dominant owner. In both instances of *majority* insider ownership – when non-managerial ownership exceeds that for managers and where managerial ownership is greater than that of non-managerial employees – now there is a positive though statistically insignificant effect on enterprise productivity of majority insider ownership. By comparison, the coefficients on both of the comparable dummies for *minority* insider ownership are both positive and statistically significant.

Typically, including the regressions summarized in Table 5, in cases in which a majority of the equity is owned by foreigners (FORDOM), enterprise performance is enhanced. Another variable for which we present preliminary evidence is a dummy variable that captures regional effects (Tallinn). Our results indicate that in 1993, as well as in 1994, firms that are located in the capital are typically more productive than are firms elsewhere.

4.2.3 Bulgaria

In Bulgaria, privatization has proceeded slowly and formal ownership changes in what were large state-owned firms have been slow. However, even though changes in ownership have been limited, it is widely argued that most state-owned firms are controlled by coalitions of managers and workers. But, typically, little hard evidence is assembled to support this view and when this matter is examined more carefully the position is found to be rather different.

In Table 6 we provide evidence for a large and representative sample of firms during early transition on the patterns of influence as perceived by different agents in Bulgarian firms. The data represent employees' perceptions of influence on three important issues (selection of supervisors, introducing new products and conditions of work) during the interval 1990-92.³⁹ Four categories are identified, with '0' representing essentially no employee influence (MANCON), categories 1 and 2 some degree of employee participation (EEINFLU) and '3' representing a situation of co-determination (CODETER). One finding emerging from these transition matrices is that, in most firms, levels of worker influence are perceived to be very low (in particular note the tiny number of firms that appear to be co-determined). Also, during this period patterns of influence in most cases did not change (in particular, note that in from 75 per cent to 84

³⁸ For Japanese firms Jones and Kato (1995) find that employee ownership affects enterprise performance after a considerable lag.

³⁹ While the information reported here are for employees' views, similar findings were obtained for managers; see Jones (1995).

per cent of cases, entries lie on the diagonal patterns were static). When there were changes, there is some evidence that employee influence usually increased (under the diagonal figures exceed those for above the diagonal).

Whereas the main empirical strategy we have used in examining the effects of ownership and control structures on enterprise performance for other countries such as the Baltic Republics, has been to estimate cross sectional production functions, the data for Bulgaria are in the nature of a panel and thus allow us more freedom. In particular in work in progress (Jones, Klinedinst and Rock 1996) we use the fixed affects estimating method which has some well-known advantages (e.g. capturing the time-invariant heterogeneity of some firm characteristics for which data are unavailable). In addition, the data are very rich and allow us estimate a wide variety of specifications, including production functions and frontier estimates, and to examine diverse hypotheses, for example, whether and how patterns of employee influence and ownership affect productivity. However, in this preliminary work for Bulgaria we find that business efficiency is unaffected by several factors, including ownership and labour-management relations. While the delays to privatization in Bulgaria mean that our sample does not include many privately owned firms, as we summarize in Table 5, forms of ownership such as state (STATE) or independent cooperatives (INDCOOP) are not found to have a bearing on enterprise performance. Also, different structures of labour-management relations, including whether or not the firm is characterized by either managers having controlling influence (MANCONT) or matters being jointly determined (CODETER), is not found to have a statistically significant effect on business performance.⁴⁰

In sum, it is clear that transition economies are characterized by patterns of ownership and control that vary greatly within and across countries. Often these structures are changing quite fast, and sometimes in unexpected ways. In terms of the effects of such structures on business performance, these preliminary estimates do not provide strong evidence that a single form of private ownership (or way of privatizing) has proved to be more efficient. Moreover, we do not conclude that a key obstacle to enhanced performance is ownership structures that are regarded as unconventional.

Indeed there is evidence that enterprise performance is often enhanced by some of these forms of ownership, particularly employee ownership, and that outcomes are also influenced by related matters including the distribution of ownership and the type of payment systems.

⁴⁰ However, these findings are for the effects of participation in control considered alone. As we shall shortly see, the findings change when such measures are included in models which also allow for participation in economic returns.

TABLE 6
EMPLOYEE INFLUENCE IN BULGARIAN FIRMS: 1990-92

A. Frequency distribution in 1990 and 1992 (frequencies and percentages)

Level	Conditions of work				Level	Selection of supervisors			
	1990		1992			1990		1992	
0	931	(40.5%)	702	(30.5%)	0	1310	(57.0%)	1167	(50.8%)
1	1282	(55.8%)	1309	(57.0%)	1	809	(35.2%)	787	(34.2%)
2	54	(2.3%)	180	(7.8%)	2	98	(4.3%)	213	(9.3%)
3	31	(1.4%)	107	(4.7%)	3	81	(3.5%)	131	(5.7%)

Notes: 0=No worker participation;
1=moderate worker participation
2=co-determination
3=workers have maximum influence.

B. Transition probability matrix (percentages)

SP90 by SP92

		SP90=>				
		0	1	2	3	
SP92	0	45.47	3.57	0.57	1.17	(above the diagonal=decrease =6.23%)
	1	6.47	26.90	0.52	0.31	
	2	3.10	3.26	2.87	0.09	
	3	2.00	1.44	0.30	1.96	
						(diagonal=static=77.2%)
(under the diagonal=increase=16.57%)						

CW90 by CW92

		CW90				
		0	1	2	3	
CW92	0	26.36	3.83	0.30	0.04	(above the diagonal=decrease =4.78%)
	1	10.36	46.00	0.35	0.26	
	2	1.70	4.92	1.22	0.00	
	3	2.10	1.04	0.48	1.04	
						(diagonal=static=74.62%)
(under the diagonal=increase=20.6%)						

NP90 by NP92

		NP90=>				
		0	1	2	3	
NP92	0	54.90	1.50	0.13	0.05	(above the diagonal=decrease =2.1%)
	1	6.60	27.50	0.30	0.08	
	2	2.00	2.90	1.00	0.04	
	3	1.50	0.30	0.20	1.00	
						(diagonal=static=84.4%)
(under the diagonal=increase=13.5%)						

4.3 The nature, dynamics and effects of alternative compensation schemes

4.3.1 Evidence on nature and dynamics of alternative compensation schemes

While as discussed in the previous section, much theory points to the potential importance of the managerial labour market for reform in transition economies, to date very little detailed evidence has been furnished on what is actually happening in managerial labour markets during transition. While evidence for China suggests a growing tendency to include performance-based compensation in managerial contracts (Bolton 1995), knowledge of the ways in which managerial contracts are thought to be changing during early transition typically is based on limited evidence, often case studies (e.g., the studies by Lawrence *et al.* 1990 for Russia) or surveys that may not be representative of general trends (e.g., Jones, Kato and Avramov 1995 for Bulgaria, and Linz 1995 for Russia).

In that respect, since our new data for Bulgaria are derived from a sample that is representative of the former state-owned firms, such information may help to improve the picture, at least for one country. Using data for 1992 Jones and Kato (1996) report how the pattern of executive pay suggested substantial inertia compared to arrangements that existed during the fading days of communism. Top managers' reported pay averaged only twice the average workers wage (compared to comparable ratios of 13 for Japan and 32 for the US [Kato and Rockel 1992]). During this period fewer than half of managers had a contract which included a performance related bonus and typically this amounted to less than 30 per cent of total pay. However, the most recent wave of data for 1995 suggest some important areas of change. The incidence of executive contracts with a performance-based compensation component had grown to about 68 per cent of respondents, though in only about one third of the cases is enterprise profits the criterion to which business success is related.

Turning to non-managerial workers, while the available data are often quite patchy, these suggest a picture that is quite variable across countries, but also one that is often characterized by a growing incidence of performance-related compensation. Thus, Gelb finds that the use of bonus payments is widespread in Chinese TVEs and similar schemes apparently are increasingly frequent in many former centrally planned economies in Europe, including Ukraine (Vaughan-Whitehead and Uvalic 1997). However, from the Bulgarian panel data, during early transition the use of profit sharing apparently has fallen – from 4.9 per cent of sample firms in 1989 to 2.8 per cent in 1992. The use of incentive pay also fell; in 1989 it was present in 38 per cent of firms, compared to 17 per cent in 1992. But data from the most recent wave show a changing picture. By 1995 profit sharing is now evident in 9 per cent of firms and incentive schemes in 44 per cent of cases. Furthermore, one in three firms plan to increase the share of compensation that will be provided via profit sharing or incentive plan arrangements.

4.3.2 Evidence on the effects of alternative compensation schemes for executives

While as discussed in the previous section, much theory points to the potential importance of the effects of incentive systems for managers, the available evidence on this is quite limited. For China, the most important exception is the work by Groves *et al.* (1994) who find that a greater degree of autonomy for managers in state-owned firms together with contingent contracts has resulted in substantial improvements in enterprise productivity. Turning to Europe, the empirical study of Polish firms by Pinto *et al.* (1993) points to the potentially important role of differences in management behaviour in accounting for at least some of the differences in firm adjustment during early transition (e.g. Pinto *et al.* 1993). Arguably such differences at least in part reflect differences in management quality that, in turn, are linked with differences in the structure of executive compensation.

More recently a hypothesis-testing applied study of the managerial labour market in Bulgaria has appeared. Using a probabilistic panel survey of firms with matching information for chief executives, Jones and Kato (1996) obtain some of the first econometric evidence on the determinants of chief executive compensation. In their two-way fixed effects model estimates, they find that chief executive compensation is positively related to size (measured by employment and sales) and productivity. The estimated pay elasticities of size of around 0.3 are comparable to what has been found for firms in advanced market economies. The estimated pay elasticities of productivity are equal or slightly greater in size than the estimated pay elasticities of size, pointing to the importance of productivity as a prime determinant of chief executive compensation in transitional economies. On the other hand, they do not find a significant relationship of pay to profitability. Another interesting finding is that the link of CEO pay to productivity is stronger for privatized firms than for firms that are still state-owned. The finding is found consistently for all specifications.

The strong pay-size relationships, coupled with the absence of pay-profitability relationships, suggest that executive compensation is still largely structured so as to provide incentives for managers to increase size (or resist downsizing) and pay no attention to profitability. On the other hand, the equally strong pay-productivity relationships point to the existence of incentives for managers to increase productivity (or slow down the deterioration of productivity). Finally, the stronger pay-productivity relationship for privatized firms suggests that management may become more productivity-oriented as privatization progresses.

Taken as a whole these findings (especially for China and Bulgaria) suggest that significant changes in the determinants of executive compensation is apparent even without widespread privatization. Moreover, the pay-productivity relationships in Bulgaria point to the existence of incentives for managers to increase productivity (or slow down the deterioration of productivity) even when executive pay is a low multiple of average earnings and when incentive pay systems for executives are still rudimentary. As such these findings are consistent with findings for China where managerial compensation is also a low multiple of average employee pay, though executive bonuses are an important component of overall compensation.

4.3.3 Evidence on the effects on enterprise performance of compensation systems for non-managerial employees

The available evidence on the effects of different forms of compensation for non-managerial workers on enterprise performance in transition economies is also quite limited. However, in the main what is available does point to the beneficial effects for firm performance of payment schemes that provide for more flexible forms of pay. For example, this is the finding that emerges from studies for the Ukraine (Vaughan-Whitehead 1996) and Russia (Standing 1997) and which typically use cross sectional data.

More recently, Jones, Klinedinst and Rock (1996) use panel data for Bulgaria to provide the first rigorous econometric evidence on the productivity effects of different forms of compensation for non-managerial workers. For many years it is found that there are beneficial effects both of profit sharing and incentive pay. The size of some of these effects is often quite large – for example, ranging from a 17 to a 26 per cent increase in value added compared to firms that do not have an incentive programme. Moreover, cross sectional results suggest that the size of these individual effects often becomes larger as the transition progresses. Finally, if we perform a joint exclusion test on the vector of proxies for participation in economic returns and those for participation in control, in many cases this leads us to reject the hypothesis that these factors considered together do not affect productivity. These positive effects upon business performance are especially evident during the later years. As such, this supports predictions derived from the conceptual framework discussed above in which we typically expect corporate performance to be enhanced from combinations of measures that provide for participation in economic returns and in control, even though individual effects may not always be in evidence.

4.4 Evidence on restructuring and effective packages of changes

By now there have been many individual studies which indicates that substantial restructuring has taken place in firms in many transition economies (e.g. Pinto *et al.* 1993 for Poland; Commander *et al.* 1996 for Russia). Reviews of this body of work (e.g. EBRD 1995: ch.8; World Bank 1996) reveals that these studies are quite diverse in their approaches. A variety of outcome variables, including labour productivity and profitability, are used and restructuring is measured in quite differing ways. Most often, however, the approach is to use a single outcome variable and to measure restructuring by concentrating on changes in particular areas. For example, in his study of Russian firms, Standing (1997) concentrates on the relationship between changes in labour market practices and labour productivity. Also while different authors in Commander *et al.* (1996) investigate differing facets of restructuring, typically they search for relationships between restructuring and selected outcomes such as changes in real sales or changes in employment.

Our Bulgarian data also enables us to provide additional evidence using this type of approach. In Jones and Nikolov (1997) the adjustment patterns of 360 Bulgarian manufacturing firms during 1989-92 are examined. During this period of early transition

the overwhelming bulk of older Bulgarian firms continued to be state-owned (indeed, most had not been corporatized). Nevertheless, evidence is found that firms did begin to restructure. This is most evident concerning levels of employment, which fell on average by more than 45 per cent, and rapidly falling rates of investment per worker. Thus it appears that a hardening budget constraint did force firms to respond to a changed environment, even without extensive formal changes in ownership. At the same time, according to some other indicators, change has been less dramatic (for example, patterns of control as suggested by measures of employee influence). Overall, this mixed evidence on adjustment is consistent with the findings from other studies that the links between enterprise adjustment and policy initiatives such as privatization are quite complex (EBRD 1995). In addition, enterprise adjustments by sample firms were found to be quite varied.

Many of these findings for Bulgaria corroborate those emerging from studies of enterprises in other transition economies. Like Pinto *et al.* (1993) we find that enterprise performance was highly variable within and across sectors. In terms of patterns of adjustment, our findings about the patterns of evolution of total-cost-to-sale ratio, profit-to-sale ratio, total liabilities, and labour force over the period 1989-92 are closely comparable to the results obtained by Estrin *et al.* (1995) for enterprises in Poland and Hungary over the same time period. Using a sample of approximately 43 firms, they also found that the total-cost-to-sale ratios rose more sharply for bad firms in both countries. Similar to our results, they discovered that employment decreased less in the good firms than in the bad ones, again in both Poland and Hungary. Although they witnessed a different behaviour for the profit-to-sales ratios in the two countries, the overall trend for this indicator showed a sharper decline for the bad firms.

And finally, Estrin *et al.* (1995) found that bad firms eventually emerged as large debtors which is very close to our findings for the Bulgarian case. Our results which are based on a larger data set and are supported by parametric tests suggest that the preliminary picture of key aspects of enterprise adjustment in Poland and Hungary presented in Estrin *et al.* (1995) is quite possibly a general picture common to many transitional economies.

At the same time, compared to changes that have been found for firms in other transition countries, it seems that there are important differences in the character of the changes taking place in Bulgarian firms. Thus it appears that the falls in employment and in investment per worker in Bulgaria have been much more pronounced than in firms in Poland, Hungary, the Czech Republic and Russia surveyed in EBRD (1995).⁴¹ At the same time it is clear from case study evidence, including enterprise visits of sample firms, that the pace of change in many other areas, including areas of strategic behaviour, typically has been much less dramatic and slower than in several other countries.

In accounting for these differences in adjustment patterns both within and across countries, our analysis for Bulgarian firms suggests that initial conditions play an

⁴¹ The fall in average real wages has also been far greater. In addition, it has continued through 1997.

important role. In particular we find that size is an essential determinant of the process of adjustment during early transition and that large Bulgarian firms performed significantly worse than their smaller counterparts during the period 1989-92. We also find evidence that sectoral and regional location matter much. Our findings on the importance of ownership and employee participation, also point to the important roles of property rights and governance structures. However, unlike findings for some other transition countries, our findings on employee participation indicate that under certain conditions this form of insider influence may be a positive force. Finally, the existence of considerable variation in responses across firms which in many respects are substantially similar (e.g. similar policy environment, sector, size, and ownership) points to the crucial role of institutional and organizational change in determining economic outcomes. When economic agents have had scope for discretionary change, it is clear that their receptiveness to change has been quite varied.

The more ambitious and more current empirical work in this vein has two related aims; to test hypotheses that there are policy initiatives that are complementary (and others that are substitutes), and to discover 'policy packages' that are particularly effective. It is clear that the impetus for much of this work, particularly that which aims to develop restructuring indices (e.g. Earle, Estrin and Johnson 1997), is theoretical and empirical work for China. While this line of inquiry is very exciting, from the work to date it is also clear that such research is faced with enormous problems – for example, the development of sound operational indices of restructuring – and that to date the identification of efficient policy packages that have broad application has proved elusive.

Some of the potential problems involved with this line of inquiry are illustrated in a recent paper which also draws on our Bulgarian panel data (Spenner *et al.* 1997). In this investigation of restructuring in Bulgarian firms during 1989-1993, restructuring is measured across several dimensions including organizational characteristics (e.g. links with other firms, managerial strategies authority and marketing structures), and key economic variables (e.g. the degree of competition in the product market and employment). While (as in Jones and Nikolov 1997) there is evidence of much organizational change, there is little evidence that these changes carry over to changes in firm's relative efficiency. Restructuring is not found to be delivering the expected economic benefits.

V CONCLUSIONS AND IMPLICATIONS

The pivotal importance of enhancing understanding of the determinants of economic performance in the transition economies of Central and Eastern Europe, the CIS and Asia has been stressed by many transition scholars (e.g. Aghion *et al.* (1994) and Boycko *et al.* (1996). Also the unexpectedness of developments concerning relevant changes, such as the extent of employee ownership, has been noted by others (e.g. Nuti 1995). And there have been some informative attempts to both describe (e.g. Blasi 1995) as well as assess the economic effects of new structures of ownership and control (e.g. some of the essays in Frydman, Gray and Rapaczynski 1996) and elsewhere (e.g. World Bank 1996: ch.3; Svejnar 1996). Equally, for diverse reasons including the rapid pace of change, it is clear that existing empirical work on many matters leaves many questions unresolved.

In this paper, while we build on the work of others, in particular de Melo, Deninzer and Gelb (1995), and provide some additional evidence on *systemic* performance, most of our evidence relates to *microeconomic* factors. In the main we furnish additional evidence on themes which theorists in comparative systems have long pointed to as being of crucial importance in influencing economic performance – organizations and policies that influence structures of ownership and control as well as the motivation of economic agents. Also, we believe that the microeconomic evidence that we provide is particularly useful insofar as it is often based on large samples of firms and because it also helps to broaden the range of countries for which evidence is available. At the same time, it must be stressed that these findings are derived mainly from new enterprise-level data that are being collected from ongoing collaborative projects and that, for a variety of reasons, our results are only preliminary. At this stage often we are able to examine only some of the variables which theory suggests are pertinent. Bearing in mind these important caveats, our findings are as follows.

The privatization and reform processes in Russia, China, the Baltic Republics (and in other transitional economies) have somewhat unexpectedly resulted in a substantial amount of employee ownership. In many firms, insiders are the predominant owners. However, there are substantial differences in ownership patterns. While in many respects these findings are not new, our findings on the nature and scope of employee participation in Russia are more novel. We find that (non-managerial) employee ownership typically has not been accompanied by much employee influence on enterprise decision-making (to the extent that this can be judged by employees' own perceptions). We find similarly that there is not much (non-managerial) employee influence in state firms yet to be privatized. There does not appear to be much support for the claim that in Russia either state-owned firms or employee-owned firms are worker-controlled.

Our findings suggest that in Russia (and by extension in other transition economies) privatization does not produce fundamental changes in inherited patterns of corporate

governance but rather has served to strengthen *managerial* control. Furthermore, econometric evidence for Russia, but more so for firms in the Baltics and Bulgaria, does not suggest that the key obstacles to enhanced performance in enterprises is employee ownership or employee participation.⁴² On the contrary, we report evidence which points to the beneficial effects of structures that provide for some degree of employee participation and/or employee ownership. More generally, it would appear that widely differing ownership structures may be most appropriate when institutional contexts vary.

We also considered some new evidence concerning new incentive schemes. On managerial pay systems, there is evidence for both China and Bulgaria of a link between CEO pay and firm productivity. For Bulgaria this link was stronger for privatized and corporatized firms than for firms that are still state-owned. In both countries base pay of managers is, by international standards, a low multiple of average pay. In addition, for compensation schemes for other workers we find evidence of the beneficial effects of schemes which provide for earnings being related to firm performance. Our findings imply that getting compensation systems right is a strategy that potentially will have big payoffs for enterprise performance. At the same time, given the heritage in many transition economies, care must be taken to avoid the development of executive pay systems which lead to managerial pay that is too high relative to average pay – this would be expected to undermine the benefits which flow from the introduction of performance-based pay schemes for non-managerial workers.

The last area we examined was restructuring and the search for packages of policy measures that facilitate enhanced enterprise performance. In part, because of the strong conceptual basis (e.g. Milgrom and Roberts 1990), this is a very promising line of research. Moreover, some of our findings point to the existence of positive feedback; for example between different ownership structures and forms of compensation. However, in attempting to uncover *broad* bundles of restructuring initiatives to date there is a large gap between theory and empirical work and empirical work has made only limited progress.

Given these caveats, and recognizing that ours is not mainly a theoretical contribution, some theoretical implications do follow. In devising transition strategies our findings suggest that incentives are at least as important as ownership. Much of our evidence suggests that the conventional wisdom is excessively formal. Findings in all of the areas that we have examined mean that we must acknowledge the crucial importance of institutional and organizational change in determining economic outcomes and that we need to give more attention to the role of institutions and the way markets are constructed. The diversity of findings that emerge from our country studies concerning the effects of ownership on enterprise productivity suggest that it is unwise to advocate a single model to apply for transition economies in general; country experiences and conditions do matter.

⁴² Other work for new private firms points to the crucial importance of other barriers such as human capital (Barberis *et al.* 1996).

Some of our findings do *not* lend support to those who argue that standard stabilization programmes can easily and effectively be introduced into environments where micro foundations are quite different from the context within which these theories were developed. Rather, as does other work, our findings point to the importance of specific institutional features in influencing economic outcomes and to evolutionary aspects of the nature of organizational and thus economic change, even during times of political revolution.⁴³ Moreover, in further investigation of these issues (as well as for many other related matters), our findings indicate that these are most fruitfully investigated by economists undertaking research in transition economies as processes of institutional and organizational change (and thus often in collaboration with other social scientists).

⁴³ For more examples of this point for the case of Bulgaria, see the essays in Jones and Miller (1997). More generally, in constructing a new political economy we note that basic issues concerning the role of organizations are examined by Ben-Ner *et al.* (1995) and the merits of evolutionary versus neo-classical theories of change is debated by Murrell (1992). Also, key elements in the mainstream position are challenged by Eatwell *et al.* (1995), and Cornia and Popov (1996).

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