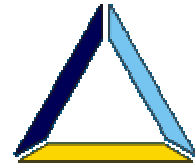


**INSTITUTE FOR ECONOMIC RESEARCH AND  
POLICY CONSULTING**



**Working Paper No.2**

**Iryna Akimova**

**Export Orientation and its Impact on Enterprise  
Restructuring in Ukraine**

**October 2000**

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Parts of this Paper were first presented at the 11th Ukrainian-German Economic Symposium "Ukraine on the Road to Europe". The proceedings of this symposium, to be issued as the next volume in the German Advisory Group's publication series, will be published in Ukrainian by Phoenix, Kyiv, in December 2000, and in English by Physica, Heidelberg - New York, in January 2001.

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# Export Orientation and its Impact on Enterprise Restructuring in Ukraine

Iryna Akimova

## 1 Introduction

On the micro-economic level international integration means that enterprises should move in a direction which is characteristic of companies participating in a market economy, i.e. they should undertake the necessary restructuring measures and participate in international trade. The involvement in export and import activities provides an enterprise with better access to international markets, and facilitates the introduction of international standards regarding product quality, product innovation, cost levels and marketing strategies. In fact, in developed countries, export-oriented enterprises usually demonstrate better performance compared to firms that operate only within the domestic market. In the transitional context, export orientation is expected to play an important role in encouraging enterprises to restructure. However, most recent empirical literature on the restructuring of large industrial enterprises, following privatisation, has focused only on the role of privatisation and on the hardening of budget constraints. Competition and human capital aspects are sometimes considered as well. Some studies on trade re-orientation of enterprise in transition economies have found little evidence of a relationship between the enterprises' export orientation and conventional measures of performance (Peters and Claessens, 1996). This might be due to a time lag between changes in export orientation and the related effects on performance.

We focus first on an analysis of the impact of *export orientation* (and especially orientation towards non-CIS markets) *both on the restructuring activities of Ukrainian enterprises and on their performance*. We consider the export orientation of a firm as a proxy for economic openness and international integration at the micro-economic level. Next, we test the hypothesis that a higher level of export orientation (particularly towards non-CIS markets) is associated with a higher probability of undertaking restructuring measures (and strategic activities in particular), which should eventually result in better performance.

Our second research aim is to investigate *what forces drive companies to orient their trade towards exports*. We expect that increased levels of export sales and a re-orientation of sales towards non-CIS markets are associated with private ownership, increased competition, hardening of budget constraints and improved managerial quality.

The paper is structured as follows: Section 2 briefly outlines the present Ukrainian economic environment. Section 3 discusses the links between restructuring and its driving forces (namely export orientation, ownership



changes, hardening of budget constraints, increasing competition, and changes in human capital). It also develops various hypotheses, which will then be tested. Section 4 describes the data used in the analysis. Section 5 presents the equations, which will be used, and describes the variables employed in the analysis. Section 6 discusses the regression results, and Section 7 presents policy implications derived from the foregoing.

## 2 Ukrainian economy: Background for restructuring

The economic environment in Ukraine since 1992 has been described as a continuous fight for the implementation of privatisation programs, macro-economic stabilisation and trade liberalisation. Trade liberalisation was initiated in 1994, and by 1996, all quantitative restrictions on exports had been abolished and many tariff rates reduced. After the Russian crisis in 1998, some trade and exchange restrictions (e.g. indicative prices, foreign exchange controls) were re-introduced and tariff rates grew. Though the Ukrainian economy is relatively open (the GDP share of exports has always been above 30% since 1996, and the GDP share of imports constituted about 40% between 1996 and 1999), Ukraine's integration into the world economy has not taken place so far (see Table 1). Foreign trade continues to be dependent on countries of the Commonwealth of Independent States (CIS). During 1995-1996 the share of total exports to the former Soviet Union (FSU) was 57%, and imports from the FSU accounted for 65%. Some re-orientation towards non-CIS markets has occurred since 1997. However, the total volumes of both exports and imports have been declining since 1996. Intermediary goods held a dominant position in the export structure, while energy and fuel are the main imports.

**Table 1**  
Ukrainian foreign trade in 1994-1999

	Export to CIS countries, mln USD (% of total exports)	Import from CIS countries, mln USD	Export to non-CIS countries, mln USD (% of total exports)	Import from non CIS countries, mln USD
1994	7,128 (51.8)	11,416	6,066 (48.2)	5,053
1995	7,743 (54.3)	11,051	6,501 (45.7)	5,895
1996	8,841 (57.0)	12,913	6,706 (43.0)	6,930
1997	6,841 (57.0)	11,819	8,577 (43.0)	7,804
1998	5,273 (39.5)	9,040	8,426 (61.5)	7,242
1999	4,092 (33.5)	7,415	8,371 (67.5)	5,530

The privatisation process in Ukraine was initiated in 1992 when around 18,000 medium and large state-owned enterprises and some small 45,000 state-owned enterprises existed. Almost two-thirds of these companies were transferred to private owners using non-competitive methods (buy-outs and leases with buy-out), which led to a dominance of insider ownership. Privatisation in Ukraine has proceeded unevenly with numerous adjustments to the legislative base and the methods of implementation. All this has created much uncertainty and has impeded the restructuring



process (Leshenko and Revenko, 1999). By the time the survey underlying this study was carried out (summer of 1998) about 57,000 enterprises had been privatised (including over 7,800 medium-sized and large companies).

The development of the enterprise sector was constrained by the limited ability to attract sufficient outside capital, by the lack of financial discipline and by the failure to enforce bankruptcy laws. The continuing economic crisis resulted in decreasing profitability of Ukrainian enterprises, more than 50% reported losses between 1995 and 1999. The lack of clarity and stability of the legal environment and of governmental policy has negatively effected the flow of foreign direct investment. Ukraine's banking sector remains small and undercapitalised. Credits to the private sector were scarce and loans were mainly short term. Though state subsidies were considerably reduced during the last 4 years, soft budget constraints in the form of arrears and of barter trade (accounting for more than 40% of industrial sales) have remained.

As a result, Ukraine has occupied a place in the last quartile of the ranking of East European countries according to progress made in privatisation and restructuring of the large enterprises, and according to the quality of governance (Transition Report 1999).

### 3 Conceptual Framework

#### 3.1 Enterprise restructuring

Pohl, Anderson, Claessens and Djankov (1997) define *Enterprise restructuring* during the transition from centrally planned to market economies as a complex process of maintaining profitability in the face of a changing economic environment, technological progress and competition from other firms. The restructuring process starts with a redefinition of the goal of the firm (from rent-seeking to value maximisation) and with re-orientation of the overall strategy of the firm's management (from fulfilling central plan requirements to customer satisfaction). It then proceeds to the implementation of changes to basic company structure. Restructuring includes taking reactive (passive or defensive) and active (strategic or deep) measures.

*Reactive restructuring* is forced upon enterprises in transitional economies as a consequence of the decline in the demand for their products, market liberalisation and the imposition of harder budget constraints. Reactive restructuring includes labour force reductions, cutting of real wages and maintaining them at a low level, reduction in social and unused production assets, closing of unprofitable product lines, and switching to cheaper inputs. Reactive restructuring is unrelated to ownership structure (Carlin and Aghion, 1996).

*Active or deep restructuring* measures aim at a long-run improvement of the viability and performance of the firm in a competitive environment. It is the consequence of a radical change in the company's goals and strategic



outlook towards value maximisation and market orientation, respectively. Deep restructuring is typically accompanied by investment in new and up-to-date equipment and technology, by the development of new products and new markets, by increasing attention to product quality, by structural changes to the labour force, by improvements to the organisational structure, by creation of new distribution channels, and by the preparation of strategic business and marketing plans.

*Strategic restructuring* of the enterprise should eventually result in its successful adjustment to a new market environment and in *improved performance*. While in the long run this relationship is not in doubt, in the short-run it is not so obvious. In the Ukrainian case, performance variables may not yet vary significantly between firms which undertook steps towards strategic restructuring and enterprises which just muddled through by means of vast barter operations. Moreover, some strategic measures such as product innovations require additional costs and, in the short run, might even have a negative influence on performance indicators (for example, profitability). Therefore, given the slow transformation of the Ukrainian economy, *it makes sense to measure restructuring by using both performance indicators and indicators for restructuring activities*.

### 3.2 Export orientation

As suggested in the endogenous growth literature, external trade is an important driving force behind economic growth. Trade liberalisation opens the economy to international competition and, at the same time, provides domestic producers with greater access to global markets for designs, equipment, and intermediate and final products. From the perspective of an individual firm, the intensity of international competition in the final product market should be a powerful force inducing efforts to restructure and to improve productive efficiency. International competitive pressure introduces international standards in terms of product quality and product innovation, cost level and marketing strategy.

Maintaining or increasing the share of exports in total sales is an indicator of the international competitiveness of the firm and its integration into the international market. Therefore, it can be expected that export-oriented enterprises are more actively involved in restructuring and are better performers than firms that operate exclusively within the domestic market. Export-oriented firms in developed economies, as compared to non-exporters, were found to have better opportunities to buy intermediates and up-to-date equipment, thus allowing them to improve their productivity (Feenstra, Markusen and Zeile, 1992).

The evidence concerning the impact of export orientation on the performance of companies in transition economies is limited and rather contradictory. Djankov and Hoekman (1996) found that re-orientation of export production towards global markets was positively correlated with total factor productivity for Bulgarian firms. At the same time, Estrin and Takla (1995) and Peters and Claessens (1996) found no correlation between pre-reform export shares of sales of Bulgarian firms and changes in their performances. Besides possible measurement problems, this could also be due to a time lag between the change in export operations and the



resulting performance effects. For example, re-orientating exports towards Western markets might affect profits negatively in the short run, since it requires additional expenditures to develop a proper product policy, marketing and financial systems. In such a case, it is necessary to look also *at the range of restructuring activities undertaken by the enterprises*.

In this paper, we consider the export orientation of a firm as a proxy for economic openness and international integration on the micro-economic level, and investigate its impact *both on restructuring activities and on performance results*. In order to determine whether restructuring causes better export performance, or vice-versa, we correlate the level of export orientation in the year *before major restructuring measures were undertaken* with the actual restructuring that occurred *afterwards*. *If the level of export orientation (measured as a percentage of exports in total sales) had been high – especially towards non-CIS countries – prior to any restructuring, then we expect it to be more likely that actual restructuring – and strategic activities in particular – will be undertaken*.

In the case of performance indicators, a positive association between the changes in efficiency indicators and a change in the share of exports in total sales (as well as the share of non-CIS exports) might be insignificant in the short-run because of the time lag.

In the literature on transition economies, a change in export orientation is considered not only as a *driving force* for the enterprise's restructuring efforts, but also as an *indicator* of the restructuring itself (e.g. Pohl, Anderson, Claessens and Djankov (1997)). On one hand, we try to incorporate this approach into our analysis by investigating the *relationship between a firm's re-orientation towards international markets as measured by the change in the export share of total sales as well as by the change in the non-CIS export share of total sales and the level of restructuring activity*. On the other hand, we investigate the forces which drive restructuring, namely, ownership structure, level of competition, the hardness of budget constraints, and changes in managerial human capital.

There is general agreement in the literature that market liberalisation and deregulation are pre-requisites for successful restructuring, while changes in ownership structure, increasing competition, hardening budget constraints, and changes in the managerial human capital are considered to be the driving forces behind restructuring.

### 3.3 Ownership structure

Privatisation is seen as the most important element in the process of de-politicisation of the economy (Boycko, Shleifer and Vishny, 1995), sometimes also as a key to industrial restructuring in general (Pohl, Anderson, Claessens and Djankov 1997), and to reactive restructuring in particular (Carlin and Aghion, 1996). Economic theory suggests that concentrated private ownership (and concentrated outside ownership in particular) will improve the chances for active restructuring, since it reduces the effects of agency problems generated by diffuse ownership (Aghion and Blanchard, 1998).



On the other hand, as far as the early stages of transition - and in particular within slowly reforming economies - are concerned, various empirical inquiries have cast doubt on a strong and positive relationship between changes in ownership structure and restructuring or performance (see, for example, Earle and Estrin 1997; Jones, 1998). In any case, the short period of time for which records are available for privatised firms in Ukraine, makes it unlikely that a significant positive correlation between restructuring indicators and performance indicators can be measured. However, it is expected that variables representing ownership structure (if they have an impact at all) will affect restructuring and performance indicators differently.

### **3.4 Hardening budget constraints**

The hardening of budget constraints is a necessary condition for restructuring as it imposes discipline from outside sources of finance and forces the enterprise to increase the efficiency of operations under threat of bankruptcy. In most studies, the hardening of budget constraints is measured by dummies for government subsidies. However, there are off-budget sources of softness of budget constraints such as the extensive reliance on barter arrangements by firms, which are approaching the limits to accumulating further payments arrears.

We include in our analysis the reduction in barter operations and subsidies as proxies for hardening budget constraints. We expect a positive effect of hardening budget constraints on the enterprise restructuring activity and performance.

### **3.5 Competition**

Elimination of soft budget constraints creates preconditions for functioning competitive markets. It is generally agreed that competition is the main force behind efficiency and innovation. However, empirical tests of its effects in transitional economies are limited (Earl and Estrin 1996,1998). It has also been pointed out that, in the short-run, strong competition might negatively affect enterprise adjustment if adjustment costs are high (Earl and Estrin, 1998). Our hypothesis is that increasing competition has a positive effect on the level of restructuring activity and performance.

### **3.6 Human capital**

Another important determinant of restructuring is human capital. The dominance of insider ownership means that the management's competence and its motivation for restructuring become crucial to the company's success in the market. Yet, most managers of former state-owned enterprises lack entrepreneurial spirit, marketing skills and the ability to raise outside investment funds, i.e. a change in the top management is needed.

In the case of Ukraine, the inflow of new human capital with superior knowledge and skills is extremely limited. There is almost no infusion of





western managers. A new generation of market-oriented local management talent does not yet exist. The market for general managers is weak and underdeveloped. For this reason, simply changing the top management of a Ukrainian firm will not, at this point in time, necessarily promote its restructuring. This suggests that management training is an important step towards improving the quality of human capital (Djankov, 1997).

The positive impact of management training on enterprise restructuring can be attributed to two factors. One factor concerns the accumulation of managerial knowledge and skills during the training process. The other factor relates to the fact that those managers who undergo training programs are showing much more initiative than those who do not get involved. Participation in training programs is a self-selection procedure. Therefore, it can be expected that those managers who enrol in training programs are highly motivated to improve their business, are entrepreneurial and interested in acquiring new skills. We consider this entrepreneurial component of management training to be at least as important as the accumulation of new knowledge and skills, and expect training of senior management to have a positive impact on the restructuring activity of companies and their performances. On the other hand, just exchanging one set of managers for another might not turn out to be significant.

## 4 The data

We analysed 174 survey replies received from Ukrainian industrial enterprises with more than 1000 employees (no newly created private firms were included). The survey was conducted in the fall of 1998. The survey sample of 500 firms had been selected from a complete list of Ukrainian industrial enterprises drawn up in 1990. This selection insured a good cross-sectional representation by region and industry.

The questionnaire was mailed to the top management of the selected companies in June 1998. One month later 174 replies had been received, representing a response rate of 34.6%. The characteristics of the final sample are presented in Table 2. Although the sample is not perfectly representative, it covers a range of industries broad enough to allow us to draw meaningful conclusions about the corporate behaviour of large industrial enterprises in Ukraine. 36.5% of the enterprises in the sample were state-owned, and 63.5% were in private hands. More than half of the non-state enterprises had been privatised between 1995 and 1996 (the rest in 1994).

In the questionnaire, we asked management to report on the geographical distribution of sales in 1995 and 1997. The statistics for the geographical sales distribution in 1995 and in 1997 are shown in Table 3. Although the export structure of sales has changed in favour of non-CIS countries, the share of exports to Western Europe and to the rest of the world has remained quite low in absolute terms. From 1995 to 1997 the number of exporting firms decreased slightly from 144 (82.2%) to 140 (81%).



Similarly, the number of firms with exports to non-CIS countries fell from 98 (56.3%) in 1995 to 95 (55.2%) in 1997.

**Table 2**

Sample characteristics

	Number of firms (%)
<i>Branch</i>	
Energy and fuel	29 (16.8%)
Machine building	77 (44.5%)
Chemicals	18 (10.4%)
Metallurgy	15 (8.7%)
Production of consumer goods	12 (6.9%)
Communications and electronics	13 (7.5%)
Other industrial production	9 (5.2%)
<i>Size (number of employees)</i>	
1000-3000	100 (57.3%)
>3000	73 (42.2%)
<i>Type of ownership enterprise</i>	
State enterprise	61 (36.5%)
Privatised enterprise,	112 (63.5%)
including privatised by more than 50%	56 (31.7%)

**Table 3**

Descriptive statistics for the geographical distribution of sales in 1995 and in 1997

Distribution of sales	Mean values in 1995	Standard deviation	Mean values in 1997	Standard deviation
Region where the firm is situated	21.9	28.4	21.8	28.5
Other regions of Ukraine	43.5	27.6	45.6	28.8
CIS countries	22.5	21.9	18.3	21.0
Eastern Europe	2.5	5.9	2.6	7.0
Western Europe	4.4	13.1	5.4	15.5
Rest of the world	5.4	14.9	7.8	24.3

## 5 Enterprise restructuring and export orientation: a preliminary analysis

The level of restructuring activity of the sampled large Ukrainian industrial enterprises in 1995-1998 was not very high. As can be seen from Table 5 (column 2), *passive cost-cutting measures* (such as employee lay-off, switching to cheaper raw materials, and closure of old production lines ) *dominate the restructuring activity of the firms*. *Employee lay-off* was the most frequently used passive measure: more than 82% of the firms decreased their employment level during the last three years, and about 25% of



**Table 4**  
Frequencies for the selective indicators

	Number of the firms in the sample(%)
Firms that have reduced the number of employees in 1995-1998, including:	143 (82.2%)
up to 10% of employees	54 (31%)
11-20% of employees	45 (25.9%)
21-30% of employees	25 (14.4%)
>30% of employees	21 (11.9%)
Plan to continue lay off employees in the next two years, including:	129 (74.7%)
up to 10% of employees	62 (35.7%)
11-20% of employees	38 (21.8%)
21-30% of employees	18 (10.3%)
>30% of employees	12 (6.9%)
Firms that sent some of their employees on unpaid administrative leave in 1998, including:	125 (72.2%)
up to 10% of employees	53 (30.8%)
11-20% of employees	18 (10.5%)
21-30% of employees	15 (7.1%)
31-40% of employees	10 (5.8%)
>40% off employees	30 (16.3%)
Depreciation of equipment (%):	
up to 20%	56 (32.2%)
21-30%	7 (4%)
31-40%	23 (13.2%)
41-50%	27 (15.5%)
51-60%	26 (14.9%)
61-70%	15 (8.6%)
>70%	19 (10.9%)
Financial position of the firm comparing to the other firms in the same industry in 1995:	
Much worse	8 (4.6%)
Worse	21 (12.1%)
The same	108 (62.1%)
Better	29 (16.7%)
Much better	8 (4.6%)
Enterprises that reported losses	
Before 1995	31 (17.8%)
In 1995	82 (47.1%)
In 1998	96 (55.2%)

the enterprises fired more than one fifth of their working force (see Table 4). Such an extensive lay-off can be explained by overemployment that was typical for large industrial firms in the pre-reform period (they were on the average overstaffed by 20%) and could not be experienced any more under the hardening budget constraints and economic decline.

In our sample, changes in the level of employment show that passive restructuring (at least with respect to employment) is far from being finished. Despite considerable lay-offs in the past, almost 75% of the enterprises admitted having an excess labour capacity in 1998 which they tried to reduce by sending some of their employees on unpaid administrative leave and planning future lay-offs. Descriptive statistics presented in Table 4 show that 72.2% of the enterprises used unpaid administrative leave to cut their labour costs 30.8% of the firms



temporarily reduced their labour force up to 10%, another 23.4% of the firms applied this measure to 11-40% of their staff, and 16.3% of the enterprises disposed of more than 40% of the employees in this way. Three quarters of the firms in our sample report that they intend to continue reductions in the number of employees in the next two years 17.3% of the enterprises planned to fire more than 20% of their staff.

Apart from reductions in the labour force, almost half of the firms in the sample used other cost-cutting measures such as switching to cheaper raw materials, spinning off the social and excessive production assets, and keeping low real wage of their employees.

Strategic restructuring efforts of the firms in 1995-1997 (see Table 5) seem to be rather active. However, a close investigation reveals that so called "soft" strategic measures that do not require a considerable investment and basic technological and organizational changes dominate. These concerns the measures include increased marketing efforts of the firms such as finding new suppliers, creating new distribution channels, and developing strategic marketing plans. These measures are indicative of a shift from the inward orientation that was typical for the large industrial socialist firms towards a more outward-looking and sales oriented approach.

An increase in the share of qualified labour and in quality control practiced by 43% and 67% of the firms respectively reflects an increasing attention towards product quality under conditions of low consumer demand and high competitive pressure. The share of enterprises that reported product innovations during 1995-97 was very high - at more than 70%. However, this number can be somehow misleading as, on the average, in our sample, only 14.5% of the product innovations resulted in the creation of products that were new for the market and the production of which could be considered as a "hard" strategic restructuring measure. In 62.6% of the cases product innovations constituted the development of goods that were new for the producers, and in 27.1% of the cases they represented simple modifications of old products. So, it is not surprising that only 20% of the firms in the sample have received international ISO certification (i.e. proof of international competitiveness) for their products. Investment in fixed capital by buying up-to-date equipment and implementation of new technology is considered in the literature to be the "hard" strategic restructuring measure that creates a proper basis for future market success. In our sample, the technical base of the enterprises was rather obsolete: one half of the enterprises reported to have equipment that was depreciated by more than 40%. However, since 1995, only 37 % of the firms bought new equipment and 27% of the firms acquired new technology. For the majority of the firms retained profits were the only source of investment. 17 (5.2%) enterprises received bank loans (but only for 6 (3.6%) firms did the loans cover more than 50% of the investment project), 9 (5.2%) firms used foreign capital within a framework of joint venture projects, and 5 (2.9%) enterprises raised additional capital by issuing new shares.



**Table 5**  
Restructuring activities of exporters versus non-exporters

Restructuring measures	Total sample N=173	Exporters N=137	Non-ex- porters N=36	Chi sq	Exporters to ROW	Non-ex- porters to ROW	Chi sq
<b>Active restructuring</b>							
Change of suppliers	64.2	64.5	63.9	0.1	69.9	58.0	2.84
Increase of share of qualified labour force	43.9	45.3	38.9	0.4	52.3	35.3	5.0**
Buying of new technology	27.7	32.1	11.1	6.2**	39.8	15.3	12**
Increase in quality control	67.4	72.1	50.0	6.3**	80.9	54.1	13**
Buying of new equipment	37.8	36.8	41.7	0.2	40.2	35.3	0.4
Change of organizational structure	1.7	2.9	1.4	3.8**	1.1	2.4	0.3
Product innovations	71.5	85.4	17.1	63**	87.5	54.8	22**
International certification of products	20.2	24.8	2.8	8.5**	33.0	7.1	17**
Creation of new distribution channels	60.3	68.6	30.6	17**	68.2	52.9	4.2**
Development of a strategic marketing plan	40.5	45.3	22.2	6.2**	54.5	25.9	14**
<b>Passive measures</b>							
Selling/leasing of excess equipment	47.4	54.7	19.4	14**	55.7	38.8	4.9**
Closure of old product lines	53.5	53.5	19.4	21**	63.2	43.6	6.7**
Switching to less costly raw materials	64.5	71.3	38.9	13**	74.7	54.1	7.9**
Reduction of social assets	45.7	46.7	41.7	0.29	47.7	43.5	0.30
Keeping low real wage	50.9	61.3	11.1	28**	54.5	47.1	0.96
Employee lay-off	83.1	86.9	68.6	6.6**	84.1	82.1	0.4

\*  $p < 0.01$ , \*\*  $p < 0.05$

The low level of investment activity was due to two reasons:

1. unavailability of long-term credits and the high interest rates on the loans obtained from the commercial banks ;
2. the increasing share of loss-making firms that did not have any profits that could be used for investment. In our sample, the share of loss-making firms increased from 17.8% in 1993 to 47.1% in 1995, and reached 55.2% in 1998, reflecting the worsening of the overall macroeconomic situation and the low pace of strategic restructuring.

Another "hard" restructuring measure - the change in organizational structure- was experienced only by 3 (1.7%) enterprises that tried to remove their organizational system based on vertical integration and create a more effective and flexible system by disseminating the



production divisions that provided the whole complex with inputs, modernizing the assembling divisions and establishing effective horizontal links the outside suppliers.

Thus, the results of our descriptive analysis of the restructuring activity of Ukrainian firms in 1995-1997 shows that it was dominated by passive cost-cutting measures (in particular by reduction in the labour force) followed by "soft" sales-oriented strategic measures. "Hard" strategic restructuring, such as technical and technological innovations, was undertaken on a considerably lower level due to the limited investment opportunities.

The change in performance indicators of the firms in our sample (see Table 6) reflects the dominance of passive restructuring that is survival oriented and, as such, can not provide a good basis for business success. As can be seen from Table 6, between 1995 and 1997, more than half of the firms in the sample faced a decline in their performance and struggled for survival. Almost three quarters of the surveyed enterprises reported decreasing profitability, and half reduced their production, sales volume and labour productivity.

**Table 6**

Change in performance indicators in 1995-1997

Performance indicators	Decreased N (%)	No change N (%)	Increased N (%)
Profitability	126 (73.6%)	23 (13.2%)	23 (13.2%)
Labour productivity	83 (47.7%)	23 (13.2%)	68 (39.1%)
Production volume	90 (51.7%)	20 (11.1%)	63 (36.2%)
Sales volume	85 (48.9%)	25 (14.9%)	63 (36.2%)
Market share	60 (34.5%)	86 (60.0%)	27 (15.5%)

More than a third of the firms lost market share. Even taking into account the unstable business environment in Ukraine and economic recession that negatively influenced enterprise performance, it could be suggested that, on the average, restructuring (defined as a process to maintain profitability in the face of a changing economic environment) was not very effective and successful. However, about one third of the enterprises in our sample reported increase in production, sales volume and labour productivity. With respect to the positive changes in profitability and market share, the group of good performers was much smaller (13.2% and 15.5% respectively). Nevertheless, the differences in the performance of the enterprises within the sample reflect the process of a continuing differentiation of industrial firms in Ukraine into a large group of survival-oriented slow reformers and a small group of the enterprises that are more active in restructuring which helps them to adjust to a changing environment.

Is export orientation correlated with more active restructuring and better performance? In other words, are there any differences between the exporters and non-exporting firms with respect to the frequency of using passive and strategic restructuring measures and showing better performance? In Table 5, we present the results of the preliminary comparative analysis of the restructuring activity of the firms that exported



their products in 1995 versus non-exporters. The results of chi-square tests suggest that exporting firms were significantly more active in implementing 7 out of 10 strategic measures and all but one passive measures. Moreover, the share of the firms that undertook strategic restructuring was significantly higher among exporters with respect to both "soft" and "hard" measures. For example, the share of firms that reported buying new technology was almost three times as high among exporters as among non-exporters (32% and 11% respectively). The same conclusion could be drawn from the comparison of the restructuring activity of those firms that exported their products to non-CIS countries in 1995 versus those who concentrated their exports within the CIS. The first group of firms produced significantly better results across 7 strategic (both "soft" and "hard") and 3 passive restructuring measures. These simple comparisons suggests that export orientation measured by the share of exports, and in particular non-CIS exports, in total sales leads to higher activity in the implementation of passive and strategic restructuring measures.

In the case of performance indicators, the positive impact of export reorientation is not obvious. In Table 7 we compare the change in performance indicators between the firms that increased the share of exports in total sales in 1995-1997 and the firms that have not reoriented their production towards more exports (the share of exports in total sales having declined or stayed constant). The same comparison is also done with respect to the reorientation towards non-CIS markets. As can be seen from Table 7, across all performance indicators the share of "better performers" (the firms that improved their performance in 1995-

**Table 7**

Change in performance indicators in 1995-1997: "better exporters" versus "worse exporters"

Performance indicators	Increased share of exports in total sales in 1997 %	No increase in share of exports in total sales in 1997 %	Chi sq	Increased share of non-CIS exports in total sales in 1997 %	No increase of non-CIS exports in total sales in 1997 %	Chi sq
Increased profitability	13.1	11.1	0.14	10.8	6.0	0.66
Increased labour productivity	46.7	33.3	2.26	42.0	40.5	0.01
Increased production volume	42.2	30.0	1.99	42.5	36.0	0.18
Increased sales volume	36.6	33.3	0.06	44.0	37.8	0.33
Increased market share	20.0	12.0	0.13	24.3	18.0	0.51

1997) is higher in the group represented by "better exporters" (the enterprises with an increased share of exports in total sales). The same holds for the re-orientation towards non-CIS markets: the share of "better



performance" is higher among "better exporters". Moreover, the share of "better performers" in the group of the firms that have shown a re-orientation of sales towards non-CIS markets is higher than that in the group of firms with an increased share of total exports. Though in both cases the differences in performance between the groups of "better" and "worse" exporters are not statistically significant, these results may be interpreted as a weak indication of a positive impact of export reorientation (and re-orientation towards non-CIS markets in particular) on enterprise performance. This positive impact is expected to become stronger and, finally, statistically significant with the further implementation of market reforms and acceleration in restructuring activity.

## **6 Variables used for analysis and in the estimation procedure**

### **6.1 Restructuring**

We use sixteen qualitative restructuring indicators that can plausibly be assumed to signal moves towards market orientation. Six indicators - selling/leasing of excess equipment, closure of old product lines, switching to less costly raw materials, reduction of social assets, maintaining low real wages, and employee lay-offs - represent passive measures directed, mainly, at cutting costs and adjusting to conditions of declining demand. Another ten indicators represent strategic measures aimed at the long-term improvement of the firm's viability and performance. They include changing to new suppliers, increasing the share of qualified labour, purchasing new technology, increasing quality control, acquiring new equipment, changing the organisational structure, making product innovations, obtaining international certification of products, creating new distribution channels, and developing a strategic marketing plan.

The management of the surveyed enterprises was asked whether they had employed any of the listed restructuring measures following the firm's privatisation (or during last three years in the case of a state-owned enterprise). Their answers were converted into a set of dummy variables defined as equal to 1 whenever a measure had been adopted.

### **6.2 Performance**

We use five measures of performance, namely changes in profitability, labour productivity (sales per employee), production volume, sales volume, and market share, and constructed five performance dummies (INCREASED PROFITABILITY, INCREASED LABOUR PRODUCTIVITY, INCREASED SALES VOLUME, INCREASED PRODUCTION VOLUME, INCREASED MARKET SHARE). These were set equal to 1 whenever management reported an increase in an indicator between 1997 and 1995.





### 6.3 Export orientation

Two variables are used to capture the effect of export orientation on enterprise restructuring: EXPORT95 and EXPORTnon-CIS95. EXPORT95 measures the share of exports in total sales of the firm in 1995, and EXPORTnon-CIS95 measures the share of exports to non-CIS countries in total sales in 1995. In the performance equations, we use the variables INCEXP and INCEXPnon-CIS to measure the effect of changes in export share on changes in performance. INCEXP is a dummy variable that equals 1 whenever the firm's export share relative to total sales increased between 1997 and 1995. Similarly, INCEXPnon-CIS is a dummy variable that equals 1 whenever the firm's share of non-CIS exports relative to total sales increased. Finally, in the export orientation equations, we use the absolute change in export share, and in the share of exports to non-CIS countries, as dependent variables.

### 6.4 Privatisation and ownership structure

The effect of privatisation is captured by the variable PRIV that is equal to 1 if private parties hold more than 50% of the company's equity capital, and it is equal to 0 otherwise. Furthermore, three private ownership specifications are used: concentrated inside ownership (CONCINS), concentrated (private) outside ownership (CONCOUT), and dispersed ownership (DISPOWN). CONCINS is defined as being equal to 1 if the total amount of shares held by insiders (managers and non-managerial employees of the firm) exceeds 50% since we assume that under these circumstances insider interests will be organized and effectively controlled by the firm's managers. We consider outside ownership to be concentrated if a small group of stakeholders (3-4) own more than 50% of shares. Such concentrated owners do not include Ukrainian individual outsiders who typically are small dispersed owners, each possessing just a few shares, and who would lack the ability to organize their joint interests. In our sample, we did in fact not have any information about the existence of an individual outsider with a significant stock of shares. Thus, CONCOUT is a dummy variable defined, as equal to 1 if the total amount of shares held by outsiders, i.e. Ukrainian or foreign financial and non-financial organizations, is larger than 50%. DISPOWN is a dummy variable that equals 1 if no group of owners holds more than 50% of shares.

### 6.5 Hard budget constraints

For gauging the hardness of a firm's budget constraints we employ two indicators: state subsidisation and share of barter operations in total sales. State subsidisation (SUBSIDY) is a dummy variable that is equal to 1 if the firm has reported receiving state subsidies after its privatisation (or in the past three years in the case of state-owned enterprises), and 0 otherwise. The share of barter in total sales (BARTER) is an interval variable measured on an 11-point scale (1 = no barter, 2 = the share of barter was less than 10% of total sales, 11 = the share of barter was more than 90% of total sales).



## 6.6 Competition

In the absence of information on sales concentration ratios for Ukraine, we use two subjective measures for the degree of competition. We define DOMCOMP as the level of competitive pressure exerted by domestic (Ukrainian) competitors on the surveyed firm. DOMCOMP is equal to 1 if the firm has reported a high level of domestic competitive pressure. We define INTCOMP as the level of competitive pressure produced by foreign (non-CIS) competitors. INTCOMP is equal to 1 if this level was reported to be high.

## 6.7 Human capital

Two dummy variables are used to measure management personnel turnover and training. CHANGE is equal to 1 if the firm has reported a change in its senior management after privatisation. The senior management turnover rate between 1995 and 1998 in our sample is 61.5%.

TRAINING is a dummy variable that is equal to 1 if any senior manager of the enterprise has participated in a training program after privatisation. The participation in training programs for senior management in the sample is 52.9%.

## 6.8 Control variables

In order to allow for differences in company performance prior to privatisation, we use a variable (INIPOS) which subjectively rates the firm's overall position prior to privatisation (or three years before the date of our survey, in the case of state firms) as reported by management. INIPOS is an interval variable measured on a 5-point Likert scale (5 = much better than the average in a particular branch, 3 = average, 1 = much less than the average). We also use industry (IND) and region (REG) dummies in order to control for the differences related to product market structure, growth rates of particular industries, and peculiarities of regional policies.

## 6.9 Estimation procedure

The final estimation equations are the following:

$$R = a + \sum_i b_i IND + \sum_j c_j REG + dEXP + ePRIV + fCOMP + \sum_m g_m HBC + hHCAP + \varphi \quad (1)$$

$$P = a + a_0 INIPOS + \sum_i b_i IND + \sum_j c_j REG + dINCEXP + ePRIV + fCOMP + \sum_m g_m HBC + hHCAP + \varepsilon \quad (2)$$



$$E = a + a_0 INIPOS + \sum_i b_i IND + \sum_j c_j REG + dEXP95 + ePRIV + fCOMP + \sum_m g_m HBC + hHCAP + \varepsilon \quad (3)$$

These equations allow to separate the effects of transition (or marketisation), export orientation, ownership, competition, hardening budget constraints, and human capital. In all equations, *ePRIV* measures the ownership effect on performance *P*, on restructuring activity *R*, and on the change in export orientation *E*. Following the approach by Frydman, Gray, Hessel and Rapaczynski (1997), we interpret  $t_c = a + a_0 INIPOS + \sum_i b_i IND + \sum_j c_j REG$  as a transition effect that is a performance element common to all firms. It consists of several components: the mean component of a transitional effect *a*, the initial position effect  $a_0 INIPOS$ , the industry effect  $\sum_i b_i IND$  and the region effect  $\sum_j c_j REG$ . In the **R**estructuring equation, *dEXP* measures the effect of export orientation, in the **P**erformance equation, *dINCEXP* measures the effect of the change in the export share of total sales, and in the equation for the change in **E**xport orientation, *dEXP95* measures the effect of the initial export share in total sales. In all equations, *fCOMP* measures the competition effect, and  $\sum_m g_m HBC$  measures the effect of hardening budget constraints. Finally, *hHCAP* captures the effect of human capital.

The estimation procedure is the following. First, for equation (1) we specify 32 estimating equations, (2 for each of the sixteen restructuring dummies) using two specifications of export orientation: share of exports in total sales (1.1) and share of non-CIS exports in total sales (1.2):

$$R = a + \sum_i b_i IND + \sum_j c_j REG + dEXP + ePRIV + fCOMP + \sum_m g_m HBC + hHCAP + \varphi \quad (1.1)$$

$$R = a + \sum_i b_i IND + \sum_j c_j REG + dEXP_{nonCIS} + ePRIV + fCOMP + \sum_m g_m HBC + hHCAP + \varphi \quad (1.2)$$

In all 32 specificationi we use the variable *PRIV* as a dummy for dominant private ownership.

Equations (1.1) are used to investigate the differences in restructuring activity between exporters and non-exporters. Equations (1.2) are used to analyse whether within the exporters there are any differences in restructuring activity related to the differences in the share of non-CIS exports. Therefore, equations (1.1) are estimated for the whole sample, while for the estimation of equations (1.2) we use the sub-sample of those enterprises that reported exporting activity in 1995.

Second, in equations (1.1) and (1.2) we replace *PRIV* by three private ownership specifications, namely *INSIDE* (dummy for the dominant inside owners), *DISPOUTSIDE* (dummy for dominant dispersed outside owners)



and CONCOUNT (dummy for dominant concentrated outside owners) to find out if private enterprises with different types of dominant owners differ with respect to restructuring activities. In this case, we restrict our sample to the sub-sample of firms with dominant private owners (56 enterprises).

Third, performance equations (2) are estimated for five performance indicators using the variable PRIV. For these estimations, the sample size is reduced to the sub-sample of enterprises with export operations in 1995 or 1997, because we investigate the differences in performance that are associated with changes in export orientation.

Fourth, we estimate five performance equations substituting the alternative private ownership specifications for PRIV (as was explained above with regard to equation 1.1 and 1.2). In this case, for the estimation purposes we again use the sub-sample of firms with dominant private ownership.

Fifth, equations (3) are estimated for two specifications of the change in export orientation: change in the share of exports in total sales and change in the share of non-CIS exports in total sales. In both specifications, PRIV is used as the ownership variable. For the specification with the change in export share in total sales as a dependent variable, we use the sub-sample of enterprises with export operations in 1995 or 1997. For the specification with the change in the share of non-CIS exports in total sales as dependent variable, we restrict the sample to the sub-sample of firms with exports to non-CIS markets in 1995 or 1997.

Finally, in both specifications of equation (3) we again substitute alternative private ownership specifications for PRIV (in which case again we confine ourselves to the sub-sample of firms with dominant private ownership).

## 7 Regression results

The estimates of the logistic regressions (those which turn out to be statistically significant) for restructuring activity dummies with EXPORT95 and EXPORT non-CIS95 specifications are presented in Tables 8 and 9. *The basic conclusion we can draw from our analysis is that the joint impact of export orientation, privatisation, competition, hardening of budget constraints and changes in human capital on restructuring activity is rather different from their impact on performance.*

As far as the propensity of large industrial firms to engage in restructuring activities is concerned, *export orientation, and orientation of sales towards non-CIS markets in particular, is highly correlated with restructuring.*

The analysis of the regression coefficients for export orientation variables shows that, first, general export orientation has a statistically significant positive effect *on both passive and strategic restructuring activities*, while orientation towards non-CIS markets mainly influences *strategic restructuring activities*. One possible explanation for this phenomenon is that firms, which are more oriented towards non-CIS markets, undertook some passive cost-cutting restructuring measures earlier than firms whose exports are mainly directed towards CIS countries. Hence, in more recent



years they have been able to concentrate their main efforts on strategic restructuring. The absolute values of the regression

**Table 8**

Logistic regressions with EXPORT95 variable, and passive and strategic restructuring dummies as dependent variables (standard errors in parentheses)

Independent variables	Change in suppliers	Buying new technology	Buying new equipment	Product innovation	International certification of products	New distribution channels
EXPORT 95	0.005 (0.007)	0.007 (0.007)	0.01** (0.001)	0.03** (0.01)	0.02** (0.009)	0.01* (0.007)
<u>Ownership</u>						
PRIV	1.0** (0.4)	0.11 (0.42)	0.10 (0.4)	0.66 (0.50)	0.60 (0.68)	0.43 (0.41)
<u>Competition</u>						
DOMCOMP	-0.52 (0.4)	0.27 (0.4)	0.10 (0.38)	1.04** (0.5)	1.29** (0.5)	0.02 (0.03)
FORCOMP	0.10 (0.47)	0.57 (0.54)	-0.07 (0.4)	0.33 (0.6)	0.7* (0.39)	1.2** (0.4)
<u>Hardening budget constraints</u>						
SUBSIDY	-0.19(0.6)	0.20(0.7)	-1.03* (0.5)	-2.7** (0.8)	-7.6 (18.1)	-0.7 (0.5)
BARTER	0.08 (0.06)	0.02 (0.07)	-0.15** (0.06)	0.02 (0.08)	-0.20** (0.08)	0.01 (0.06)
<u>Human capital</u>						
TRAINING	0.33 (0.36) 0.73**	1.4** (0.4)	1.5** (0.39)	0.80** (0.4)	0.84** (0.47)	0.84** (0.36)
CHANGE	(0.37)	0.57(0.3)	0.20(0.37)	0.48 (0.40)	0.36 (0.48)	0.61* (0.37)
<u>Control variables</u>						
REG	Y	Y	Y	Y	Y	Y
IND	Y	Y	Y	Y	Y	Y
INIPOS	-0.18 (0.4)	0.42* (0.21)	0.40* (0.23)	0.70** (0.30)	0.53** (0.31)	0.22 (0.22)
Constant	0.81(1.0)	-3.81** (1.3)	-2.1** (1.08)	-3.0** (1.4)	-5.5** (1.7)	-2.1** (1.08)
Chi sq	21.3**	25.5**	25.4**	67.2**	38.9**	29.3**
Correct percent	74	74	73	87	83	69
N	165	165	163	165	164	160

\* significant at  $p < 0.1$ ,

\*\* significant at  $p < 0.05$ ; Y – industry and regional dummies included

**Table 8 (cont.)**

Logistic regressions with EXPORT95 variable, and passive and strategic restructuring dummies as dependent variables (standard errors in parentheses)

Independent variables	Sell/lease equipment	Close old product lines	Switch to less costly raw materials	Reduction of social assets	Maintaining low real wages	Employee lay-offs
EXPORT 95	0.002** (0.007)	0.02** (0.008)	0.01* (0.006)	0.01* (0.007)	0.018** (0.008)	0.02** (0.01)
<u>Ownership</u>						
PRIV	-0.36 (0.39)	-0.11 (0.4)	0.02 (0.4)	-0.87 (0.79)	-0.51 (0.47)	-0.72 (0.53)
<u>Competition</u>						
DOMCOMP	-0.23 (0.39)	-0.06 (0.4)	0.38 (0.38)	0.46 (0.38)	0.04 (0.04)	-0.14 (0.5)
FORCOMP	1.1** (0.50)	1.5** (0.50)	0.43 (0.45)	1.16** (0.5)	0.10 (0.4)	0.54 (0.6)
<u>Hardening budget constraints</u>						
SUBSIDY	-2.5** (0.80)	-1.3** (0.7)	-0.72 (0.50)	-1.4** (0.65)	-1.12 (0.7)	-0.22(0.8)
BARTER	0.08 (0.06)	0.06 (0.07)	-0.17** (0.06)	0.17** (0.07)	0.009 (0.6)	0.11 (0.9)
<u>Human capital</u>						
TRAINING	0.66** (0.37)	0.76** (0.38)	0.49 (0.36)	0.81** (0.38)	-0.13 (0.4)	-0.87** (0.52)
CHANGE	0.77** (0.38)	0.46 (0.39)	0.35 (0.31)	0.69** (0.38)	0.66* (0.39)	0.90** (0.49)
<u>Control variables</u>						
REG	Y	Y	Y	Y	Y	Y
IND	Y	Y	Y	Y	Y	Y
INIPOS	-0.21 (0.27)	0.40* (0.24)	0.05* (0.02)	0.01 (0.02)	0.08 (0.2)	0.25 (0.28)
Constant	-1.5 (1.1)	-4.0 (1.2)	0.14 (1.0)	-2.41** (1.1)	-1.0 (1.1)	0.88 (1.3)
Chi sq	44.3**	49.2**	20.6**	44.8**	20.5**	25.5**
Correct percent	72	72	71	72	70	85
N	165	167	159	166	159	168

\* significant at  $p < 0.1$ ,

\*\* significant at  $p < 0.05$ ; Y – industry and regional dummies included

coefficients for EXPORTnon-CIS variables are high, ranging from 0.57 to 1.17. *This suggests that orientation of sales towards non-CIS markets is very important for strategic restructuring.*

Ownership does not correlate significantly with the various performance indicators, except the indicator for changing suppliers. The attempt to refine the ownership category by breaking it into three alternative groups (see above) did not lead to statistically significant results. The insignificance of ownership status can - at least partly - be explained by Ukraine still being at an early stage of transition when formal ownership



changes have not yet had a chance to bring about improved corporate governance and restructuring. Also, the slow pace of economic reforms has not provided potential investors with attractive business opportunities. Another explanation is that outsiders may not be able to impose effective corporate governance on Ukrainian firms because of weak capital markets (Estrin and Rosevear, 1999). We expect an increasing influence of outside and concentrated ownership on strategic restructuring activity in the later stages of transition.

**Table 9**

Logistic regressions with EXPORTnon-CIS 95 variable, and passive and strategic restructuring dummies as dependent variables (standard errors in parentheses)

Independent variables	Change to new suppliers	Buying new technology	Buying new equipment	Product innovations
EXPORT non-CIS 95	0.01	1.0** (0.49)	0.57* (0.36)	0.57* (0.34)
<u>Ownership</u>				
PRIV	1.0** (0.4)	0.36 (0.4)	0.24 (0.4)	0.69 (0.65)
<u>Competition</u>				
DOMCOMP	-0.15 (0.4)	-0.09 (0.4)	0.35 (0.46)	0.30 (0.59)
FORCOMP	0.36 (0.5)	0.25 (0.6)	0.07 (0.6)	0.13 (0.8)
<u>Hardening budget constraints</u>				
SUBSIDY	-0.26 (1.0)	1.3 (1.0)	0.64 (0.9)	-2.1** (0.96)
BARTER	0.04 (0.07)	0.05 (0.05)	-0.14** (0.07)	-0.08 (0.1)
<u>Human capital</u>				
TRAINING	0.38 (0.42)	1.4** (0.4)	1.7** (0.47)	0.97** (0.55)
CHANGE	1.3** (0.43)	-0.3 (0.4)	0.15 (0.4)	0.18 (0.5)
<u>Control variables</u>				
REG	Y	Y	Y	Y
IND	Y	Y	Y	Y
INIPOS	-0.08 (0.2)	0.74** (0.32)	0.38 (0.3)	0.74** (0.37)
Constant	-0.22 (1.3)	-5.3** (1.6)	-3.7** (1.5)	-0.68 (1.8)
Chi sq	24.8**	25.1**	27.6**	18.5*
Correct percent	72	72	70	86
N	124	124	120	121

\* significant at  $p < 0.1$ ,

\*\* significant at  $p < 0.05$ ; Y – industry and regional dummies included

**Table 9 (cont.)**

Logistic regressions with EXPORTnon-CIS95 variable, and passive and strategic restructuring dummies as dependent variables (standard errors in parentheses)

Independent variables	International certification of products	Development of marketing plan	Selling/leasing excess equipment	Maintaining low real wages
EXPORT non-CIS 95	1.17** (0.62)	1.02** (0.4)	-0.005 (0.4)	-0.63 (0.44)
<u>Ownership</u>				
PRIV	-0.08 (0.50)	0.44 (0.40)	-0.50 (0.40)	-0.82** (0.42)
<u>Competition</u>				
DOMCOMP	1.11** (0.50)	0.42 (0.40)	-0.73** (0.40)	-0.04 (0.43)
FORCOMP	0.29 (0.70)	0.92** (0.50)	0.96** (0.50)	0.73 (0.57)
<u>Hardening budget constraints</u>				
SUBSIDY	-7.6 (20.1)	0.51 (0.80)	-3.0** (1.1)	-0.21 (0.90)
BARTER	-0.24** (0.09)	0.07 (0.07)	-0.01 (0.007)	0.17* (0.07)
<u>Human capital</u>				
TRAINING	0.89* (0.50)	0.41 (0.38)	0.64 (0.40)	0.85** (0.4)
CHANGE	0.31 (0.50)	0.36 (0.40)	0.88** (0.40)	0.53 (0.40)
<u>Control variables</u>				
REG	Y	Y	Y	Y
IND	Y	Y	Y	Y
INIPOS	0.50 (0.34)	0.26 (0.26)	-0.13 (0.20)	-0.21 (0.27)
Constant	-5.4 ** (1.8)	-3.9** (1.4)	0.07 (1.3)	0.34 (0.30)
Chi sq	31.6**	18.5*	27.9**	22.0**
Correct percent	87	69	73	70
N	122	122	127	125

\* significant at  $p < 0.1$ ,

\*\* significant at  $p < 0.05$ ; Y – industry and regional dummies included

Our results show that, apart from export orientation, *changes in managerial human capital, the hardening of budget constraints, and increased competitive pressure* (especially from foreign producers) are also correlated with enterprise restructuring in Ukraine. The evidence suggests that *management training has a strong positive impact on restructuring activities (both passive and strategic) of Ukrainian firms*. This effect is related to the more entrepreneurial nature of those managers who are willing to participate in training programs. Relative to the other determinants for restructuring, the effect of human capital accumulation (i.e. management training) appears to be the strongest in the short-run. This result differs from those of numerous studies on restructuring in East European countries which emphasise the primary importance of ownership structure. It shows that in a slowly reforming economy, *the relative*





*importance of restructuring determinants can differ between slower and faster reforming transitional economies.*

The effect of a change in senior management on the restructuring activity was found to be positive, but is significant mainly for the passive measures. This supports our hypothesis that under the conditions of imperfect labour markets for top management and a very limited inflow of human capital, a simple change in senior management that is accompanied by entrepreneurial abilities and the development of better business skills will not promote strategic restructuring.

Our results suggest *a strong negative effect of soft budget constraints* (in particular, state subsidies received after privatisation) *on the restructuring activities* (both passive and active) of enterprises. Noteworthy are high absolute values (with negative signs) of the coefficients for SUBSIDY and BARTER in many of the equations for "hard" strategic restructuring measures. This suggests that the hardening of budget constraints is very important for accelerating major *strategic innovations*.

*We find a significant positive relationship between restructuring activity and competitive pressure, in particular from foreign producers.* The coefficients for FORCOMP are positive and significant in five strategic activity equations including the equations for international certification of products, creation of new distribution channels, selling of unused equipment, closing of old product lines, and reduction of social assets. A high perceived levels of domestic competition was found to have a significant impact on product innovation and international certification of products, but no significant impact on passive restructuring measures.

Among the control variables, only the indicator of the initial position of the enterprise has a significant impact in the majority of the equations for strategic measures. This suggests that those enterprises that had some advantages with respect to their financial or technological position within the industry in the past, tend to be better at restructuring.

Our results also suggest that *the general climate for restructuring during the first years after large-scale privatisation was not favourable*. The constant in all logistic regressions is consistently negative and, most of the time, statistically significant. Moreover this general transition effect is of such a size - that even under the most favourable circumstances with respect to ownership, competition and hard budget constraints - a probability of above-average restructuring activity is obtained that is at best equal to the complementary probability.

The estimation of the *performance equations* produces results that differ from those of the restructuring indicators. The regression models turn out to be statistically significant for only two of five performance indicators (namely, the increases in market share and in labour productivity from 1995 to 1997). These estimations are presented in Table 10. In no case do *we find any evidence of a positive effect of an increase in the share of exports in total sales, or of a re-orientation of exports towards non-CIS markets on improved enterprise performance*. For both performance equations, the coefficients for INCEXP and INCEXPnon-CIS are statistically insignificant. One possible explanation for this weak relationship between restructuring activity and performance results, may be that we are at an



early stage of transition in a slowly reforming country (see Akimova and Schwödiauer, 2000). In other words, the restructuring efforts induced by export orientation and re-orientation might not yet have resulted in better performance. However, in the long run we expect export orientation (including re-orientation towards non-CIS markets) to show more pronounced positive effects on performance, providing Ukraine succeeds in accelerating market reforms.

**Table 10**

Logistic regressions, dependent variables are various improvement in performance indicators (standard errors presented in brackets)

Independent variables	Increase in market share, 1995-1997	Increase in labour productivity, 1995-1997
<u>Ownership</u>		
PRIV	0.94 (0.63)	0.66 (0.49)
<u>Competition</u>		
DOMCOMP	1.27* (0.73)	1.23** (0.57)
FORCOMP	1.34 (0.99)	1.56** (0.81)
<u>Hardening budget constraints</u>		
SUBSIDY	-6.9 (28.7)	-0.38 (1.14)
BARTER	-0.14 (0.10)	-0.07 (0.08)
<u>Human capital</u>		
MANTRAIN	1.06** (0.54)	0.17 (0.49)
MANCHANGE	0.13 (0.62)	0.81 (0.51)
<u>Control variables</u>		
REG	Y	Y
IND	Y*	Y
INIPOS	0.73 (0.48)	0.57 (0.37)
INCEXP	-0.22 (0.74)	0.45 (0.60)
INCEXP non-CIS	1.03 (0.78)	-0.34 (0.61)
Constant	-2.87** (1.5)	-3.6** (1.7)
Chi sq	20.8**	20.1**
Correct percent	79.3	78.4
N	92	92

\* significant at  $p < 0.1$ ,

\*\* significant at  $p < 0.05$ ; Y – industry and regional dummies included

Another explanation may be connected with the fact that the re-orientation of exports, during the time period under analysis, has occurred due to changes in the international environment and is not directly linked to restructuring efforts by the enterprises. The worsening of trading relations with Russia (Ukraine's major CIS partner), characterised by the imposition of tariff and non-tariff barriers on both sides, resulted in a redirection of



Ukrainian exports towards non-CIS markets in 1995 to 1997. This may partly explain why we fail to find a positive correlation between export reorientation and performance outcomes, especially if this shift to non-CIS markets has occurred under unfavourable terms of trade, i.e. companies have been pushed to

**Table 11**

Linear regressions; dependent variables are the change in the share of exports in total sales and the change in the share of non-CIS exports in total exports, both between 1995 and 1997

Independent variables	Change in export share, 1995-1997	Change in non-CIS export share, 1995-1997
<u>Ownership</u>		
PRIV	4.28** (2.5)	5.3** (2.59)
<u>Competition</u>		
DOMCOMP	-0.25 (2.5)	0.54 (2.5)
FORCOMP	(3.4)	0.58 (3.5)
<u>Hardening budget constraints</u>		
SUBSIDY	6.1 (5.8)	6.8 (6.0)
BARTER	-1.5** (0.45)	-1.25** (0.45)
<u>Human capital</u>		
MANTRAIN	5.8** (2.3)	6.2** (2.45)
MANCHANGE	2.7 (2.4)	3.0 (2.16)
<u>Control variables</u>		
REG	Y	Y
IND	Y	Y
INIPOS	2.3 (1.5)	1.9 (1.5)
EXP95	-0.1** (0.05)	-0.04 (0.05)
Constant	-7.4 (7.9)	-11.8 (7.8)
Adj R <sup>2</sup>	0.116	0.10
F	2.58**	2.24**
N	132	90

\*  $p < 0.1$ ,

\*\*  $p < 0.05$ , standard errors are presented in brackets; Y- regional and industry dummies are included

sell their products at very low (or dumping) prices in order to be able to export. Therefore, in the short run the re-orientation of exports towards non-CIS countries has not resulted in an improvement in performance, but in the long run this could still be expected.

Similar to the case of restructuring measures, *ownership changes turn out to be insignificant in explaining differences in performance results*. This result is quite consistent with other recent studies on Ukrainian and



Russian restructuring (see Estrin and Rosevear, 1999; Akimova and Schwödiauer 2000), which show that in the early years of transition, the multifaceted restructuring activities of companies are not directly associated with performance improvements.

Our results suggest that the *main driving force behind performance improvements for Ukrainian industrial firms between 1995 and 1997 is high competitive pressure from domestic and, in particular, from foreign producers*. This supports the conclusions of some studies that suggest that competition should be the leading force for performance improvements (Earle and Estrin 1998). The coefficients for hard-budget-constraints variables have the predicted negative signs, but are statistically insignificant. The changes in managerial human capital measured by *participation in management training programs have a strong positive impact on the increase in market share of the firm*. Evidence of a significant impact of management turnover on performance results is not found.

Concerning control variables, the industry effect has a significant impact on the propensity of a firm to increase its market share. Finally, the overall transitional effect (represented by the regression constant) *is found to be negative for enterprise performance*.

What then are the main factors that influence companies to *reorient their sales towards exports*? In Table 11, we present the results of linear regressions designed to explain changes in the share of exports in total sales. Our results suggest that *private ownership and improvements in the quality of managerial human capital (both management turnover and training) have a clear strong positive impact on both the share of total exports and the share of non-CIS exports*. Firms with dominant private owners, have, on the average, increased their share of exports in total sales by 4.2% more than enterprises where the state is the dominant owner. For the shares of non-CIS exports of total sales, this difference is even higher, reaching 5.2%. Very likely, private ownership influences restructuring activity of the enterprises indirectly by inducing export reorientation.

Our findings suggest that *soft budget constraints measured as the share of barter in total sales negatively influence changes in the export orientation of enterprises*. No significant impact of competition, industry, regional and initial position effects is found. The initial share of exports in total sales was found to be negatively correlated with the change in trade orientation towards exports. Thus enterprises with a lower export share in the past have experienced a higher growth in export share between 1995 and 1997.

## 8 Implications

Our findings have clear *policy implications*.

First, the future success of restructuring of large industrial enterprises in Ukraine is related to their increasing integration into the world economy through re-orientation towards, and production for export. This applies



particularly to exports into non-CIS markets. On the macro-economic level this requires the promotion of open and transparent of trade policies, elimination of all remaining export barriers, adoption and mutual recognition of internationally accepted norms, standards and certification procedures, and elimination of all restrictions on the use of foreign exchange (see: The Next 1000 Days: An Economic Reform Agenda for Ukraine, 1999, pp.43-44). Joining the WTO is an important step in enhancing and ensuring trade liberalisation.

Second, accelerating the privatisation of the remaining large industrial companies will induce them to redirect their trade towards exports and push them towards restructuring.

Third, the hardening of budget constraints is a necessary pre-condition for restructuring and improving the performance of enterprises. State subsidisation should be reduced, and any future subsidies should be subject to regular status reports and performance reviews. Serious attention should be paid to re-monetisation of the economy, i.e. to the reduction of barter operations, which are still used by many unprofitable firms as a survival instrument.

Fourth, encouraging competition between domestic and foreign producers is an important driving force for enterprise restructuring. This requires the implementation of a well-developed anti-monopoly policy, the creation of a favourable business environment for the establishment of new private firms, and dismantling import protection.

Fifth, enterprise restructuring will never work effectively in an unstable and investment-discouraging business environment. Enforcement of contracts, protection of property rights and stability of the legal framework, together with simple and clear tax legislation, are pre-conditions for successful enterprise restructuring and economic growth.



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