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Kenneth Smith

Kenneth Smith
This issue of the Baltic Journal of Economics consists of papers that were presented during a series of workshops in the Baltic States. In all, three workshops, collectively entitled, Labour Markets, Work and Welfare During the Transition and Integration Processes, were held. The first occurred in Vilnius in April 2000, the second in Riga in March 2001, and the final in Tartu in May 2002. The workshops were made possible through generous financial support from the European Union and the Center for European Integration Studies (ZEI) at the University of Bonn. The workshops were made possible through generous financial support from the European Union and the Center for European Integration Studies (ZEI) at the University of Bonn. The workshops were made possible through generous financial support from the European Union and the Center for European Integration Studies (ZEI) at the University of Bonn.1 ZEI, EuroFaculty, BICEPS, and the respective resident universities (Vilnius University, the University of Latvia, and Tartu University) hosted the events. CEPR provided support as well.

Over the course of the three workshops, presentations were made by six senior lecturers ranking among the top researchers in Europe in the fields of transition and labor economics. Each workshop also featured policy-oriented presentations regarding issues of transition and European integration from individuals locally engaged in these processes either in government or in academia. Additionally over 50 research presentations in all were made by junior researchers mostly working on aspects of labour markets in transition economies. The presentations covered features of economic transition and integration for most of the accession countries as well as papers that discussed labour issues in some of the former central Asian republics of the Soviet Union, Turkey, and India.

Six presented papers are included in this issue. Three individual papers presented by junior researchers deal specifically with the Baltic States. Additionally three shorter papers are included that discuss economic, political, and legal ramifications of EU accession for the Baltic States.

The first paper by Eamets, Varblane, and Sostra examines the effects of the Russian financial crisis on Estonian unemployment. The authors find evidence of a significant impact though one that had an asymmetric effect based on occupation. The evidence indicates the negative effects of the crisis fell mostly upon lower-skilled blue-collar workers.

Wilder and Viies examine the Estonian income distribution in the second paper. Using data from 1995 and 1999, the authors look at how progression in the

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1 EU support was provided through a 5th Framework grant (Contract # HPCFCT-1999-00182).
2 The senior lecturers were: Michael Burda and Tito Boeri (Vilnius), Michael Spagat and Zvi Eckstein (Riga), and Torben Andersen and Simon Commander (Tartu).
transition process affects overall income inequality as measured by the Gini Coefficient. Consistent with theory and findings from other studies, Wilder and Vies find demographic factors have played a major role in the changing distribution of income.

The third paper is a contribution from three undergraduate students at the University of Latvia, Jelena Popova, Olga Rastrigina, and Ija Trapeznikova. Students, including many undergraduate students, played a fundamental role in the workshop series both as organizers and presenters. The paper by Popova, Rastrigina, and Trapeznikova is just one example of exceptional work by undergraduate students that was presented at each one of the three workshops. In their paper, the three authors explore the incidence of part-time employment and underemployment in Latvia using Latvian Labour Force Survey Data from 1999 and 2000. The authors find that both regional and demographic characteristics play a key role in determining both part-time employment and underemployment.

The final three papers originate from a roundtable discussion held during the Tartu workshop. The three authors, Alf Vanags, Daunis Auers, and Michael Gallagher, have devoted several years each to the reform of education and research at Baltic universities in the respective areas of economics, law, and political science & public administration. Each of the authors focuses on the potential impact of EU accession for the Baltic States (months away at the time of publication) in their respective areas.

In the area of economics, Vanags focuses on the potential impact of trade, aid, and FDI benefits associated with Latvia’s accession. He conjectures the benefits are positive and significant if somewhat modest and that many of the benefits of integration with the EU have already been realized. Similarly Auers concludes that many of the political benefits of EU accession for the Baltic States have already been realized as democratic and economic reforms were implemented in the run-up to the final accession agreements. Conversely, Gallagher believes that a great deal will need to be accomplished on the legal front if the Baltic States are to become full partners in the EU. In particular, he focuses on the need to change a legal culture that retains many aspects of the old Soviet Union.

The following are just six contributions from a large number of excellent papers presented at the three workshops. I encourage anyone who is interested in learning more about the workshop to contact me.

Kenneth Smith
Economics Department
Millersville University
Millersville, PA 17551
USA
e-mail: Kenneth.smith@millersville.edu

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External Macroeconomic Shocks and the Estonian economy: How did the Russian Financial Crisis affect Estonian Unemployment and Foreign Trade?
Raul Eamets, Urmas Varblane, Kaja Sõstra*

Abstract
In this empirical paper we examine how the Russian financial crisis affected Estonian unemployment and foreign trade. In our interpretation the Russian crisis caused depression in the Estonian economy, but at the same time it also caused a relatively fast reallocation of trade. Eastward export flows (largely foodstuffs) declined drastically while exports to Finland and Sweden largely increased. Several manufacturing firms went into bankruptcy and foreign investors benefited from relatively low stock prices and bought majorities in many Estonian firms. Although the main FDI inflow was connected with the banking sector, we can say that the banking sector was in crisis because of the poor performance of manufacturing (and other sectors). As a result of FDI, labour efficiency increased and labour demand declined. Employment declined in the sectors that were most affected by the Russian crisis, especially fishing, agriculture, manufacturing and construction. Unemployment remained relatively high even as GDP rose, largely because of increased productivity.

From our empirical analysis we draw the conclusion that most of the suffering that resulted from declining demand was experienced by less productive blue-collar workers. We also found that low-educated groups are at an increasing risk of unemployment compared with people with a university education. These findings indirectly support our assumption about technological changes. Less qualified, rather than skilled, labour lost their jobs.

Key words: Russian crisis, transition economies, labour market, foreign trade
JEL code: F2, F40, J63

* Raul Eamets, Ph.D., Associate professor of Economics, Faculty of Economics and Business Administration, University of Tartu, Estonia, Narva Rd.4-212, 51009, Tartu, Estonia, e-mail eam@mtk.ut.ee. Urmas Varblane, Ph.D, Professor of International Business, Faculty of Economics and Business Administration, University of Tartu, Estonia, Narva Rd. 4-212, 51009, Tartu, Estonia, e-mail varblane@mtk.ut.ee. Kaja Sõstra, Ph.D. student, Faculty of Mathematics, University of Tartu, Estonia; e-mail - kaja@vil.stat.ee. Authors are grateful to participants of the session of labour markets in transition economies at 14th Annual EALE conference in Paris, in 19-22. Sept 2002 and anonymous referee of BJE for very useful comments and suggestions. All remaining errors are ours.
Introduction
In 1998 the Estonian economy was affected by the Russian financial collapse. The general loss of competitiveness in the Russian market, as a result of the devaluation of the rouble, forced Estonian manufacturing industries to change their direction of trade and carry out extensive restructuring. In general, it also caused further structural change in Estonian manufacturing industries and resulted in significant employment reduction. The food processing sector was most severely affected, but the chemical industry and machinery also suffered. During the second part of 1999 the economy started to recover, and this continued in 2000. The real GDP growth rate for 2000 was 6.5%. At the same time labour market indicators did not show any improvement at the beginning of 2000 (table A1 in appendix 1). We believe that one reason for this is the technological change that took place during the restructuring of enterprises affected by the Russian crisis. Unfortunately we can use only labour supply side data in our econometric analysis. This means we can only indirectly test our assumption. This is a first attempt to test the effects of the Russian crisis on the Estonian economy. There are some analyses of related topics such as Estonian labour market flexibility issues; see for instance Halliwanger, J., Vodopivec, M. (1999); Jurajda, Terrell (2001); Arro et al (2001); Faggio, Konings (2001). However, there is little research specifically concerning the Russian crisis, the labour market and trade relations.

Our main idea is the following: The Russian crisis caused a depression in the Estonian economy and a relatively fast reallocation of trade. Eastward export flows (primarily foodstuffs) declined drastically while exports to Finland and Sweden largely increased. Several manufacturing firms went into bankruptcy and foreign investors benefited from relatively low stock prices acquiring majority shareholdings in many Estonian firms. Although the main FDI inflow was connected with the banking sector, we can say that the banking sector was in crisis because of the poor performance of manufacturing (and other sectors). As a result of FDI, labour efficiency increased and labour demand declined. Employment declined in sectors that were most affected by the Russian crisis, such as fishing, agriculture, manufacturing and construction. Unemployment remained relatively high even as GDP rose, largely because of increased productivity. Most of the suffering that resulted from a decline in labour demand was experienced by less productive blue-collar workers.

Empirically we analyse the effect of macroeconomic shocks on unemployment. We use Estonian labour force survey data and examine which groups are most affected by the general economic decline caused by external shocks. When we consider the rise in inflows to unemployment, we assume that people with less education and less skilled positions (blue collar workers) suffered more. This could be interpreted as evidence that employers substitute less productive workers with more productive technologies. In unemployment terms this assumption implies that part of the cyclical unemployment became structural.

In our econometric analysis we assume that capital and unskilled labour are more likely to be substitutes in production than skilled labour and capital, which some studies have identified as complements in production. Because factors of production that are complementary must be gross complements, technological change is more likely to increase the demand for skilled rather than unskilled labour (Krueger, A, 1993).

The paper is structured in the following way. The first part sums up general macroeconomic developments in Estonia and presents stylised facts about labour market developments. We then analyse developments in Estonian capital markets and trade flows. Then we move on to analyse changes in the Estonian economic environment after the Russian crisis and estimate the effect of macroeconomic shocks on unemployment. We calculate odds ratios using a logit model. In our logit model the dependent variable was the log of the odds that an individual will be unemployed, and using odds ratios we measured how different personal characteristics influence the risk to be in that group.

Changes in the Estonian macroeconomic environment and labour market
In 1989, the Estonian economy was part of the Soviet economy and was closely bound up with the raw material and product markets of the former Soviet Union. Thus at the beginning of the transition period the employment structure in Estonia reflected the artificially shaped structure arising from the economic needs of the Soviet Union. The years since 1989 have been a period of deep change in the Estonian economy. This period consists of different sub-periods (see Table A2, appendix 2). Between 1989 and 1991 Estonia was still a part of the Soviet economy, but it had started already initial macroeconomic reforms such as the price liberalisation. Drastic changes in the Estonian economy took place in the period 1991-1992. In June 1992 Estonia introduced its own currency, using a currency board system. At the same time principal decisions were made about complete freedom in foreign trade and a balanced budget requirement is embedded in the Estonian constitution. This created a completely new environment for business activities and is considered to be the start of serious economic reform in Estonia. As a result of this combination of macroeconomic reforms the Estonian economy was reoriented toward Western partners. This period in the development of the Estonian economy was marked by a relatively steady economic growth up to the middle of 1998. This was followed by the banking crisis and the Russian crisis of 1998, which resulted in stagnant economic growth and a second wave of restructuring in the Estonian economy. Growth rates have recovered to previous levels from the end of 1999.

Output decline
Poor starting conditions led Estonia and the other two Baltic states to greater falls in output than in most CEE states (See Figure 1). The deepest annual decline of GDP was in Latvia (34.9%), followed by Lithuania (21.3%) and Estonia (14.2%) in 1992. In comparison Poland’s GDP decline, after one year of reforms (in 1990), was 11.6%. By OECD estimates, all three Baltic States had returned to growth in 1996, with the higher Estonian rate partly reflecting the fact that it returned to growth earlier.

A fall in economic output is typical of the early transition period. According to Allen (1992) the main sources of output decline, common to transition economies, are: (i) the implementation of structural changes. The experience of the IMF has shown that deep structural adjustment is almost invariably accompanied by a
certain retrenchment in production; (ii) the shift from the pattern of holding stocks of input as a precaution against disruptions in supply to holding stocks of output so that customer demand may be met. This is a fundamental part of the process of transition from a supply-constrained to a demand-constrained economy. When it occurs, it inevitably causes output losses as firms run up against the demand barrier for their production; (iii) the decline in output has been partly explained as the result of a breakdown of plan discipline. While the planned economy did not work well, its elimination has made the co-ordination of economic activities more difficult. This is a temporary phenomenon.

There are many other possible explanations for economic decline in the transition phase. Some have argued that the magnitude of the decline has been overstated by official statistics, either because their coverage excludes all or part of the growing private sector (Berg and Sachs, 1991) or simply because, beginning from an initial situation of widespread shortages, standard price and quantity indices generally overstate the drop in output and the increase in the price level associated with price liberalisation (Osband, 1992). Such explanations do not, however, claim that the decline in output is entirely a result of official statistics2.

A supply-side view would characterise the output decline as a result of increased input prices (energy, oil). After the price shock Estonia was faced with a new relative price structure and one would expect that, over a period of time, resources would flow towards sectors where relative output prices had risen and away from other sectors. A relatively high growth rate in 1997 (10.7%) indicates that the Estonian economy had almost fully recovered from previous supply shocks and high growth rates even caused discussion in the local media about the Estonian economy overheating.

Economic performance data for 1998 show a slowing of GDP growth. The main reasons for this were the financial recession caused by the stock market crash in October 1997 and the ensuing crises in world financial markets. The Russian economic collapse of summer 1998 also contributed to the slowdown of the Estonian economy, continuing throughout 1999. The Estonian Statistical Office reported a 1.3% GDP decline in 1999. This recession caused by external macro shocks clearly showed how vulnerable the small Estonian open economy was to the influences of the world market.

In the second part of 1999 the economy started to recover and this continued during 2000. The real GDP growth rate for 2000 was 6.5%. At the same time labour market indicators did not show any improvement at the beginning of 2000. We believe that one reason for this is the technological changes that took place during the restructuring of enterprises affected by the Russian crisis.

Changes in the labour market

The period 1989–1997 is of major importance for the labour market situation in Estonia. Table A1 (appendix 1) shows the emergence and growth of

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2 Some economists have viewed the output decline as being related to the price shock that followed economic liberalisation. This demand-side view would argue that the decline in real wages, money, and credit is associated with the inflation depressed domestic absorption and thereby contributed to the decline in output (Boerstein, Ostry; 1995). Other demand-side effects might include a high real interest rate and a change in foreign trade (collapse of trade relations with CIS countries as in Estonia’s case).
unemployment and the decrease in employment in this period. While in 1989–1990 unemployment was virtually nonexistent, in 1991 it became a reality. The first recipients of unemployment benefits were registered in the summer of 1991. The initial fall in GDP did not lead to high unemployment. Unemployment in Estonia has increased gradually, and there has been no explosion of unemployment. In March 1999, the registered unemployment rate was 6.7%, and the ILO unemployment rate (based on accepted international standards) was 11.7%.

The main reason for moderate unemployment growth was a sharp drop in labour force participation. Other factors include the undervalued exchange rate of the Estonian currency, relatively flexible labour markets, low unemployment benefits, and net emigration to the Former Soviet Union (FSU). In the beginning of 1999, Estonia suffered from a rapid increase in the unemployment rate. In our opinion this was evidence of increasing structural unemployment. We can assume that part of the cyclical unemployment, caused by external shocks (Russian crisis), transformed into structural unemployment.

From the labour market point of view one can expect a drastic increase of unemployment to accompany an output decline in the early years of transition. But if we look at the unemployment data this picture does not emerge. Unemployment growth remained moderate during the sharp decline of GDP.

Although unemployment numbers remain relatively high we observe generally declining tendencies. If we ignore seasonality effects we can see that unemployment in general has declined in 2001. Figure 2 presents employment and unemployment changes, comparing yearly changes based on quarterly data.

For instance, unemployment started to increase after the Russian crisis in 1998. In Q3 of 1999 unemployment reached its peak, increasing by 30% compared with Q3 of 1998. Unemployment changes are relatively well correlated with employment changes. In 2001 unemployment declined for the first time compared with the previous year. Employment also increased in 2001 for the first time. These developments indicate the high flexibility of the Estonian labour market as changes in employment and unemployment are highly correlated. If we analyse employment changes by sectors, then we can see that the most affected sectors were fishing, agriculture, trade and construction.

**Foreign trade**

Estonia adopted a policy of complete free trade with neither import duties nor export taxes in early 1990. The openness of the domestic market encouraged the rapid process of seeking Estonian comparative advantage on the world market. It caused a quick reallocation of resources in the economy and a strong redirection of trade flows. Table 1 reveals the radical changes in the structure of Estonian foreign trade.

### Table 1: Estonian import and export by main trade partners (%)

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<tbody>
<tr>
<td>Finland</td>
<td>23.3</td>
<td>21.2</td>
<td>21.5</td>
<td>15.7</td>
<td>18.7</td>
<td>19.4</td>
<td>27.0</td>
<td>26.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>0.5</td>
<td>7.7</td>
<td>10.9</td>
<td>13.3</td>
<td>16.7</td>
<td>18.6</td>
<td>17.3</td>
<td>15.2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Latvia</td>
<td>7.7</td>
<td>10.6</td>
<td>7.5</td>
<td>8.6</td>
<td>9.4</td>
<td>8.7</td>
<td>7.2</td>
<td>7.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>56.5</td>
<td>20.8</td>
<td>17.7</td>
<td>18.8</td>
<td>18.5</td>
<td>9.2</td>
<td>6.8</td>
<td>3.8</td>
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</table>

Table 1 demonstrates that the main trade partner of Estonia in 1991 was Russia. Its share of total imports and of total exports was 45.9 per cent and 56.5 per cent respectively. The period after the Russian crisis marked another decline in the importance of CIS countries in Estonian foreign trade.

**Foreign direct investment**

Estonia has been successful in attracting foreign direct investment. Figure 3 gives an overview of FDI inflows into Estonia based on quarterly data. The first period of intensive FDI inflow into Estonia occurred from 1992 until the middle of 1994, followed by subsequent growth phases in 1995, and, beginning from the second half of 1996, FDI inflow has persistently grown. There are a number of reasons for the irregular behaviour of FDI inflow. In the early years of transition the main explanatory factor was the privatisation method used by Estonia.

The most important large state-owned enterprises were sold by tenders in early mass privatisation rounds, and a strong correlation exists between privatisation...
have listed several factors characterising the influence of FDI on employment in transition economies. They found that FDI operates as a buffer either by generating new or maintaining existing employment. Also they support the idea that FDI can contribute to generating domestic employment and recovery rather than the view that FDI alone causes growth or generates the bulk of manufacturing employment. Thirdly, they showed in their paper that the increasing differences in the sectoral distribution of FDI employment across countries is closely related to the relative order of FDI inflows per capita. This means that as countries receive more FDI inflows it becomes more likely that various types of FDI will emerge (Radosevic, 2003).

The Estonian Economic Environment and The Crisis in Russia

The decline of Estonian GDP in 1998 was caused by weak external demand due to the Asian and Russian crises. This was reinforced by the deceleration of growth in Western Europe, which hindered the restoration of quick general export growth to compensate for the gap resulting from the loss of the Russian export market for Estonian food products. These crises had a severe impact on general economic conditions in Estonia. Because of the automatic adjustment mechanism, which is a feature of the currency board system, external shocks were rapidly transmitted to the economy, severely testing the adjustment ability of the private sector.

According to a Government report, average nominal wages fell in a number of sectors in the fourth quarter of 1998, both on a quarterly and annual basis, and unemployment increased. These developments were the reflection of liberal labour market policies with few restrictions and regulations, which in turn have enabled the emergence of competitive and flexible wage and employment systems (Government of the Republic of Estonia et al, 2000).

Table 2: Export of Estonian agricultural products to main partners (% of total export articles 1-24 in STIC)

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</thead>
<tbody>
<tr>
<td>Russia</td>
<td>44.9</td>
<td>36.8</td>
<td>36.9</td>
<td>26.4</td>
<td>17.2</td>
<td>8.7</td>
<td>4.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Ukraine</td>
<td>4.7</td>
<td>9.0</td>
<td>13.3</td>
<td>12.7</td>
<td>15.6</td>
<td>14.5</td>
<td>7.7</td>
<td>6.0</td>
</tr>
<tr>
<td>Byelorussia</td>
<td>2.4</td>
<td>3.9</td>
<td>1.7</td>
<td>1.3</td>
<td>0.9</td>
<td>0.4</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Latvia</td>
<td>9.3</td>
<td>6.5</td>
<td>6.6</td>
<td>12.9</td>
<td>19.7</td>
<td>20.3</td>
<td>17.7</td>
<td>16.3</td>
</tr>
<tr>
<td>Lithuania</td>
<td>6.3</td>
<td>5.2</td>
<td>6.4</td>
<td>7.1</td>
<td>9.4</td>
<td>11.1</td>
<td>12.9</td>
<td>10.0</td>
</tr>
<tr>
<td>EU</td>
<td>23.2</td>
<td>30.0</td>
<td>23.3</td>
<td>30.2</td>
<td>26.0</td>
<td>30.3</td>
<td>39.4</td>
<td>27.5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.4</td>
<td>0.7</td>
<td>1.2</td>
<td>1.2</td>
<td>1.8</td>
<td>2.9</td>
<td>3.2</td>
<td>3.4</td>
</tr>
<tr>
<td>USA</td>
<td>0.4</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
<td>1.4</td>
<td>1.3</td>
<td>2.5</td>
</tr>
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</table>

Source: Estonian Ministry of Agriculture (www.agri.ee)

The implications of the Russian financial crisis were first revealed in the manufacturing sector, which exports about half of its production outside Estonia. The unexpected disappearance of the export market caused major problems in the largest industry, food processing, as over 75% of exported agricultural products were sold to former Eastern bloc countries. Table 2 reveals the sharp decline in the relative importance of Russia and Ukraine as export markets for Estonian agricultural products after the Russian crisis. This decline was only partly offset by an increase in exports to the EU, as the total agricultural exports declined from 3.4

Figure 3: FDI inflows in Estonia during the period 1992-2003 (in millions of EEK)

Source: Bank of Estonia (http://www.eestipank.info)

The behaviour of foreign investors during the 1998 Russian crisis is interesting. Swedish and Finnish investors exploited low share prices, reflecting difficulties in the Estonian economy, to purchase majority shareholdings in several Estonian firms. The most significant examples were Swedfund buying a majority share in Hansapank, the leading private commercial bank in the Baltic States and Skandinaviska Enskilda Banken buying shares in the Estonian Union Bank, the second biggest commercial bank in Estonia (Foreign, 2001). Since the end of 1999, annual FDI inflows have been growing. These increased inflows have been associated with the privatization of significant state owned infrastructure firms – Estonian Telecom, Estonian Railway, and Tallinn Water. Starting from 2000, an important component of FDI has been reinvested earnings from the existing stock of FDI and further acquisitions of domestically owned firms by foreign investors.

FDI has played a major role in the development of the Estonian economy. High FDI inflow has been one of the major factors in the recovery of the Estonian economy after the initial transformation shock. FDI can influence employment in different ways. Mickiewicz et al.(2000) as well as Varblane and Mickiewicz (2001) have found that FDI inflows have operated as a buffer either by generating new or maintaining existing employment. Also they support the idea that FDI can contribute to generating domestic employment and recovery rather than the view that FDI alone causes growth or generates the bulk of manufacturing employment. Thirdly, they showed in their paper that the increasing differences in the sectoral distribution of FDI employment across countries is closely related to the relative order of FDI inflows per capita. This means that as countries receive more FDI inflows it becomes more likely that various types of FDI will emerge (Radosevic, 2003).
billion EEK (approximately 217 million EUR) in 1998 to 2.6 billion EEK in 1999.

Stocks in the food industry grew rapidly, being 50 percent larger at the end of the third quarter relative to the beginning of 1998. Funds tied by stocks created additional problems. Several food processing companies went bankrupt at the end of the year (Bank of Estonia, 1999). The Russian crisis reduced Estonian exports not only in the food sector but also the chemical industry, mineral products (mainly construction materials) and transportation equipment. Figure 5 in appendix 4 presents quarterly export flows during the period 1995-2001 in sectors most affected by the Russian crisis (million EEK). It describes the rapid and severe decline of exports in all of the above mentioned commodity groups.

Sales were the lowest both in absolute terms and in annual growth rates in October. Real growth in the sales of manufactured goods reached 2.9% in 1998. No alternative market for foodstuffs formerly exported to Russia emerged in the short run. The reorientation of production capacity formerly servicing Russian markets towards other markets required the involvement of strategic foreign investors and considerable time. Only in 2000 did the EU start to increase tariff-free export quotas for Estonia, which supported the growth of food product exports to the EU. The share of the EU in the export of Estonian agricultural products increased from 26 % in 1998 to 39 % in 2000.

The collapse of the Russian market had a smaller impact on Estonia’s exports than expected. Although export growth rates declined at the end of the year, the annual average was maintained in terms of volume. Meanwhile, significant changes took place in the structure of exports - eastward (foodstuffs) export flows dropped 50 percent, but this was balanced by the increased export of electronic components to Finland and Sweden. This was mainly executed in the form of subcontracting with relatively low value added content, but it helped create new jobs and therefore compensated for the employment decline in sectors heavily affected by the Russian crisis. Figure 6 in appendix 4 presents quarterly flows of Estonian exports from 1995-2001 in sectors less affected by Russian crises. It indicates the boom in the export of electrical and electronic components starting from mid-1999. Other sectors experiencing rapid growth were wood products, furniture and to a lesser extent textiles.

These sectors are exclusively oriented to western markets and mainly to the EU. The share of Russia in Estonian total exports declined from 10.5 % in 1998 to 3.8 % in 2001. Therefore the Russian crisis was the second period of reorientation vis-à-vis Estonian foreign trade. It further reduced the dependency of Estonia on the Russian market.

**Changes in Manufacturing Employment by Industry, Foreign and Domestic firms**

The next analysis is based on data from the Estonian Statistical Office (ESA). It covers all firms with more than 20 employees. The ESA uses a classification system by which firms are divided into four ownership categories: state, municipal, domestic and foreign firms. A firm is classified in the foreign group only if the foreign share of nominal capital is equal to 50 per cent or more. Otherwise firms are registered as domestic. Therefore official FDI penetration rates are smaller than the actual rate. In 1999 the total number of firms included was 4329, in 1998 - 3869.
and in 1997 - 3824. The share of foreign-capital based firms increased in 1999 from 20.7% to 25%

According to this data, a total of 7700 jobs were lost in 1999 representing 6.4 percent of total manufacturing employment. Table 3 indicates that bankruptcies in food processing also had a severe impact on the labour market, as the food processing industry accounted for 20 percent of total employment in the Estonian manufacturing industry in 1998. In 1999, a total of 2800 jobs were lost in the food industry.

It is evident that sectors of the Estonian manufacturing industry dominated by foreign-owned firms were less affected by the Russian crisis. In 1998-1999 foreign-owned firms actually created jobs while domestically owned firms shed almost 11000 jobs.

Estimation of the Effect of Macroeconomic Shocks on Unemployment

From the previous section we saw that the Russian crisis affected employment in domestic firms more than in foreign firms. In this section we analyse how different worker categories were affected by dismissals. As we assumed in the beginning, people with less education and less skilled positions (blue collar workers) suffered more in terms of rising inflows to unemployment. This could be interpreted as evidence that employers substitute more productive technologies for less productive workers. As we can see from figure 4, the number of blue-collar workers in industry (12000) dropped more than in agriculture (6000) in 1999. The number of white-collar workers was relatively stable. Next, we analyse how statistically significant these changes were.

Figure 4: Employment changes by sector and occupation

Data

Data from three Estonian Labour Force Surveys (ELFS) 1998–2000, were used. ELFS 98 and ELFS 99 were carried out in the 2nd quarter of the survey year; the sample size was 13090 and 12703 working age people respectively. Starting from January 2000, the Estonian Labour Force Survey is carried out continuously. The data of the 1st and 2nd quarters feature a total sample size of 7505 working age people currently available for work. Only data of employed and unemployed people were used. The data of people employed or previously employed in the Armed Forces and people seeking their first job were not included for practical reasons.

The sample design of ELFS is complicated with stratification and clustering. All computation is made with the statistical package SUDAAN that takes account of variation between and inside the clusters. We calculated odds ratios using a logit model and the results are presented in Table 3. The dependent variable in the logit model used for the analysis was the log of the odds that an individual will be unemployed, and we tried to measure how different personal characteristics influence the likelihood of being included in that group.

Model

The aim of the model was to first analyse how unemployment depends on several characteristics of the respondent. Second changes to the unemployment structure during the three successive years were scrutinised. As the study variable was binary (1 – unemployed, 0 – otherwise) the logit link function was applied.

The model takes the form:

$$\ln \left( \frac{p_i}{1 - p_i} \right) = b_0 + b_1 x_{i1} + b_2 x_{i2} + \ldots + b_k x_{ik},$$

where

- $p_i$ – proportion of unemployed persons in the subgroup $i$,
- $b_k$ – model coefficients,
- $x_{ik}$ – indicator variables for the classes of predictors or continuous variables of the respondent $i$.

In the process of model-fitting the following explanatory variables were tested: sex, age (continuous), 5- and 10-year age groups, marital status, nationality, Estonian language ability (Estonia has a significant Russian speaking minority), place of residence, level of education, occupation and main activity of current or last job. An appropriate model was constructed by consecutively removing statistically insignificant terms beginning from the “full” model. The resulting model includes seven statistically significant variables of which a detailed description is given below.

The vector $b$ was then estimated for all three survey years. Procedure LOGISTIC in the package SUDAAN finds the vector $b$ that maximises the weighted likelihood function:

$$\hat{b}(b) = \ln \hat{L}(b) = \sum_{i \in S} w_i [y_i b - \ln(1 + e^b)],$$

where

- $w_i$ – sampling weight of respondent $i$,
- $y_i$ – response variable.

For interpreting the model the odds ratio $p_i/(1 - p_i)$ is appropriate.

The estimated odds ratio for a coefficient is computed as

Estimated Odds Ratio = $\exp(b_k)$
The lower and upper limits of a 95% confidence interval for the odds ratio for \( b_i \) are computed as

Lower limit = \( \exp \left[ \hat{b}_i - t_{0.025} \text{se}(\hat{b}_i) \right] \)

Upper limit = \( \exp \left[ \hat{b}_i + t_{0.025} \text{se}(\hat{b}_i) \right] \)

Where \( \text{se}(\hat{b}_i) \) is the estimated standard error of \( \hat{b}_i \) and \( t_{0.025} \) is the tabled value of the Student's t distribution. The estimated odds ratio is statistically significant if a confidence interval does not include the value 1.

**Variables**

**Dependent variable:**
UNEMPLOYED
1 - respondent was unemployed in the survey week (was without work, currently available for work and actively seeking work),
0 - otherwise.

**Independent variables:**

**OCCUPATION** – occupational groups (occupation of last job for unemployed persons).
1 - “blue-collar” workers (service workers and shop and market sales workers; skilled agricultural and fishery workers; craft and related trade workers; plant and machine operators and assemblers; elementary occupations);
2 - “white-collar” workers (legislators, senior officials and managers; professionals; technicians and associate professionals; clerks).

**LANGUAGE** – speaking Estonian:
1 - speaks or understands Estonian,
2 - does not speak Estonian.

**EDUCATIONAL LEVEL:**
1 - below upper secondary education,
2 - upper secondary education,
3 - non-university tertiary education,
4 - university degree.

**MARITAL STATUS:**
1 – single,
2 - married or cohabiting,
3 - widowed, divorced, separated.

**SECTORS OF ECONOMY** (main activity of the enterprise)
1 - primary sector (agriculture, hunting, forestry, fishing),
2 - secondary sector (mining, manufacturing, electricity, gas and water supply, construction),
3 - tertiary sector (trade, services etc.).

**AGE** – age of respondents on January 1 of the survey year.

**SEX:**
1 – male,
2 – female.

Apart from the continuous variable AGE, other characteristics are represented by dummy variables in the model. The base category for OCCUPATION was “white-collar”; for LANGUAGE the base category was not speaking Estonian; for EDUCATIONAL LEVEL the base category was a university degree; for MARITAL STATUS the base category was widowed, divorced, separated; for SECTORS OF ECONOMY the base category was tertiary sector and for SEX the base category was female (for more information see appendix 2).

**Results**

As table 4 demonstrates, blue-collar workers are under increasing pressure in the labour market and faced increasing risk of unemployment during the 1998-2000 period. A similar effect is apparent if we compare workers at various educational levels. Despite the fact that the non-university tertiary education group is not statistically significant we can see that less educated groups face an increasing risk of unemployment relative to people with a university education.

**Table 4: Estimation results (odds ratios with p-values in parentheses)**

<table>
<thead>
<tr>
<th>Source: Authors' calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ETU98</strong></td>
</tr>
<tr>
<td>1. <strong>Age</strong></td>
</tr>
<tr>
<td>2. <strong>Occupation1 “blue-collar”</strong></td>
</tr>
<tr>
<td>3. <strong>Language1 Estonian speaking</strong></td>
</tr>
<tr>
<td>4. <strong>Education1</strong></td>
</tr>
<tr>
<td>5. <strong>Education2 Upper secondary education</strong></td>
</tr>
<tr>
<td>6. <strong>Education3 Non-university tertiary education</strong></td>
</tr>
<tr>
<td>7. <strong>Marital1 Single</strong></td>
</tr>
<tr>
<td>8. <strong>Marital2 Married</strong></td>
</tr>
<tr>
<td>9. <strong>Sector1 Primary</strong></td>
</tr>
<tr>
<td>10. <strong>Sector2 Secondary</strong></td>
</tr>
<tr>
<td>11. <strong>SexM1 Male</strong></td>
</tr>
</tbody>
</table>

**Source:** Authors' calculations
agriculture and fishing sectors suffered most from the Russian crisis.

It is interesting that language discrimination is declining. Knowledge of the Estonian language appears less important comparing the odds ratios in 2000 relative to 1998. In the environment of high unemployment both language groups are under pressure and language does not matter in the labour market as much as in the early years of transition.

Changes in risk odds ratios of education groups and blue-collar workers explicitly show that an external shock has caused technology changes and firms continue production with a smaller but better qualified labour force. Unemployment data for the second quarter of 2000 also show that high unemployment has become persistent in Estonia. The unemployment rate was 14.5% at the second quarter of 2000, while general economic production expanded rapidly in 2000. Behind the improving 2000 output numbers are better technology, a more productive labour force, as well as a weak euro (the EEK is pegged to the euro), which helped Estonian firms increase their export incomes.

Conclusion
A rapid output decline in the early years of transition in Estonia was not accompanied by a drastic increase in unemployment. The main reason for the moderate unemployment growth was a sharp drop in labour force participation. Other factors include exchange rate undervaluation through the launch of the Estonian currency, relatively flexible labour markets, low unemployment benefits, and net emigration to the FSU. There were other factors influencing a moderate increase in unemployment. Relatively high inflation did not have much influence on the labour market in the first year of transition, because the currency board system helped to halt hyperinflation quickly in 1992. The massive inflow of FDI played an important role in the stabilisation of the Estonian economy. The consolidation of the commercial banking system enabled households and firms to make more long-term plans and the labour market became more stable.

The behaviour of foreign investors during the Russian crisis in 1998 was interesting. They exploited low share prices of firms (reflecting difficulties in the Estonian economy) and bought majorities in several Estonian firms.

Surprisingly, the collapse of the Russian market had a lesser impact on Estonia’s exports than expected. Although export growth rates declined at the end of the 2000, volumes nevertheless maintained the annual average. Meanwhile, significant changes took place in the structure of export flows. Foodstuffs exports to CIS countries were cut in half though this was offset by the export of electronic components to Finland and Sweden.

The Russian financial crisis in 1998 had a great influence on the Estonian labour market. Enterprise data suggests the foreign owned sector of Estonian manufacturing was less affected by the Russian crisis. During the period of analysis, 1998-1999, foreign-owned firms actually created jobs, while domestic firms shed almost 11,000 jobs.

In our econometric analysis we found that it is mostly blue-collar workers who are under increasing pressure in the labour market, and that the risk of unemployment increased for them between 1998-2000.

We also found that less educated groups are at an increasing risk of unemployment compared with university-educated workers. If we look at the sectoral distribution of unemployment, there was an increasing risk for those working in the primary sector in 1998 and 1999. This fact fits with the general macroeconomic conclusion that the agriculture and fishing sectors suffered most from the Russian crisis.

It is interesting to note the fact that ethnic discrimination is declining. Knowledge of the Estonian language is less important if we look at odds ratios in 2000 compared with 1998. In the environment of high unemployment both language groups are under pressure and language does not matter in the labour market so much as in the early years of transition.

These findings indirectly support our assumption about technological changes. Less qualified people lost their jobs rather than more skilled labour. Unemployment increased at the beginning of 2000, while the economy was already improving. Part of the unemployment (cyclical unemployment) caused by the external shock became structural. People with less education could not find a job and unemployment rose accordingly. In the future, these conclusions should be tested using firm level data. There are probably other explanations for increasing unemployment coinciding with growing GDP. One possibility is, of course, the time lag approach. According to this approach, the labour market adjusts to changing market conditions but only after a certain time lag. The problem is that this can only be tested retrospectively.

References

Government of the Republic of Estonia, European Commission, Directorate General for Economic and
Appendix 1.

### Table A1: Population aged 15–69 by economic status, 1989–2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Total population (15-69)</th>
<th>Labour force</th>
<th>Employed</th>
<th>Participation rate, %</th>
<th>Employment by sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>1039.5</td>
<td>612.7</td>
<td>612.7</td>
<td>79.4</td>
<td>Primary: 65.9</td>
</tr>
<tr>
<td>1992</td>
<td>1069.5</td>
<td>631.7</td>
<td>631.7</td>
<td>78.5</td>
<td>Secondary: 67.1</td>
</tr>
<tr>
<td>1994</td>
<td>1064.3</td>
<td>655.1</td>
<td>655.1</td>
<td>79.2</td>
<td>Tertiary: 68.8</td>
</tr>
<tr>
<td>1996</td>
<td>1062.3</td>
<td>654.8</td>
<td>654.8</td>
<td>79.2</td>
<td>Unemployed: 3.5</td>
</tr>
<tr>
<td>1998</td>
<td>1060.3</td>
<td>653.8</td>
<td>653.8</td>
<td>79.2</td>
<td>Inactive: 33.1</td>
</tr>
<tr>
<td>2000</td>
<td>1058.3</td>
<td>652.8</td>
<td>652.8</td>
<td>79.2</td>
<td>Unemployment rate, %: 3.5</td>
</tr>
</tbody>
</table>

Source: ELFS data

Appendix 2

### Table A2: Chronology of economic developments in Estonia

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic changes</th>
<th>General macroeconomic changes</th>
<th>Labour market and unemployment (ILO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>Pre-reform period</td>
<td>Estonia was part of the Soviet market.</td>
<td>More than 20% of the labour force was employed in agriculture and 42% in the service sector.</td>
</tr>
<tr>
<td>1991</td>
<td>Transition started</td>
<td>Estonia was part of the Soviet market.</td>
<td>Unemployment was low.</td>
</tr>
<tr>
<td>1992</td>
<td>Economic reforms started</td>
<td>Estonia was part of the Soviet market.</td>
<td>Unemployment started to increase, but was still relatively low: 3.7% according to ILO standards.</td>
</tr>
<tr>
<td>1993</td>
<td>Recovery</td>
<td>Estonia was part of the Soviet market.</td>
<td>Unemployment started to increase, in 1994 unemployment reached 7.7%. Highest yearly employment decline in 1995 at 14.6%.</td>
</tr>
<tr>
<td>1995</td>
<td>Economic boom and fiscal collapse</td>
<td>Estonia was part of the Soviet market.</td>
<td>Unemployment rate was 10%.</td>
</tr>
<tr>
<td>1997</td>
<td>Economic boom and fiscal collapse</td>
<td>Estonia was part of the Soviet market.</td>
<td>Unemployment started to increase, in 1995 unemployment reached 7.7%. Highest yearly employment decline in 1995 at 14.6%.</td>
</tr>
<tr>
<td>2000</td>
<td>Recovery</td>
<td>Estonia was part of the Soviet market.</td>
<td>Unemployment started to increase, in 1995 unemployment reached 7.7%. Highest yearly employment decline in 1995 at 14.6%.</td>
</tr>
</tbody>
</table>

Source: Author’s views
Changes in Estonian Income Distribution: A Demographic Analysis

Lisa Wilder and Mare Viies

Abstract: As noted by a variety of theoretical and empirical papers, the transition of the former Soviet socialist countries has brought with it changes in income distribution. As opposed to viewing income distribution overall, this paper examines changes in the level and the distribution of total income per equivalent adult in Estonia based on the head of household’s gender, nationality, education and age. We also use multivariate regression to determine the responsiveness of total household income to demographic, family and work characteristics in two time periods, 1995 and 1999. Our findings show that the pattern of income distribution does vary substantially between demographic groups and our findings are very consistent with the theoretical reasons for changes in income distribution during economic transition. In particular, we find sizable changes in the distribution of income within female headed-households and in the influence of ethnicity on income level and distribution. Understanding the systematic changes in income distribution and level allows policy makers to consider the effectiveness of social policy and the need for reform in the future.

Introduction:
The distribution of income fundamentally impacts individual welfare – be that income distribution governed by the state or by the market. Changes in the demand for labor that accompany the dramatic shifts of economic transition are expected to change the distribution of income considerably from the pre-transition era. The relative lack of property ownership and savings (and the depreciation of savings due to high inflation) indicates that the welfare of a household depends primarily on its ability to find or retain successful work in the new market system. Social support mechanisms also become critical of household wellbeing in this environment.

Not all workers will be able to gain from the market system equally. For some, the market society brought with it vast opportunities while for others it posed a...
tremendous threat. In this paper, we will compare the level and distribution of income both among and between different demographic groups in Estonia. By examining the income distribution in particular quarters of 1995 and 1999, we may better picture the winners and losers of transition.

In this paper, we first present some theoretical discussions regarding income inequality in transition countries. In Section 2, we explain our research methodology and describe the data used in our study. In Section 3, we examine the level and distribution of income based on gender, age, and education demographic groups. The income distributions of 1995 and 1999 are contrasted. In Section 4, we investigate the returns to education and experience and the influence of household characteristics using regression analysis.

1. The Income Distribution during Economic Transition

There is a growing collection of research documenting the characteristics of income distribution in transition economies. Atkinson and Micklewright (1992) provide pre-transition income level and distribution statistics for many transition economies. Recent work, most notably by World Bank researchers, have created a picture of changes in income distribution in transition countries (Deininger and Squire, 1996; Milanovic, 1997, 1999). In addition, papers by Kroncke and Smith (1999, 2002) are particularly relevant to our work since they examine wage differences in Estonia. This work is particularly significant for our study since changes in earnings are a primary driver of the increasing income dispersion.

Income distributions throughout the CEE and FSU countries have displayed increased inequality to various extents. This continues to be true in countries even after they have made the 'U-turn' in terms of output growth. This income distribution pattern has been suggested as a dramatic 'stylized' fact of the transition from a centrally planned to market economy (see Ferreira, 1999, and Deininger and Squire, 1996 for very careful studies of empirical evidence using internationally comparable income distribution statistics).

Numerous theories attempt to explain income distribution change. Some theories, such as that by Kuznets (1955), may not be relevant to the transition economies. Specifically, Kuznets suggests that economic growth influences the income distribution with rewards to higher-skilled workers and savers accruing initially during industrialization but followed by increased redistribution through institutional change and as the poor share increasingly in the benefits of growth. Since the transition economies were already industrially advanced, the Kuznets curve may fall short in explaining the dramatic change in income distribution.

Instead, this paper concentrates on theories of the income distribution related specifically to the transition to a market system. The models used to identify changes due to transition generally focus on the shifting of resources (particularly labor) from the lower-productivity, lower-wage state owned sector to a more-productive, higher-wage private sector with less reliable employment.

Aghion and Commander (1999) identify the following as factors causing the increase in inequality in transition: (1) asset redistribution (primarily privatization), (2) liberalization of prices/inflation tax and macroeconomic instability, (3) liberalization of wages and toleration of unemployment, (4) shifts in the level and nature of public spending, (5) tax changes, particularly the reduction in tax rates to improve work incentives and (6) trade liberalization and increased foreign competition. Aghion and Commander then develop a general equilibrium model in which trade liberalization and changes in organizations influence income inequality.

Trade liberalization brings with it shifts in labor markets to reflect international cost or productivity advantages. Aghion and Commander argue that the socialist-period worker, while having a large stock of human capital on average, has limited flexibility in adjusting to new labor conditions. Also, if the savings from trade accrued to input industries, the demand for skilled labor in the transition economy may increase resulting in higher income inequality.

The authors also point out that new technology, including organizational changes, may lead to a widening of the income distribution as some move to the new technology more quickly than others. If there are constraints limiting the speed of adjustment of workers (or firms), then greater income inequality may result.

Ferreira (1999) identifies the source of increased income inequality to be (1) privatization, (2) new markets for private substitutes for public goods and (3) changes in the returns to education. Privatization increases the assets of some by more than others therefore increasing income inequality. The new substitutes for publicly provided goods (education, health care) allow some in society greater access to productivity enhancing goods and therefore income growth. Finally, changes in the returns to education and more volatility in the labor market lead to a greater spread in earnings. Since volatility in employment (i.e., unemployment) may affect certain segments of the work force more than others, the result may be widening factor and total income distributions.

Finally, Milanovic (1999) builds a model that shows the change in income inequality is a result of the change in the composition of income. Rising wage inequality and greater emphasis on wages leads to increased income inequality. As in the previous models, workers leave the state-sector and enter the private sector labor market. If they find employment, their returns increase since they earn more than in the public sector. However, if they do not find employment, their returns are less as they are now unemployed. As a result, income inequality increases.

In this paper, we will examine the changes in Estonian income distribution as they relate to specific demographic groups (specifically, gender, nationality, education and age). The theoretical models above focused primarily on labor force adjustments and therefore we now consider how demographic characteristics of the head of household would influence ability to adapt to the labor force changes suggested in the models of Aghion and Commander, Ferreira and Milanovic.

In Aghion and Commander’s model, the main force for changes in income distribution relies on the influence of increased foreign competition. Also, changes in management practices, rising unemployment and the liberalization of wages favor those who are easily adaptable in the labor market. For our work here, we would expect those who are younger and who have higher education to be more flexible in making labor market adjustments (either due to trade or technology). Gender or ethnic barriers may also reduce the speed of adjustment of some workers. That would mean that the dispersion among the ’winners’ and ’losers’ would be greatest in categories that are most limited in relocation.

Ferreira’s model identifies changes in the returns to education and new private
production as driving forces. In this case, those with highly valued education and the ability to move into new industries are likely to gain. Much growth in Estonia has occurred in the services sector while the agriculture and manufacturing sectors have not fared as well. We would expect, therefore, that the level and dispersion of income to be related to the industrial classification of the worker and the presence of a particular demographic group in that sector.

Milanovic points out the importance of the growing emphasis on wages. Those who have acquired property rights through privatization would have an increase in non-wage income while an increasing share of workers have wages governed by market processes. Young workers, women and minorities are less likely to be in ownership positions and therefore are more heavily reliant on market wages. If wage inequality exceeds the inequality in the distribution of pensions or profit income, then the demographic groups with greater concentration in wages will have increased total income inequality.

2. Our Methodology and Data Description

This paper will provide an empirical characterization of the Estonian Income Distribution in two periods of time based on the gender, nationality, age and education of the head of household. We utilize two basic approaches to examine the influence of demographic characteristics on income distribution.

First, we consider descriptive statistics related to the level of household income per equivalent adult and the distribution of income within demographic groups. While there are several possibilities, we follow the common practice of using the Gini Coefficient as a measure of income inequality. The Gini Coefficient is larger when the true income distribution differs more from the case of perfect equality and therefore this statistic reflects the area between the actual income distribution curve and the line representing perfect equality on a Lorenz diagram.

In addition, we recognize that many demographic factors are correlated – for example, women may be more or less likely to have higher education than men and young people may be more or less likely than other age groups to be Non-Estonian. In addition, other factors influence the level of income, particularly labor market forces for different industries and public employment. We also consider the influence of children in the household as an important component to both work choices and social support. To accomplish this multivariate analysis, we employ regression. A comparison of log linear income models over time gives a picture of changes in the determinants of household income from 1995 to 1999.

This study is based on an extensive collection of micro-economic data in two periods of time, 1995 and 1999. The primary data collected by the Estonian Statistical Office through the Household Income and Expenditures Survey provides us with this information. The survey has been conducted monthly since 1995 and great attention has been paid to maintain comparability over time. This paper relies upon a collection of research conducted by the authors along with Mary Ellen Benedict beginning in 1995 (Wilder, Benedict and Viies, 1999; Benedict and Wilder, 1999; Wilder and Viies, 2001).

In Table 1, we focus on the demographic composition of the sample and on their level of household income per equivalent adult as compared to the overall average. The Estonian Statistical Office randomly draws individuals from the population to participate in the survey. Once these individuals are selected, data for the entire household is collected. Data collected on each household member include demographic characteristics (age, education, nationality, gender), work characteristics (nature of work attachment, industry, occupation), and income (by type for each household member). Household information is also collected including number of members, location (urban/rural) and expenditure patterns.

Households with no reported income or incomplete records for the head of household were rejected from the sample. We used one quarter of data for each year to avoid the over-sampling of some households as the HIES is a panel study. The completed sample was composed of 1,481 households for 1995 and 1,863 households for 1999. Because the sample method results in a bias toward large households, weights are used so that each household correctly represents a portion of the total Estonian population. The Estonian Statistical Office constructed these weights.

As in any empirical study, data quality issues are a concern. Reported income may not correspond with real household income, particularly among those individuals in the extremes of the income distribution. The Estonian Statistical Office collects information in their survey for income in-kind. This includes non-money gains by the household, for example, the value of farm or garden production or traded services or goods. This addition to the data set helps to include the influence of the underground economy. However, some economic activity is likely to still go unreported. The efforts taken by the Statistical Office to collect information on all household members and all household economic activities are guided by international standards and the inclusion of in-kind information goes far to reduce the impact of the underground economy.

In reporting household income statistics, it is important to consider household size. For the income measure to capture the wellbeing of the household, it is necessary to consider income per capita. However, we use household income per equivalent adult to distinguish the difference in needs of children as opposed to adult household members. While the weight used to calculate equivalent adult could vary, we employ 0.5 as this is the standard generally used.

3. The Distribution of Income in Estonia Over Time: Descriptive Statistics

In this section of the paper, we will examine descriptive statistics related to the level and distribution of after-tax household income per equivalent adult. We consider the role of gender, nationality, age and education to see how the influences of these head of household characteristics have changed from 1995 to 1999.

Because the real value of household income has changed from 1995 to 1999, we will concentrate here on relative changes in income among these groups as opposed to changes in level. For this reason, statistics are stated in percentage deviations from the average value in that year.

In Table 1, we focus on the demographic composition of the sample and on their level of household income per equivalent adult as compared to the overall average. These results, like all other statistical measures in this paper, use weighted data to account for the bias toward large households inherent in the survey design.

First we consider the gender of the head of households in our surveys. We see that the gender composition has not changed meaningfully between 1995 and 1999. There were 58.32 percent of head of households who were female in 1995 and 60.15 percent were female in 1999. The income per equivalent adult of female-headed
households has made a modest gain between 1995 and 1999 increasing from 85.25% percent of the overall average in 1995 to 88.49% of the overall average in 1999. Since the percentage of heads that are women has effectively not changed, this indicates very slight growth in the income of females.

For this study, we identify two nationality groups: Estonians and Non-Estonians. The dominant nationality in the Non-Estonian group is Russian, however there are also Ukrainians, Belo-Russians, Finns, Swedes and other nationalities to a considerably lesser extent. Our results show that the proportion of Non-Estonian head of households fell slightly between 1995 and 1999. This change is small relative to the much larger change in nationality that occurred earlier in transition. The relative income per equivalent adult fell rather dramatically from 97.94% of the average in the 1995 sample to 84.51% of the average in the 1999 sample. Such a change in relative income could be attributed to the specific characteristics of those who migrated out of Estonia or may be due to changes in the work and legal environment in Estonia.

As would be expected, we have not seen a dramatic change in educational attainment of the head of household. Education decisions are often made earlier in life and thus the transition itself is unlikely to dramatically change human capital in the short term. There is some evidence, however, that more heads of household are reporting some additional training after secondary school. However, because of a change in the question asked of survey participants, we cannot identify those who are responding with an affirmative answer to the “some additional training” question. This may be the way the question is asked or because of an increase in this behavior. To avoid biasing our results and committing a measurement error, we have grouped secondary and some training beyond secondary education into one category (called secondary). In the future, we will be able to better study this question (by examining the later surveys which all use the same education question).

Our sample shows that 28.51 percent of heads of households had a basic (less than secondary) education in 1995 and 26.84 percent had a basic education in 1999. The majority of sample head of households had a secondary education level, including specialized secondary schooling and some advanced training (56.41 percent in 1995, 59.07 percent in 1999). There is a slight decline in the proportion of head of households reporting college education (from 15.68% to 14.09%) but this is very likely due to the increased detail in the “some additional training” survey question.

Income per equivalent adult increased with increases in the human capital of the head of household, as we would anticipate. Those with only a basic education earned 65.44 percent of the average household income in 1995 and 66.33 percent of the average in 1999. Heads of household with a secondary education earned basically the sample average income per equivalent adult while those with college education earned 156.92% and 168.04% of the average. It appears that the returns to college education may have increased from 1995 to 1999 but this again may be due to those with relatively low advanced education reporting “some training” in the 1999 survey as opposed to “college” in the 1995 survey question.

In terms of the age distribution, we see slightly fewer young heads of household and considerably more elderly heads of household in 1999. The latter change is likely due to the significant policy reforms of pensions that have greatly improved the income and living standards of pensioners. We see this increase in the standard of living of the oldest heads of household also when we see that their average income per equivalent adult has increased from 71.79 percent of the sample average in 1995 to 87.79 percent in 1999.

The income of the youngest heads of households (those under 25 years) has fallen slightly from 117.61 percent of the average in 1995 to 102.30 percent of the average in 1999. What is remarkable about this outcome is that is very atypical for an economy. Usually income increases as the head of household ages due to the accumulation of experience. In the case of Estonia, those who are living independently at a young age demonstrate above average household income. There are two possible reasons: (1) the young people who have lower incomes may choose to remain with other family members and therefore the wealthier young may be the only individuals who our sample measures, and (2) younger heads of household may have smaller household sizes (i.e., less children or elderly family members in the household) and thus may have higher household income per equivalent adult. Kroncke and Smith (1999) also reports an atypical pattern to the age-earnings profile when studying wages in Estonia.

While our study shows that the relative income of young households has fallen significantly from the earlier days of the transition, the results are not the same in all age categories. The middle two head of household cohorts slightly decreased in proportion of the population. The 45-59 age group showed considerable increase in relative earnings while the income of the 60-64 year old age group showed diminished relative earnings. Overall, we can see that age makes less of a difference in relative earnings in 1999 compared to in 1995.

In addition to distribution of income between demographic groups, we also question how income is distributed within groups. For example, we ask “among women, how equally is income distributed around the mean?” We examine questions of this type in Table 2. We show the Gini Coefficient overall and within particular groups of households in 1995 and 1999.

In looking at Table 2, we see that, typical of transition economies, Estonia has experienced increasing income inequality. The overall Gini coefficients in our samples were .29 in 1995 and .32 in 1999. This increase in inequality, however, did not impact all groups in society equally. In fact, the income distribution for some groups became more equalized.

The income distribution for male-headed households remains basically unchanged from 1995 to 1999 according to our sample Gini coefficients. However, the income distribution for female-headed households has shown strongly increasing income inequality with Gini values of .257 in 1995 and .315 in 1999. There are clearly important changes in the composition or economic performance of female heads of household. Just looking at the Gini Coefficient does tell us that the income inequality among female-headed households has increased but cannot tell us specifically why. We also must consider any changes in the likelihood of a female being the head of household.

Overall descriptive evidence in Table 1 shows that the proportion of households with a female head has not changed significantly between 1995 and 1999. Also, the relative earnings of female-headed households increased only slightly between 1995 and 1999.
and 1999 which would also support the idea that the composition of female-headed households is not dramatically different.

We can also consider changes in women’s work that might have lead to this increase in income inequality in female-headed households. Such a thorough investigation is beyond the scope of the current paper and was explored in a follow-up paper (Wildier and Hennessy, 2003). In this paper, changes in female labor force participation or stratification into successful and unsuccessful segmented labor markets was shown to be important and could be a source of this inequality. Women’s income was shown to be derived from wages to a greater extent than the income of male-headed households. The greater dispersion of wage income as compared to other sources could help us to understand why female-headed households have wider income distributions. In addition, changes in social support may have increased the diversity of returns for female-headed households. However, it is not certain that these changes in social benefits would impact female-headed households differently than male-headed households.

It is, however, an interesting finding that the increased income inequality in Estonia between 1995 and 1999 is being driven in part to a widening of the income distribution among the female-headed households. In future research, it may be useful to specifically examine the composition and labor force behavior of female headed households.

The distribution of income among the youngest two age groups has remained relatively constant. We see a large increase in income inequality among the 45-59 year heads of households. This may be a result of the dramatic changes in work opportunities and employment – some have been very successful in the new economy while others struggle to adjust. The income distribution among elderly heads of households in 1995 was the most equalized of all the age groups with a Gini coefficient of .211. In 1999, this group stands in even greater contrast to younger Estonian households with a Gini coefficient of .180. The income distribution among the elderly has narrowed considerably. This may be attributed to the earlier retirement of relatively temporary income flows (for example, from privatization or family members) and the greater reliance on retirement pensions.

Those households headed by a person with less than basic education have experienced a similar narrowing of the income distribution. The Gini coefficient for those with basic education has changed from .207 to .172. The income distribution of those with secondary education has remained unchanged while that of college educated heads has increased in income inequality to a Gini coefficient of .353. Many of the new opportunities for work in Estonia have involved higher technology industries. Such industries present greater opportunities to those who are well educated. Those with basic education have found their average income remaining relatively constant in relation to the average income, but there are now more households very near this average as opposed to distributed more widely above and below it.

In addition, we see that nationality also has an influence on income inequality. The Gini coefficient for Non-Estonians has decreased considerably between 1995 and 1999. This shows that not only have Non-Estonians demonstrated lower relative household income, the uniformity of this outcome has increased. Less access to income enhancing investments would imply a more narrow income distribution. Also, Non-Estonian’s tend to be distributed rather unequally among regions in Estonia and to be employed to a greater extent in certain occupations. This uniformity may also lead to a more harmonized income distribution.

To better understand the influence of head of household characteristics on the income distribution, we take a detailed look at households in the extremes of the income distribution. Table 3 presents a description of households by decile in 1995 and 1999.

We see in 1995 that the average age in the first two deciles differs considerably from the average age among the highest income recipients. This pattern is not as evident in 1999 where the average age of the first decile is significantly lower than the average for the middle groups. The change in the relative income of the elderly through pension reform is certainly important in understanding this change.

The gender compositions of the deciles have changed very dramatically between 1995 and 1999. In 1995, females headed 60 percent of households in the top decile while only 40 percent of households in the top decile in 1999 had female heads. There seems to be difference in the gender composition of deciles in 1995 but there is a considerable effect in 1999.

Heads of Non-Estonian nationality seem to be approximately evenly distributed among all the deciles in both 1995 and 1999. Given the only slight variation in income between Non-Estonian and Estonian headed households, this result is consistent.

The proportion of basic, secondary and college educated heads of households varies widely across the decile groups as would be anticipated. Those with basic education are much more likely to be in the lower decile groups, although the proportion in the first two deciles with a basic education has decreased between 1995 and 1999. We see those with a college education are more represented in the higher decile groups although the proportion in the lowest decile category has increased from 3.85% to 7.77%. A relationship between education, age and work characteristics has most likely pushed more college educated into the lowest decile.

The percentage of households living in a large town or city tends to increase in higher deciles although there are comparably more households in the highest two deciles that live in rural areas in 1995 than in 1999. Regional development may have been successful in raising incomes in these areas of Estonia or we may see that the wealthy have chosen a more rural life. It is also interesting that there are also fewer urban residents among the lowest two deciles – indicating other possible mobility or regional development effects.

We also consider the size of households and number of children in each decile group. We see that the number of children in 1995 increased in income (from .32 in the poorest to 1.01 in the wealthiest). In 1999, the effect was just the opposite with the average number of children in the poorest decile being .92 and the average in the wealthiest .60. This is a dramatic pattern shift and may indicate a need for policy reexamination especially in terms of the child subsidy payment.

While household size on average is essentially the same between 1995 and 1999, the average number of household members by decile group has changed. In 1995, the largest average household size was 3.88 and this was in the lowest income decile group. In 1999, the lowest and the highest income deciles tied for the highest number of household members – 3.04. So while household size has diminished...
slightly overall, very wealthy households in 1999 tended to have more members. Subsidy payments and changes in fertility practices would be possible explanations for these changes.

Table 4 continues our analysis of decile groups by examining labor force characteristics within each decile. We see that the reliance on earnings has increased in all decile groups and this increase is particularly dramatic in the lowest deciles. Correspondingly, reliance on social assistance (SSA) has fallen in these poorest deciles while increasing in the more wealthy income groups. This strong increase in the importance of earnings goes far in helping us to understand the overall change in income distribution in Estonia (as Milanovic, 1999 indicates it would). At the same time, social payments have increased for those at the upper end of the income distribution, which would further increase the disparity in income inequality.

In terms of industry groups, we see a much greater proportion of lower decile heads of household work in agriculture. This pattern was not pronounced in 1995 but is very clear in 1999. There are also seems to be some gains to workers in the mining, energy and construction sector. Service providers, though widely present in all decile groups, have much larger shares in the higher decile groups. While these industry categories are very broad and do not indicate why the industries have such strong affects, these industry characteristics are clearly factors in describing household income.

For some households, no industry classification was available for the head of household. This would be correct for a few possible reasons. In one case, the head of household may be retired and not a member of the labor force. It is also possible that the head of household is unemployed and seeking work. Finally, the head of household may simply not be working or looking for work – that is, a non-participant. We see in Table 4 that the lower decile groups in both 1995 and 1999 has much larger percentages of households where the head is not working. The impact of not working seems to be much more dramatic in 1995 than in 1999, most likely due to changes in social protection. Very few households in the top decile group however, even in 1999, had a non-working head of household. As we would expect, professional workers are much more evident in higher decile groups while the influence of nationality was important in determining total income in 1999, but not in 1995. Specifically, those households with a Non-Estonian head obtained 17.1 percent lower household income than those with an Estonian head. In the 1995 sample, there was no significant difference in household income between Non-Estonian and Estonian heads, ceteris paribus. This result is not consistent with the findings Kroncke and Smith (1999) which used individual wage data to study ethnicity in Estonia. These authors actually found a significant discrimination impact in 1994 but not in 1989. Since we are using household income data instead of wages, the compositions of the households and non-wage income may be important factors.

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We see evidence in Table 5 that the change in total income from higher education was greater in 1995 than in 1999. In 1995, those with secondary education or additional training received 14.4 percent higher income while in 1999 these heads received only 5.9 percent additional total income compared to those with basic education. The same is true for college – an increase over basic education of 40 percent in 1995 and 31.3 percent in 1999. We can attribute this pattern to improvements in the social safety net that may have an important

4. Household Income in Estonia Over Time: Regression Analysis

Finally, in this Section, we recognize that, not only are all these factors correlated with income per equivalent adult, the factors – gender, education, age, employment – are correlated with each other. What may appear to be a difference in income due to employment may instead be because of education levels. To more carefully analyze the impact of each of the factors on income, we consider them together with multivariate regression.

We estimate a simple log-linear multivariate income equation in 1995 and 1999. The log transformation has two advantages: (1) it is variance stabilizing and the heteroskedasticity of income is an issue, especially after studying the distribution of income by different characteristics and (2) the use of the log model will aid in interpretation by translating the regression coefficients into elasticities as opposed to levels. With the change in the value of the Estonian kroon over time, interpreting in levels would not be as meaningful or straightforward.

Table 5 shows the results of the log income regressions for 1995 and 1999. Also on this table is a t-test for the difference in the coefficients in the two time periods. Overall, the F statistics for the models are strongly significant, but the R-squared values are not particularly high. They are within an acceptable range for income regression equations, particularly for 1999.

It is actually theoretically consistent to see a lower R-squared value in the 1995 model. The reason is that early in the transition, individual household incomes may not conform to the market values – due to continued government interventions and the needed time for readjustment, fundamental characteristics did not predict income as well in 1995 as it did in 1999. In other words, omitted institutional factors may have played a greater role in 1995.

We have observed descriptive statistics that showed that female-headed households had lower household income than male-headed households. The regression analysis continues to find this effect and it is statistically significant. Female-headed households earned 14.5 percent less in 1995 and 19 percent less in 1999, ceteris paribus. Again, it appears that gender plays a larger role in income distribution in the 1999 sample, though a t-test for differences in these coefficients was not significant.

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equalizing effect for those heads with basic education.

In 1995, household income was significantly lower if the head of household worked in agriculture or fishing while heads who working in Mining, Utilities and Construction received 12.9 percent higher total income than those in service (the omitted category). In 1999, those in agriculture still experienced lower total income but this effect is very small and not statistically significant. The income for households with heads in Manufacturing and in Mining, Utilities and Construction increased in 1999 to 11.8 percent and 23.4 percent respectively.

The households with a head who is not working experienced significantly lower income in both 1995 and 1999. In 1995, the loss was 52.9 percent and in 1999, it was 41.1 percent. The drop in the penalty from not working can be attributed to the increase in social protection of retirees and the unemployed between 1995 and 1999.

The occupation type of the head of household influences total income per equivalent adult in both 1995 and 1999. Professionals received 43.6 percent higher income than unskilled workers (the omitted category) in 1995 and 29 percent more in 1999. The returns to working in service seem to have fallen between 1995 and 1999 while those in skilled labor have gained.

There is a significant difference in the effect of urban living on income between 1995 and 1999. In 1995, those households in urban areas had 5.9 percent higher income than rural households. In 1999, this effect increased to 16.2 percent higher income.

Another important difference between 1995 and 1999 that we have observed through descriptive statistics was in the relationship between children and income. We see this result again in the regression analysis. As the number of children increased in 1995, so did income significantly. In 1999, we see the opposite – as the number of children increases, total household income falls and significantly so.

Due, in particular, to changes in the payments to the elderly, the relationship between income and age is very different in 1999 compared to 1995. The responsiveness of income to a change in age is much less (and statistically insignificant) in 1999 while this was a significant determinant of income in 1995.

Overall, we see that particular demographic factors had a very important influence on the level and distribution of income in 1999. Those particular characteristics were gender, nationality, college attainment, labor force attachment, and urbanization. In 1995, the list of key determinants was slightly different – nationality and urbanization played little role, gender was less influential and occupational type was much more important.

Changing opportunities in the labor force over time and a greater length of time to adjust has resulted in a very different distribution of income. Education is strongly rewarded and labor force non-participation severely limits income. We also see a greater influence of the gender and nationality of the head of household in 1999. A limitation of opportunities in the market economy may somehow have a stronger effect as greater emphasis is placed on market mechanisms.

**Conclusions**

This paper has assembled and discussed measures of the level and distribution of income in Estonia in two different time periods, the third quarter of 1995 and third quarter of 1999. We have considered the influence of gender, age, nationality, education, household characteristics and work traits and found that the level and distribution of income varies widely both between and within demographic groups.

Some of our findings lend support to Milanovic’s ideas that the concentration of earnings in total income will lead to greater income inequality. This effect would be particularly true for some members of the population and thus contribute to income distribution differences between demographic groups. We also have found support for ideas from Aghion and Commander and Ferreira. Specifically, we see that education may result in an ability to adapt to new labor market situations and therefore higher income particularly for some individuals. As shown in Section 1, many institutional changes in transition economies are likely to have an impact on income inequality and, since these changes will impact groups in societies differently, the income distribution changes will not uniformly affect all demographic groups.

By looking at specific demographic groups, we can attempt to better understand the overall change in income inequality. Our results indicate that the income distribution for female-headed households widened considerably while the distribution for male-headed households did not. The greater emphasis of female-headed household income on wages would suggest, as indicated by Milanovic, higher income inequality. Also, the composition and employment of female-headed households might provide insight into the nature of their work compared to male-headed households. Financially, we must remember that this paper considers the income of female-headed households and not all female workers.

Empirical studies of other transition economies have also found significant differences by gender. Many of these studies have examined the employment of female workers and female heads of household in order to decompose the gender differential into individual worker versus occupation effects. Michal Grejeck (2001) studied the gender pay gap in Poland during the transition to a market system and found significant differences in earnings, but not in educational attainment. Stephen Pundy (1994) also considered occupational explanations of gender income differences. Specifically, Katz (1997) examined gender differences in Russia and found substantial differences in earnings at least partly linked to decreased occupational choice for females. Katz noted that women over-invest in education as a result of diminished choices in work and these investments are then underutilized. In addition to these studies on gender in other transition economies, Wilder and Hennessy (2003) explores occupational crowding in Estonia and finds that both inter-industry differences and gender differences within industries are important in explaining the earnings pattern in Estonia. From these and other studies of income by gender, we recognize that occupational category and composition of income differs by gender and thus can give us a clue as to why the income distribution is so different for female-headed households.

Our study here also points out that increased income inequality may be driven by returns to higher education. The distribution for heads of household with a college education is notably more unequal in 1999 compared to 1995. Due to a change in survey design, we must interpret this result with care but it seems that the returns to college education became more diverse as the transition progressed.
Multivariate regression analysis indicated that the determinants of household income per equivalent adult have changed over time. Some of that change may be due to the market system. However, we must specify that important social support programs, and the changes in these programs, have also influenced total income distribution and levels. Specifically, the penalty for being a non-Estonian appears to be larger in 1999 compared to 1995, ceteris paribus. Also, the influence of children in the household has changed significantly with the number of children negatively correlated with household income in 1999 compared to a positive correlation in 1995. Social support mechanisms would have actually supported an increase in household income accruing to families with children, however we see the reverse.

Descriptive studies of income distribution and how it has changed both document the dramatic transition that has occurred and provide needed information as the Estonian government creates and recreates social support mechanisms and economic policies to aid those who have not fared as well during transition. The reinvention of the Estonian market system brings with it the need to reconsider and revise government institutions and social protection mechanisms. Considerable changes have occurred in the Estonian social protection system. Examining the evidence on income distribution, may aid us in considering the success of those programs.

As Estonia continues in its process of integrating with the European Union countries, continued attention to the distribution of income, particularly among disadvantaged groups, will be of great importance. Government social policy schemes and tax policy must be designed with a through knowledge of the current state of the nation. There are few issues with as deep reaching implications as the nature of income distribution – as Estonia reconsiders nearly every facet of life, it is our hope that an equitable income distribution remains of interest.

References:


Table 1: Demographic Composition and Income Level

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1999</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Percent of all adults</td>
<td>Income as % of Average</td>
</tr>
<tr>
<td>Male</td>
<td>57.68</td>
<td>120.64</td>
</tr>
<tr>
<td>Female</td>
<td>42.32</td>
<td>85.25</td>
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<tr>
<td>Estonian</td>
<td>60.95</td>
<td>101.21</td>
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<tr>
<td>Non-Estonian</td>
<td>39.05</td>
<td>98.79</td>
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<tr>
<td>Native</td>
<td>78.91</td>
<td>65.44</td>
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<tr>
<td>Secondary</td>
<td>56.41</td>
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<tr>
<td>College</td>
<td>15.08</td>
<td>156.92</td>
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<tr>
<td>&lt;23 years</td>
<td>6.63</td>
<td>177.80</td>
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<td>25-34 years</td>
<td>35.17</td>
<td>126.93</td>
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<td>35-58 years</td>
<td>28.05</td>
<td>92.68</td>
</tr>
<tr>
<td>60+ years</td>
<td>30.87</td>
<td>71.79</td>
</tr>
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Source: 1995 and 1999 Estonian Household Income and Expenditure Survey, Quarter 3

Income is defined as Income per equivalent adult where scale = 0.5
Table 2: Gini Coefficients by Demographic Group

<table>
<thead>
<tr>
<th>1995</th>
<th>1999</th>
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<tr>
<td>Overall</td>
<td>0.380</td>
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<tr>
<td>Male</td>
<td>0.372</td>
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<tr>
<td>Female</td>
<td>0.361</td>
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<td>Age groups</td>
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<td>&lt;25</td>
<td>0.365</td>
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<tr>
<td>25-44</td>
<td>0.365</td>
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<td>45-64</td>
<td>0.296</td>
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<td>65+</td>
<td>0.211</td>
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<tr>
<td>Basic</td>
<td>0.207</td>
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<tr>
<td>Secondary</td>
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<tr>
<td>College</td>
<td>0.269</td>
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<tr>
<td>Baltic</td>
<td>0.306</td>
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<tr>
<td>Non-Baltic</td>
<td>0.241</td>
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Table 3: Characteristics by Decile, Demographics and Household

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<tr>
<th>Decile</th>
<th>Cumulative</th>
<th>Age</th>
<th>Female</th>
<th>NonList</th>
<th>Basic</th>
<th>Second</th>
<th>College</th>
<th>Urban</th>
<th>#Households</th>
<th>Family Size</th>
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<tbody>
<tr>
<td>1</td>
<td>1,09</td>
<td>66.75</td>
<td>73.00</td>
<td>25.39%</td>
<td>30.57%</td>
<td>61.66%</td>
<td>7.77%</td>
<td>48.50%</td>
<td>0.92</td>
<td>2.04</td>
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<tr>
<td>2</td>
<td>4.62</td>
<td>81.66</td>
<td>77.00</td>
<td>30.18%</td>
<td>42.62%</td>
<td>52.62%</td>
<td>8.92%</td>
<td>49.11%</td>
<td>0.64</td>
<td>2.46</td>
</tr>
<tr>
<td>3</td>
<td>21.09</td>
<td>87.50</td>
<td>77.00</td>
<td>30.18%</td>
<td>42.62%</td>
<td>52.62%</td>
<td>8.92%</td>
<td>49.11%</td>
<td>0.64</td>
<td>2.46</td>
</tr>
<tr>
<td>4</td>
<td>4.62</td>
<td>81.66</td>
<td>77.00</td>
<td>30.18%</td>
<td>42.62%</td>
<td>52.62%</td>
<td>8.92%</td>
<td>49.11%</td>
<td>0.64</td>
<td>2.46</td>
</tr>
<tr>
<td>5</td>
<td>10.00</td>
<td>86.00</td>
<td>75.00</td>
<td>30.18%</td>
<td>42.62%</td>
<td>52.62%</td>
<td>8.92%</td>
<td>49.11%</td>
<td>0.64</td>
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<tr>
<td>Overall</td>
<td>37.67</td>
<td>70.19</td>
<td>54.76%</td>
<td>25.15%</td>
<td>49.11%</td>
<td>52.62%</td>
<td>8.92%</td>
<td>49.11%</td>
<td>0.64</td>
<td>2.46</td>
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Table 4: Characteristics by Decile, Labor Force

<table>
<thead>
<tr>
<th>Decile</th>
<th>% Earnings</th>
<th>SSA</th>
<th>Age</th>
<th>Marital Status</th>
<th>Course</th>
<th>Service</th>
<th>Net Working</th>
<th>Prof</th>
<th>Surv</th>
<th>Skilled</th>
<th>Public</th>
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<tr>
<td>1</td>
<td>15.73</td>
<td>67.87</td>
<td>7.89%</td>
<td>2.88%</td>
<td>9.62%</td>
<td>3.95%</td>
<td>78.06%</td>
<td>0.92%</td>
<td>4.91%</td>
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<tr>
<td>2</td>
<td>12.29</td>
<td>69.47</td>
<td>7.32%</td>
<td>2.88%</td>
<td>9.62%</td>
<td>3.95%</td>
<td>78.06%</td>
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<tr>
<td>3</td>
<td>47.23</td>
<td>26.57</td>
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<td>2.88%</td>
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<td>3.95%</td>
<td>78.06%</td>
<td>0.92%</td>
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<tr>
<td>4</td>
<td>29.50</td>
<td>9.81</td>
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<td>2.88%</td>
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<td>3.95%</td>
<td>78.06%</td>
<td>0.92%</td>
<td>4.91%</td>
<td>7.19%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10.00</td>
<td>86.00</td>
<td>75.00</td>
<td>30.18%</td>
<td>42.62%</td>
<td>52.62%</td>
<td>8.92%</td>
<td>49.11%</td>
<td>0.64</td>
<td>2.46</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>49.73</td>
<td>15.60</td>
<td>7.87%</td>
<td>2.88%</td>
<td>9.62%</td>
<td>3.95%</td>
<td>78.06%</td>
<td>0.92%</td>
<td>4.91%</td>
<td>7.19%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author calculation from 1995 and 1999 Estonian Household Income and Expenditure Survey. Income is defined as Household Income per Equivalent Adult where scale = 0.5

Table 5: 1995 vs 1999 Ln Income Regressions, Overall

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1999</th>
<th>T-test for diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>6,887</td>
<td>5,322</td>
<td>7.46</td>
</tr>
<tr>
<td>Female</td>
<td>0.163</td>
<td>0.090</td>
<td>-2.92</td>
</tr>
<tr>
<td>Non Estonian</td>
<td>-0.022</td>
<td>0.039</td>
<td>-6.27</td>
</tr>
<tr>
<td>Secondary</td>
<td>0.146</td>
<td>0.044</td>
<td>2.27</td>
</tr>
<tr>
<td>College</td>
<td>0.400</td>
<td>0.044</td>
<td>6.27</td>
</tr>
<tr>
<td>Agriculture</td>
<td>-0.067</td>
<td>0.098</td>
<td>-2.79</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.004</td>
<td>0.071</td>
<td>0.06</td>
</tr>
<tr>
<td>Mining/Construction</td>
<td>0.029</td>
<td>0.055</td>
<td>1.98</td>
</tr>
<tr>
<td>Net Working</td>
<td>-0.029</td>
<td>0.089</td>
<td>-9.93</td>
</tr>
<tr>
<td>Professional</td>
<td>0.016</td>
<td>0.072</td>
<td>6.02</td>
</tr>
<tr>
<td>Service</td>
<td>0.014</td>
<td>0.077</td>
<td>3.81</td>
</tr>
<tr>
<td>Skilled</td>
<td>0.004</td>
<td>0.062</td>
<td>0.05</td>
</tr>
<tr>
<td>Public</td>
<td>-0.063</td>
<td>0.089</td>
<td>-1.74</td>
</tr>
<tr>
<td>Urban</td>
<td>0.009</td>
<td>0.044</td>
<td>1.36</td>
</tr>
<tr>
<td>Male</td>
<td>0.010</td>
<td>0.029</td>
<td>9.39</td>
</tr>
<tr>
<td>Age</td>
<td>0.023</td>
<td>0.007</td>
<td>3.15</td>
</tr>
<tr>
<td>Age Squared</td>
<td>0.000</td>
<td>0.000</td>
<td>-2.88</td>
</tr>
</tbody>
</table>

Source: 1995 and 1999 Estonian Household Income and Expenditure Survey, Quarter 3 Income is defined as Income per equivalent adult where scale = 0.5
Part-time Employment and Underemployment in the Latvian Labour Market*

Jelena Popova, Olga Rastrigina, Ija Trapeznikova#

Abstract

The aim of this paper is to evaluate the impact of different factors such as age, gender, ethnicity, education levels, occupations, enterprise characteristics, place of residence etc. on part-time employment and underemployment. The data sources used in the research are Latvian Labour Force sample surveys conducted in May 1999 and May 2000. Methodology includes exploratory data analysis and binomial logit models. The main findings are as follows: age is a significant factor, which influences both part-time employment and underemployment; however, the effects are of opposite directions. Women are more likely to work part-time. The underemployment level is higher for individuals with a basic education and lower for those with a higher education; however, there is no clear-cut relationship between education and working part-time. Working in the public sector decreases the probability of being employed part-time and of being underemployed. Inhabitants of rural areas are more likely to be employed part-time and underemployed, as compared to those of urban areas; on the other hand, there is no significant difference between Latvia’s regions in these two respects.

JEL Classification: J22, J64.

Keywords: Part-time employment, underemployment, Latvia.

Introduction

One of the most important indicators of the state of the labour market and the economy as a whole is unemployment. However, unemployment does not adequately describe the situation in the labour market. An analysis of part-time employment and underemployment allows a more precise evaluation of employment levels and the creation of new job vacancies in the labour market, the quality of these working places and the overall effectiveness of the use of the labour force.

The nature of part-time employment and underemployment have been studied by many authors (see Tijdens, 2002; Schettkat and Yocarini, 2001; Golden and Figart, 2000; Van Ham et al., 2001; Eamets and Ukrainski, 2000). These issues, however, have not been under discussion in Latvia; therefore, the present paper intends to fill this niche.

The aim of this research is to analyse the factors that influence part-time employment and underemployment and the degree of their influence in the Latvian labour market. This could give an opportunity to determine the decisive reasons for being employed part-time underemployed and help to develop an effective employment policy. Descriptive statistics are used to determine patterns of part-time employment and underemployment. In addition, a binomial logit model is used to determine significant influencing factors. The research is based on the 1999 and 2000 Latvian Labour Force Surveys, which provide information about the economically active population according to different indicators: sex, age, education, place of residence, employment status, kind of work performed, occupation, time worked and so on.

The present paper consists of five major sections and four appendices. The first section describes the phenomena of part-time employment and underemployment. The next section is devoted to detailing the data used in the research and to the descriptive statistics of part-time employment and underemployment in Latvia. In the following section the econometric model and hypotheses are stated. The fourth section presents the results and interpretation. Finally, the last section summarizes the main findings of the research. The econometric methodology, estimated coefficients, their standard errors and marginal effects, as well as the description of the explanatory variables, are given in the appendices.

1. Short overview of part-time employment and underemployment

The indicator of part-time employment focuses on individuals who work fewer hours than full-time employees, as a proportion of total employment. Over the past 25 years part-time employment has grown significantly, especially in many developed countries. According to the ILO data among developed economies, a time series review of the indicator shows approximately 12 economies with fairly strong trends of increasing part-time work, e.g. Australia, Japan, the United Kingdom and France. The reason for increasing part-time employment could be the result of a political decision to promote part-time work, particularly in countries suffering from high unemployment. Another cause could be the increasing labour force participation of women and a rapidly developing service sector.

Part-time employment is seen as a tool for labour market flexibility. For instance, part-time work allows women to combine family responsibilities with labour force participation. Examination of the labour market in EU countries indicates that one third of employed women work in part-time jobs and most of them do it voluntarily. Part-time employment also makes it easier for workers to enter and exit the labour market. From the employers’ point of view this phenomenon is an opportunity for the flexible management of labour, enabling firms to adapt to fluctuations in activity and changes in production processes.

However, part-time employment may also have negative aspects for both

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employers and employees. Employers, whose fixed costs per worker are high, find part-time employment disadvantageous. Recruitment, training and firing costs affect employers' choice between working hours and employment and could result in lower wages for part-time workers. Part-time employees often face limited career prospects and are ineligible for certain benefits\(^3\). Most of the people working part-time do so on their own initiative but there are also people who accept part-time jobs involuntarily, because they cannot find full-time employment. This phenomenon is characterized by underemployment, the measure of underutilization of labour resources in the economy. Although these people are employed, they often compete for available jobs. Analysis of this phenomenon allows for a more precise evaluation of the employment level and the creation of new job vacancies in the labour market.

The academic literature does not offer a single definition of underemployment, therefore different papers consider different components of it. There are two forms of underemployment: time-related underemployment (related to insufficient working hours) and an inadequate employment situation (which reveals insufficient use of skills, low productivity and inadequate payment).\(^4\) The situation when a person wants to work additional hours is called 'visible' underemployment; underutilization of skills is referred to 'invisible' underemployment. Time-related underemployment is easier to define. According to the ILO data in most economies, time-related underemployment is a growing phenomenon for both men and women in the period from 1990 to 2000\(^5\). In contrast to visible underemployment, the data requirements for the measurement of the invisible underemployment are very demanding and involve a number of unresolved difficulties (evaluating skill levels, productivity etc.). Some people tend to overestimate or exaggerate their knowledge, skills and abilities in trying to correspond to the modern requirements of the labour market. Thus, in this paper time-related underemployment is examined through evaluation of the influence of relatively objective factors.

2. Data and descriptive statistics

The data used in this paper comes from Latvian labour force (LLF) surveys conducted by the Central Statistical Bureau of Latvia in May 1999 and May 2000. Part-time workers are defined using the respondent's answer of whether he/she is working part- or full-time. For the underemployment indicator the following three criteria are used: persons who reported involuntary reasons for working part-time; individuals who reported involuntary reasons for having temporary, occasional or seasonal job; and finally, persons whose actual hours of work were below a certain cut-off point and who wanted to work additional hours\(^6\).

In order to reveal the main patterns of part-time employment and underemployment descriptive statistics was used. The data shows that approximately 12% of all employed persons in the Latvian labour market were working part-time in 1999 while the figure was 11% in 2000. More than 40% of all part-time employees indicated failing to find a full-time job as the reason for working part-time. The underemployment indicator was 15.0% in 1999 and 13.0% in 2000.

The significant differences in the distribution of part-time workers and underemployed individuals are found with respect to such personal characteristics as age, gender, marital status and ethnicity. Both young and elderly people work shorter hours. However, old people, rather than young people, seem to work part-time voluntarily. (see Figures 1 and 2)
The data shows that part-time work is important for women as a mean of combining family responsibilities with labour force participation. A much larger proportion of women as compared to men work part time; additionally, the level of part-time employment is substantially higher for individuals who have three or more children. The gender difference in the Latvian labour market, is, however, relatively small (around 53% of all part-time employed are women) compared to OECD countries where women account for around 75% of all part-time employed people. In contrast to part-time employment, the underemployment indicator is lower for women than for men; only 44% of all underemployed are women. The underemployment indicator is higher for single individuals.

There are more part-time workers among ethnic Latvians than non-Latvians, but the difference is not very large. This difference may occur because of the dominance of Latvian workers in the sectors where part-time employment is more common. For example, in the agricultural sector around 80% of employees are Latvians and around 60% in the service sector, while in industry the national composition is more or less equal. The situation is reversible when underemployment is considered. The underemployment indicator is higher for non-Latvians. A possible explanation for this could be employer-side discrimination.

The part-time employment level in the Latvian labour market differs significantly between rural and urban areas. A considerable part (around 24% in 1999 and 22% in 2000) of all employees in rural areas work less than regular hours. However, in urban areas the same indicator comprises only 6% in both 1999 and 2000. Although underemployment in rural areas exceeds that in urban areas, the difference is smaller – 20% in rural areas and 13% in urban areas in 1999, 18% and 11%, correspondingly, in 2000.

Part-time employment and underemployment show different patterns if individuals are split according to their human capital indicators. Both part-time workers and underemployed people have a low education level (see Figures 3 and 4).

The share of part-time employed persons, similar to the share of underemployed persons, is high in the 6th ISCO occupation (skilled agricultural and fishery workers) and 9th occupation (elementary occupations). Work experience plays an important role in finding a full-time job - more than one third of employed individuals without previous working experience are part-time employed. Absence of previous working experience also doubles the share of underemployed individuals. People who were unemployed before are often forced to take part-time jobs because they cannot find full-time employment; therefore the share of individuals unsatisfied with their working hours among them is almost twice as high as among people without previous unemployment experience.

Among sectors of economic activity part-time employment and underemployment are mainly observed in the agriculture, fishery and service sector (see Figures 5 and 6). An unexpectedly high underemployment level (nearly 25%) is found in the construction sector. The smallest percentage of part-time employed and underemployed is observed in activities related to electricity, gas and water supply, as well as transport, storage and communication activities and public administration. The reason for this could be that the public form of ownership prevails in these sectors and that part-time employment is higher in the public sector.

The descriptive statistics give only overall patterns and provide no explanation of what factors influence part-time employment and underemployment. This is why the following sections of the paper are devoted to the econometric model, which allows us to separate the effects of different factors and discover the degree of their influence.

3. The econometric model

The purpose of the paper is to determine the factors that affect the probability that a person is part-time or full-time employed and the probability that the individual is underemployed. In order to estimate the coefficients of the explanatory variables, the binomial logit model is applied (for methodology details see Appendix 1). The two models are made for each year. One predicts the
probability to be underemployed, and the other the probability to work part-time, given the set of explanatory variables.

The explanatory variables are chosen based on theoretical predictions, available data and descriptive statistics (the list of all variables is given in Appendix 2). They include personal characteristics of individuals such as age, gender, marital status, presence of children and ethnicity. The hypotheses to be tested are the importance of gender and age to the desire to work part-time and for the probability to be insufficiently employed at the labour market. Part-time employment represents flexibility in entering and exiting the labour market, as well as in labour force participation for women. The question of whether ethnic minorities are discriminated in regards to full-time job offers is also of interest.

As the descriptive statistics show, part-time employment and underemployment were very different in rural and urban areas. The prediction is the occurrence of higher part-time employment in rural areas. Underemployment, nevertheless, could be lower in rural areas if the discouraged worker effect is stronger. It will be tested if the slower economic development in the countryside results in a higher willingness to find a full-time job, and therefore higher probability to be underemployed, or in unwillingness of the worker to look for full-time job, i.e. discouragement, and therefore lower probability of being unsatisfied with a job. Another hypothesis is that part-time employment and underemployment are different among Latvian regions due to dissimilarities in economic conditions among them.

Human capital indicators are anticipated to be important in affecting the probability of working less than full-time or being underemployed. A higher level of education and the presence of working experience are expected to decrease the probability of being underemployed and part-time employed. The variation in results could be found among different professions. However, it was suspected that there was a correlation between education levels and occupation, thus separate models were made – one including occupations, another education levels. The last set of variables represents economic activity of an enterprise and form of ownership. The public sector is expected to be less flexible and thus to have lower part-time employment.

This analysis uses data only for employed individuals. Final samples contain 7848 and 7446 observations for 1999 and 2000, respectively. Each observation in the LLFS sample is weighted taking into account the distribution of individuals in population by age, gender and regions. The use of the weights allows for better a generalisation of the results from the sample to the total population. The estimated regression coefficients and their standard errors are given in Appendix 3. Individual marginal effects of the explanatory variables are given in the Appendix 4.

4. Results and discussion

(a) Personal characteristics.

Age, when included in the linear and squared form, appeared to have significant effect on part-time employment and underemployment. The estimated relationship proves that the influence of age has a parabolic shape. However, the effects are different in the part-time employment model and the underemployment model – persons from the age of 35-40 have the lowest probability to work part-time and the highest probability to be underemployed. The estimated marginal effects are different for different ages: upon becoming one year older young people have a higher (lower) probability to be underemployed (part-time employed), whereas old people have lower (higher) probability to be unsatisfied with their working hours (to work part-time). The results are different from those obtained from the Estonian labour market which showed that age does not significantly influence underemployment.8

When the age variable was included in the model in the form of dummies for 10-years age groups the estimated coefficients are statistically significant for the 55-64 and 65 and older age groups. In the part-time employment model the coefficients are positive, in the underemployment model – negative. In 1999 the coefficient is significant also for the 20-24 age group and this time has the same sign in two models. Persons in this age group have a higher probability to work part-time and to be underemployed, which could be explained by the influence of the Russian crisis when labour demand for new workers decreased.

The effect of gender is consistent with predictions, i.e. women with identical personal characteristics, education, place of living etc. have a greater probability to be part-time employed by 2% points as compared to men. Contrary to the part-time employment model, gender has no influence on the probability to be underemployed despite the patterns shown by descriptive statistics. The influence of marital status on part-time employment is not so clear; but the presence of children increases the probability of working part-time. Persons who live alone – single, widowed and divorced – have a higher probability to be underemployed than married people. The probability to be underemployed is not affected by the presence of children in the household.

It was found that part-time employment is unaffected by the ethnicity factor. On the contrary, non-Latvians have a higher probability to be underemployed, as compared to Latvians, but the results hold only for 1999. One possible reason could be employers’ preferences, during the Russian crisis, to reduce working hours less for Latvians than ethnic minorities because of the latter’s poorer knowledge of Latvian language.

(b) Place of residence

Latvia’s territory was divided into the following parts: Riga (the capital city) and the Riga district; Latvia’s main cities (Daugavpils, Jelgava, Jūrmala, Liepāja, Rēzekne, Ventspils); small cities (the rest of the urban territory); and rural territory. According to the 2000 data, if an inhabitant of a rural area moves to Riga and the Riga district the probability that he/she will be part-time employed will decrease by 4.7%, to Latvia’s main cities - by 3.2%, and to small cities - by 4.8%. Individuals who live in small cities have a smaller probability to be unemployed than the inhabitants of rural areas. Living in Riga and the Riga district has no effect on underemployment. However, those who live in large cities have a higher probability to be underemployed than the inhabitants of rural areas. This could be explained by the discouragement effect. Fewer opportunities to find a better job in rural areas force workers to be ‘satisfied’ with their job, whereas people who live in cities point out that they are looking for a full-time job and would like to work additional hours ....

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8 Eamets and Ukrainski (2000).
more often.

The next step was to use the division of Latvia’s territory into 4 regions – Kurzeme, Zemgale, Latgale and Vidzeme (reference category). The most unfavourable situation in the labour market is in Latgale, where the unemployment rate is the highest in the country. Though it was anticipated that the part-time employment and underemployment rates could be higher in Latgale, these expectations were not justified: the regression coefficients are not significant for all three regions as compared to Vidzeme.

(c) Human capital

As was projected, a person with a lower level of education is more likely to be underemployed. The impact of education on part-time employment, however, has no clear pattern. Previous working experience has been found to be significant factor that influences part-time employment and underemployment. The probability to work part-time increases by approximately 10% for ‘new-entrants’ in the labour market; in addition they are more likely to be underemployed.

With respect to professions, representatives of elementary occupations are more likely to work shorter hours and to be underemployed as compared to craft and related trade workers (reference group). The 1st group of occupations - legislators, senior officials and managers - shows an equally significant, but opposite influence: the probability to work part-time and be underemployed is lower. Unexpectedly, the representatives of the 2nd group of occupations (professionals) have a higher probability to be part-time employed. The other groups of occupations do not show a persistent influence on part-time or underemployment. It was expected that skilled agriculture and fishery workers would have a high probability to be both part-time and underemployed. Work in agriculture is usually associated with shorter hours (frequently accepted involuntarily). Nevertheless, none of the coefficients is significant for this occupation.

A significant impact on underemployment comes from employment status. One would think that self-employed and unpaid family members would have a low probability to be underemployed. However, the results of the regression show a reverse pattern. Unpaid family members and the self-employed have a higher probability to work part-time and to be underemployed as compared to employees. In contrast, being an employer does not have any considerable effect on part-time employment and underemployment as compared to employees.

(d) Enterprise characteristics

The employment sector was classified into 4 groups: industry, the private service sector, the public service sector and agriculture 9. The obtained results show that individuals employed in agriculture are more likely to work part-time and be underemployed as compared to industry workers. Persons working in both private and public services have a higher probability to work part-time and be underemployed as compared to those employed in industry. It was discovered that individuals who work in the public sector have a significantly lower probability of being part-time employed and underemployed than those employed in the private sector. The results support the hypothesis that labour markets are more flexible in the private sector.

5. Conclusion

Employment, unemployment and underemployment statistics are an essential basis for the design and evaluation of government programmes designed to create employment, vocational training, income maintenance, poverty alleviation and similar objectives. The aim of this paper was to determine factors that influence part-time employment and underemployment in the Latvian labour market. The results were obtained by applying binominal logit model. Explanatory factors were divided into 4 groups: personal characteristics, place of residence, human capital indicators and enterprise characteristics. Mainly, the results are consistent with expectations and predictions, although some results are surprising. The main findings are as follows:

Part-time employment constitutes 11% of total employment in Latvia. Underemployment, which in this paper includes also those individuals who have temporary or seasonal jobs for involuntary reasons, is 13% of the total employment. In spite of the fact that young and old people work, on average, shorter hours they are less likely to be willing to work additional hours. Women, as compared to men, have a relatively larger probability to be employed part-time. Gender is not a significant determinant in underemployment. However, the presence of children in the household increases the probability of working part-time. All of these results prove that part-time work is an effective tool for labour market flexibility. Inhabitants of rural areas have a higher probability to be part-time employed and underemployed, as compared to those of urban areas. On the other hand, no significant difference between Latvia’s regions was discovered with respect to part-time employment and underemployment. Underemployment and part-time employment are higher in agriculture and in both private and public services, as compared to the industry sector of the economy. Working in the public sector results in a lower probability to be part-time employed or underemployed.

All these results should be taken into account when forming policy measures. In the light of the findings regional policy is important for the labour market. Because investment is concentrated in cities, underemployment is higher in rural areas. Information about the labour market and labour mobility has to be improved. It is also crucial to improve the education system in order to match the needs of the modern labour market. In addition, the privatization of enterprises, which is coming to an end, could increase the flexibility of the labour market.

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9 The classification was based on the NACE system. Industry includes mining and quarrying (C), manufacturing (D), electricity, gas and water supply (K). Private services include construction (F), wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods (G), hotels and restaurants (H), transport, storage and communications (I), financial intermediation (J), real estate, renting and business activities (K) and if the form of ownership is reported to be private then education (M), health and social work (N), other community, social and personal service activities (O). Public services include public administration and defence; compulsory social security (L) and education (M), health and social work (N) and other community, social and personal service activities (O), which are not included in private services. Agriculture contains agriculture, hunting and forestry (A) and fishing (B).
Part-time Employment and Underemployment in the Latvian Labour Market

Appendix 1: Econometric methodology

The binomial logit model is a standard method for estimating models with a categorical dependent variable having two possible values \(a\). The major difference from a linear regression occurs in the use of the logistic cumulative distribution function, which results in the estimated probabilities lying within the interval \([0; 1]\):

\[
P_i = E(Y_i = 1 | X_i) = F(Z_i) = \frac{1}{1 + e^{-Z_i}}
\]

where

\[
Z_i = \beta_0 + \sum \beta_j x_{ij}
\]

In this paper \(Y=1\) if a person is part-time employed (in the first model) or underemployed (in the second model); \(Y=0\) if an individual is full-time employed (1st model) or is not underemployed (2nd model). \(x_{i1}, x_{i2},..., x_{im}\) is the vector of explanatory variables for observation \(i\), and \(b_{0}, b_{1},..., b_{m}\) are parameters to be estimated using maximum likelihood method.

The estimators are unbiased, efficient and (in so far as we are dealing with large samples) normally distributed. The coefficients cannot be interpreted in the same way as in the case of OLS regression since the estimated probability is not a linear function of the coefficients. Still, negative sign of \(b_j\) shows that factor has a negative influence on part-time employment and underemployment, while a positive sign indicates a positive influence. The magnitude of the impact also tends to grow with the absolute value of the coefficient.

Another way to interpret coefficients is to use odds ratio. The odds ratio is the ratio of the probability of working part-time (being underemployed) to the probability of working full-time (being non-underemployed), i.e.

\[
Odds = \frac{P_i}{1 - P_i} = e^{\beta_j}
\]

Therefore, odds are multiplied by \(\exp(b_j)\), when the corresponding explanatory variable increases by one unit. However, this tells us little about the difference between probabilities, unless \(P_i\) is known (e.g. multiplying odds ratio by 3 = \(\exp(1)\) changes predicted probability of \(P_i = 0.1\) into 0.25, \(P_i = 0.5\) into 0.75, \(P_i = 0.9\) into 0.96).

Marginal effects are better to interpret. These are changes in the predicted probability due to unit change in explanatory variables. In the logit model marginal effects are estimated in the following way:

\[
\frac{\partial P_i}{\partial x_{ij}} = P_i(1 - P_i)\beta_j
\]

However, since the age variable enters the model in linear and squared forms, for computing the change in probability, given the unit increase in age, formula (4) was transformed into the following:

\[
\frac{\partial P_i}{\partial x_{i1}} = P_i(1 - P_i)[\beta_1 + 2\beta_2 x_{i1}]
\]

References


where $b_1$ is estimated age coefficient and $b_2$ is estimated age squared coefficient; $x_{i1}$ is age of respondent $i$.

If variable $x_j$ is a dummy variable, its marginal effect for the $i$th observation represents the increase in $P_i$ caused by changing $x_j$ from 0 to 1, other things being equal:

$$\gamma_j = \frac{F(Z_i + \beta_j) - F(Z_i)}{F(Z_i) - F(Z_i - \beta_j)}x_j = 0$$

(6)

Notice that $\gamma_j$ measures potential gain when $x_j=0$, and realised gain when $x_j=1$.

Formula (6) has to be modified if $x_j$ belongs to a block $X_{ij}$ of dummy variables such that no more than one of them can be equal to 1 for each observation (observations with $X_{ij}=0$ form the reference group for this block). For instance, in our model dummies for the obtained level of education belong to one block. In such case one should return to the reference group before changing $x_j$ from 0 to 1.

Appendix 2: Explanatory variables

AGE – age in the linear form;
AGE2 – age squared;
AGE15_19, AGE20_24, AGE25_34, AGE45_54, AGE55_64, AGE65 – dummies for respective age groups. Individuals at the age of 35-44 years are taken as a reference group;
FEMALE – dummy for females;
KIDS – presence of children in the household: 1 if the head of the household has children, 0 otherwise;
SINGLE – marital status: 1 for single, widowed and divorced individuals, 0 for married and cohabiting;
MINORITY – ethnic dummy: 1 for non-Latvians, 0 for Latvians;
RIGADIS, B_CITIES, S_CITIES – dummies according to the place of residence subdivided into 4 categories:
(1) RIGADIS = 1 for residents of Riga and the Riga district, 0 otherwise;
(2) B_CITIES = 1 for residents of Latvia’s main cities excluding Riga (Daugavpils, Liepaja, Jurmala, Ventspils, Jelgava and Rezekne), 0 otherwise;
(3) S_CITIES = 1 for residents of small cities (the rest of urban territory), 0 otherwise;
(4) rural territory (reference category).

HIGHER, SEC_SPEC, SEC_TEH, VOCAT, BAS_LESS – dummies for highest educational level achieved: higher; secondary special; secondary technical; comprehensive secondary (reference group); vocational, basic and less than basic;

PROF1 – PROF9 – dummies for 9 groups of occupations according to the ISCO (International Standard Classification of Occupations) system. Craft and trades related workers are chosen as a reference group;

EMPL1 – EMP0, EMP0 – employment status dummies: employer, self-employed and unpaid family (employees constitute the reference group);
NO_EXPERIENCE dummy for new entrants; 1 for persons whose work experience is less than one year, 0 otherwise.

AGRICULT, SERV_PR, SERV_PUB – dummies for the sectors of the economy: agriculture (including forestry and fishing), public services (public administration, health and social work, and education), and private services; reference category includes those employed in manufacturing, mining, energy sector and construction;
PUBLIC – form of ownership of an enterprise: 1 for public sector, 0 otherwise.

Appendix 3: Estimated regression coefficients and standard errors

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**Post-secondary education with vocational training**
### Binary logit model with age groups.

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### Binary logit model with education levels.

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Introduction

It is a rather unwelcome fact that, when Latvia joins the European Union in May 2004, it will be the poorest country in the EU. According to estimates from Eurostat, Latvia’s GDP per capita evaluated at purchasing power parity (PPP) was 35 per cent of the EU average in 2002. This compares with 39% for Lithuania and Poland, and 42% for Estonia. In fact, the three Baltic states together with Poland will be the four poorest countries in the Union and Latvia itself will contain the three poorest individual regions: Latgale, Zemgale and Vidzeme. All of this is despite experiencing average annual growth rates in excess of five per cent over the last five years or so.

Latvia together with the other new member states expect that accession will bring economic benefits, and the yes vote in Latvia’s EU referendum reflects, amongst other things, the belief of Latvian voters that these economic benefits will offset the perceived loss of sovereignty within a union that is sometimes regarded a more benign version of the Soviet Union. The aim of this paper is to identify channels by which accession will affect the Latvian economy and where possible to quantify the effects.

The quantitative assessment and evaluation of the Eastward enlargement of the EU was pioneered by the seminal paper of Baldwin et al (1997). This paper in turn was based on the Computable General Equilibrium (CGE) modeling of Francois (1998). Unfortunately, the Francois model does not explicitly model either the Baltic Sea region or the Baltic states. Nevertheless, the papers are important because they set the theoretical framework for quantification of the impact of enlargement in a general equilibrium framework.

The papers by Francois and Baldwin et al introduced a decomposition of the effects of deeper integration into three categories:

- Static allocation effects
- Pro-competitive effects
- Accumulation effects

This decomposition of the effects of deeper integration gives considerable insight into both the mechanisms at work and to the possible timing of effects. In particular it points to the distinction between the benefits that accrue through trade and those that may accrue through changes in factor endowments is through capital investments.

Table A1: Baseline models with occupations.

<table>
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<th></th>
<th>Part-time employment</th>
<th>Underemployment</th>
</tr>
</thead>
<tbody>
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<td>2000</td>
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</tr>
<tr>
<td>AGE15_19</td>
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<td>0.048</td>
</tr>
<tr>
<td>AGE20_24</td>
<td>0.898**</td>
<td>0.589</td>
</tr>
<tr>
<td>AGE25_34</td>
<td>0.413**</td>
<td>0.013</td>
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<td>0.480**</td>
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<tr>
<td>AGE65+</td>
<td>0.338**</td>
<td>0.110</td>
</tr>
</tbody>
</table>

Table A2: Models with age groups (selection).

|                                | Part-time employment | Underemployment |
|                                | 1999                 | 2000            |
|                                | 1999                 | 2000            |
| AGE15_19                       | 0.505                | 0.048           |
| AGE20_24                       | 0.898**              | 0.589           |
| AGE25_34                       | 0.413**              | 0.013           |
| AGE35_54                       | 0.850**              | 0.198           |
| AGE45_64                       | 0.472**              | 0.480**         |
| AGE65+                         | 0.338**              | 0.110           |

Table A3: Models with education levels (selection).

|                                | Part-time employment | Underemployment |
|                                | 1999                 | 2000            |
|                                | 1999                 | 2000            |
| AGE15_19                       | 0.505                | 0.048           |
| AGE20_24                       | 0.898**              | 0.589           |
| AGE25_34                       | 0.413**              | 0.013           |
| AGE35_54                       | 0.850**              | 0.198           |
| AGE45_64                       | 0.472**              | 0.480**         |
| AGE65+                         | 0.338**              | 0.110           |

* denotes significance at 10%, ** - at 5%, *** - at 1% level.
accumulation (including by means of foreign direct investment (FDI)) and migration and also to the possibility that some accession effects may have already accrued, either because some measures have already been implemented or because some effects have been anticipated. The next section reports the results of simulations of Latvian accession undertaken using a CGE model of the Latvian economy. This section summarises results from Vanags (2001), (2002) and links them with results on the impact of accession on FDI using an estimated gravity model, Vanags (2003).

The CGE simulation of Latvian accession

The CGE model consists of eight sectors: Agriculture, Services and six manufacturing sectors: Food, Textiles and Clothing, Wood Products, Chemicals, Equipment and Other Manufacturing. These sectors are aggregates of more disaggregated sectors. The model was calibrated to 1997 Latvian input-output data and full details may be found in Vanags (2002). The model has been used to focus on two sets of implications of accession: i) the effects of changes in Latvia’s trade regime that have arisen and will arise from Latvia’s accession to the EU; and ii) longer-term accumulation and productivity effects induced by the accession process and accession itself. The first set of effects correspond to the “static allocation” effects as mentioned in the introduction and the second set corresponds to the “accumulation effects”.

The main simulation results may be summarized as follows:

• There is a big re-orientation of Latvian trade towards the EU
• The gains to Latvia from the adjusted trade flows that come from the mutual removal of trade barriers and reduction of real trade costs (the static allocation effects) are positive but modest
• Enlargement entails some modest trade diversion
• Much of the static allocation gains have already accrued through the implementation of the Europe Agreements
• The accumulation effects are likely to be much larger than the static allocation effects.

The analysis of the static allocation effects may be broken down into two components. Firstly, Latvia’s accession process started with the Europe Agreement (EA) signed in 1995. This committed Latvia and the EU to the creation of mutual free trade in industrial products by 1998. The effect of the EA can be characterised as a mutual reduction in tariffs and the consequent adjustment of production and trade flows. The impact of the EA is shown in Table 1 below. Key features are the following:

- Redirected trade towards the EU
- redirection of economic activity – especially output and exports to wood products and textiles
- A welfare gain for Latvia of 1.12% of GDP

Thus the simulation results correspond quite closely to what has actually happened – namely a significant re-orientation of Latvian trade towards the EU, with wood products and textiles being the gaining sectors. However, the welfare gains, while positive and important, do not represent a radical transformation of the society and economy.

Table 1: The structural changes induced by the Latvian Europe Agreement

<table>
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<tr>
<th>Sector</th>
<th>Consumption</th>
<th>Output</th>
<th>Domestic sales</th>
<th>Imports</th>
<th>Exports</th>
<th>Experts to EU</th>
<th>Imports from EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>-2.91</td>
<td>-2.54</td>
<td>-2.48</td>
<td>38.33</td>
<td>-10.56</td>
<td>-10.96</td>
<td>6.34</td>
</tr>
<tr>
<td>Food</td>
<td>2.56</td>
<td>-9.00</td>
<td>-7.03</td>
<td>17.96</td>
<td>-14.94</td>
<td>8.91</td>
<td>33.57</td>
</tr>
<tr>
<td>Textiles</td>
<td>2.96</td>
<td>6.19</td>
<td>4.21</td>
<td>24.06</td>
<td>14.09</td>
<td>17.57</td>
<td>5.80</td>
</tr>
<tr>
<td>Wood</td>
<td>16.91</td>
<td>48.05</td>
<td>18.05</td>
<td>9.59</td>
<td>20.59</td>
<td>16.59</td>
<td>14.61</td>
</tr>
<tr>
<td>Chemicals</td>
<td>7.19</td>
<td>-29.56</td>
<td>-18.33</td>
<td>6.75</td>
<td>-31.33</td>
<td>-31.33</td>
<td>12.54</td>
</tr>
<tr>
<td>Other</td>
<td>6.20</td>
<td>-17.91</td>
<td>-14.32</td>
<td>0.29</td>
<td>-29.78</td>
<td>-19.97</td>
<td>5.87</td>
</tr>
<tr>
<td>Services</td>
<td>-2.04</td>
<td>0.16</td>
<td>-0.94</td>
<td>9.07</td>
<td>-7.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Welfare effects: Equivalent variation: +1.12% of 1997 GDP

Note: services trade cannot be broken down by region and hence is left out of the last two columns

The second component of the static allocation effects concerns the changes that are a consequence of accession per se. Accession itself will not lead to further tariff reductions except in agriculture, where tariffs and import quotas will be replaced by the mechanisms of the common agricultural policy (CAP). However, market access for Latvia and the other accession countries will be improved through another route — the reduction of so-called ‘real trade costs’. These sum up all the administrative costs of either exporting to or importing from the EU. These can be quite substantial and have been estimated to be around five per cent or more of the product price. With accession, these will largely disappear since selling a Latvian product in, say, Italy or Hungary will legally speaking be the same as selling it in Latvia.

The analysis of the static allocation effects as mentioned in the introduction and the second component is broken down into two components. Firstly, Latvia’s accession process started with the Europe Agreement (EA) signed in 1995. This committed Latvia and the EU to the creation of mutual free trade in industrial products by 1998. The effect of the EA can be characterised as a mutual reduction in tariffs and the consequent adjustment of production and trade flows. The impact of the EA is shown in Table 1 below. Key features are the following:

- Redirected trade towards the EU
- redirection of economic activity – especially output and exports to wood products and textiles
- A welfare gain for Latvia of 1.12% of GDP

Thus the simulation results correspond quite closely to what has actually happened – namely a significant re-orientation of Latvian trade towards the EU, with wood products and textiles being the gaining sectors. However, the welfare gains, while positive and important, do not represent a radical transformation of the society and economy.

With respect to agriculture, the net effect of accession on Latvia is quite complicated. The Commission’s initial proposals for the participation of the candidate countries in the CAP caused an uproar in Latvia with talk of ‘second class members’. However, calculations by the commission suggest that Latvian farmers will on average be better off by 50% in the CAP as compared with being out of it, even not taking into account direct payments (see European Commission (2002)).
Moreover during Copenhagen summit the initial offer for a transitional direct payments period, starting with 25 per cent of the EU incumbent level in 2004 and achieving equal status only in 2013, was supplemented by further allowable direct payments from the Rural Development Fund and from national taxation. In Latvia there are also many thousands of small, so-called semi-subsistence farmers who will fall outside the CAP system of payments and even for them the Commission has come up with one-off payments of €1000 over a period of five years. The net effects of all this are rather difficult to calculate in a comparable fashion to the EA effects. Accordingly no explicit estimate of the effects on agriculture is offered here.

In summary, the static allocation effects of accession itself are made up of the reduction in real trade costs (positive) and the trade diversion effects of adopting the EU common external tariff. Table 2 below summarises the total static allocation effects together with the accumulation effects and compares them with the results of Francois (1998).

<table>
<thead>
<tr>
<th>Static Allocation</th>
<th>Pre-competitive</th>
<th>Accumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vareges (Latvia)</td>
<td>1.7</td>
<td>5.4</td>
</tr>
<tr>
<td>Francois (CEE7)</td>
<td>1.0</td>
<td>9.7</td>
</tr>
</tbody>
</table>

It is evident that the results for Latvia are very similar to the results obtained for the central and eastern European countries by Francois. For the Latvian case the accumulation effects represent the welfare impact of a 15% increase in the capital stock. This is an ‘a hoc’ but conservative assumption. Unfortunately, because the Latvian model is a single country model it has not proved possible to simulate the ‘pro-competitive’ effects which depend on regional inter and intra-industry interactions.

As far as the static allocation effects are concerned it is interesting that they have mainly accrued through the creation of the EA which on the basis of the simulation model have contributed just over 1.1% of GDP – the remaining net static benefits can be expected to contribute just over half of that sum.

The long-term challenge: the prospects for FDI

Average gross wages per month in Latvia are less than €280. This sends two important signals to agents in the Latvian and European economy. One is that labour in Latvia is cheap. And, indeed, so it is – unit labour costs in Latvia are nearly one tenth of those in Western Europe. The other signal is that living standards remain low as compared with the West. These two signals suggest two different kinds of ‘convergence mechanisms’ – one, which might be thought of as the ‘benign scenario’, is that capital will be attracted to Latvia and this will raise the productivity of the Latvian economy. The other, much less welcome in both Latvia and the incumbent EU, is that the sharp differences in real incomes will induce large flows of migrant workers as soon as this is allowed, as it surely will be long before incomes have converged. This is something of a nightmare scenario for Latvia which already suffers from a demographic crisis. The long-term convergence outcome for Latvia will depend on the development of the environment for investment in general and of FDI in particular.

At present, Latvia, with an accumulated FDI of just under US$1000 per head is roughly in the middle of the accession country league table but its share of investment as a percentage of GDP has been among the highest. Much of the existing FDI to Latvia has been of the horizontal type, ie by ‘multi-plant’ foreign enterprises seeking to reproduce another ‘plant’ for the Latvian market. Typical examples are financial services, telecoms, retailing and hotels. Rather small amounts of FDI have been of the vertical type, ie where a foreign enterprise seeks to locate different parts of a production process in different locations depending on costs. Moreover very few investments in Latvia have been of the ‘greenfield’ type, rather they have taken the form of purchase of existing enterprises, often in the privatization process.

How will accession affect the investment environment? Generally, the deeper integration associated with accession is likely to increase FDI both from within the EU and outside. Thus earlier enlargements saw an increase in intra-EU investment and it is well known that the creation of regional trade areas also causes an increase in FDI from outside the area. In the Latvian case full membership of the EU single market together with language and cultural linkages could make Latvia a potential host for investments from Russia aimed at the EU market.

For a transition country such as Latvia another effect can be expected to operate – namely the completion of the institutional framework for a market economy and its effect on the confidence of investors. Evidence on both interest rates and the country ratings of agencies such as Moody’s, Standard and Poor’s, and Dun and Bradstreet over the last few years point to the fact the risk premium associated with investing in Latvia has been falling. Figure 1 below shows the development of the Dun and Bradstreet risk indicator. This shows that in 1994 Latvia had a rating of 5.25 which represents high risk. According to Dun and Bradstreet ‘high risk’ means ‘considerable uncertainty associated with expected returns. Businesses are advised to limit their exposure and/or select high return transactions only’ (Dun and Bradstreet (2003)). Over the next 6 years the Latvian indicator fell rather slowly to 4.75, which is at the high end of the ‘moderate risk’ category. Latvia started accession negotiations in February 2000 and by the end of the year it was clear that Latvia would be in the first wave of accession countries and from the start of 2001, the risk indicator fell rapidly to 3.75, which is at the high end of the ‘slight risk’ category. This rapid decline in the risk indicator is evidently an accession related effect. However, even now, it is above the figure of 2.0 allocated to Spain and Portugal the ‘most risky’ of the EU-15 countries. Hence it is likely that full accession itself will bring further reductions in Latvia’s risk premium.

Figure 1: Development of the Dun and Bradstreet risk indicator for Latvia

Source: Dun and Bradstreet
Of course, other factors also have to be favourable in order to generate an investment or FDI boom. Thus, while Spain experienced a major post-accession investment boom almost at once following accession, in Ireland it took years for the FDI boom to emerge, and in Greece there has never been an FDI boom.

Neither general considerations nor the evidence of previous enlargement permit ready quantification of the impact of EU accession on FDI. One possible approach to quantification is to estimate a gravity model of FDI flows. The gravity approach has proved rather successful in ‘predicting’ trade flows and recently has also been used to estimate the effects of integration on FDI, see eg Di Mauro (2000) or Egger and Pfaffermayr (2002). For Latvia this approach has been tried in Vanags (2003).

The approach taken in Vanags (2003) involves the following steps:

- Estimate a gravity equation for a sample of European countries and a sample of years. This sample excludes Latvia.
- Use the estimated equation to ‘predict’ Latvian FDI outcomes
- Compare ‘predicted’ with ‘actual’ outcomes.
- Since the estimated equation includes a dummy for the effect of being an EU member, one can make two ‘predicted’ outcomes one given that Latvia is an EU member and another given that it is not a member. These two options give rise to an interesting interpretation of the results in terms of anticipated accession effects.

The gravity model was estimated using pooled data for the years: 1995, 1996, 1997, and 1998 for 17 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

Once the model was estimated, the next step was to examine how the predictions of the model compare with actual outcomes. For this purpose the actual Latvian FDI inflows were taken for the years 2000 and 2001 and then averaged. Then the data on Latvia and its FDI partners were inserted into the equation and the ‘predicted’ bi-lateral FDI inflows to Latvia were computed for 2000 and 2001 and then averaged. Countries that had negative bi-lateral flows were excluded. Two predicted computations were made – one in which it was assumed that Latvia was not an EU country ie the EU dummy coefficient was set at zero, and another in which the EU coefficient takes on its estimated value. These calculations are reported in Table 3 below.

How to interpret the results? Firstly it is important to recognize that the with and without EU ‘predictions’ are counterfactual predictions and not predictions of actual Latvian FDI for the years 2000 and 2001 as FDI really turned out in those years, but rather they are predictions of what Latvian FDI would have been if Latvia had been on average like the non-EU countries in the sample on the one hand, and on the other hand, if Latvia had been like the average of the sampled EU countries. So the actual outcome cannot be directly compared with the ‘predictions’ because in practice Latvia is a non-EU country that is expected to become one very soon. Nevertheless it is interesting to see that the ranking of the ‘predictions’ is very close to the ranking of the actual outcomes although the absolute numbers are different.

However the results do have a potentially interesting interpretation. Thus the difference between the inside EU prediction (column 3) and the outside EU (column 2) prediction can be interpreted as the total EU effect. Thus if Latvia had been an EU member in the years 2000 and 2001 FDI would have been nearly 63% higher than if Latvia had been a country like Norway or Switzerland – or more accurately like an average of the non-EU countries in the sample. Further, with some hand-waving, we can interpret the difference between the outside EU prediction (column 2) and the actual outcome (column 1) as the EU anticipation effect. In other words nearly 68% of the overall EU accession effect had been anticipated by the years 2000/2001.

Concluding remarks

The evidence points to a significant positive economic impact of EU accession for Latvia. The Europe Agreement has helped to increase and re-orient trade towards the EU with the effect of a benefit amounting to more than 1% of benchmark GDP. Accession itself will bring further potential trade benefits of slightly less than 1% of GDP together with some minor trade diversion effects. Accession is likely to result in FDI flows that are more 60% higher than would be the case if Latvia were outside the EU altogether, though more than two-thirds of this effect has probably already been anticipated.

In addition to the above accession will make Latvia eligible for the structural and cohesion funds. These will also have a significant impact on the Latvian economy – both direct and indirect. In the first programming period which runs from 2004 to 2006 a total of just over €000 million will be available for Latvia – this is three to five times more than has been available in the form of pre-accession funds. After taking into account Latvia’s contribution to the EU budget the net fiscal transfer will amount of just over three per cent of Latvian GDP. This is a considerable sum in its own right eg it is nearly double impact of the static allocation effect, but perhaps even more important for the long-run impact on the Latvian economy is how the funds will be used. But that takes us into another territory.

### Table 3: Actual and predicted FDI outcomes compared average 2000/2001

<table>
<thead>
<tr>
<th>Country</th>
<th>Actual average</th>
<th>Predicted average if Latvia is outside the EU</th>
<th>Predicted average if Latvia is an EU member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>19.6</td>
<td>7.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Finland</td>
<td>13.7</td>
<td>19.4</td>
<td>31.8</td>
</tr>
<tr>
<td>France</td>
<td>6.4</td>
<td>5.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Germany</td>
<td>31.5</td>
<td>30.8</td>
<td>50.3</td>
</tr>
<tr>
<td>Iceland</td>
<td>1.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Ireland</td>
<td>7</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>14.1</td>
<td>4.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Spain</td>
<td>0.1</td>
<td>1.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Sweden</td>
<td>44.3</td>
<td>21.1</td>
<td>34.6</td>
</tr>
<tr>
<td>Total</td>
<td>131.8</td>
<td>92.1</td>
<td>150.8</td>
</tr>
</tbody>
</table>

Source: Vanags (2003)

2 The Spearman rank correlation coefficient is 0.7 and is significant at the 5% level.
The Political Consequences of EU Accession for the Baltic States

Daunis Auers*

Accession to the European Union has been a central foreign policy tenet of the three Baltic States since their independence was renewed following the collapse of the Soviet Union in August 1991. The following years saw Estonia, Latvia, and Lithuania sign up to a plethora of international organizations from the World Trade Organization to, most recently, NATO. Nevertheless, accession to the EU has remained a foreign policy priority as much for the symbolic and political significance of the 'return to Europe' as the perceived economic benefits.

The three Baltic States are unique among the ten countries joining the European Union on May 1st 2004. As former republics of the Soviet Union they have undertaken difficult state- and nation-building tasks as well as the building of western oriented market-driven economies. Moreover, the reforms began in 1991, two years after the revolutions that swept the communist parties from power in east-central Europe. The political achievement of joining the European Union together with the countries of east-central Europe is significant.

This brief article will address the major political consequences of accession for the Baltic States. However, it should be emphasized that the three Baltic States are politically, socially and culturally diverse, despite their geographical location and shared recent history. While all three states are parliamentary democracies with free and fair parliamentary elections1 as well as similar levels of economic development, there are also important differences. First, while Latvia and Estonia have large Russian-speaking minorities, Lithuania is relatively homogenous.2 Second, each country sees its geopolitical identity in radically different ways. While Estonia has gravitated towards the Nordic States (and Finland in particular), Lithuania has sought closer links with Poland and central Europe. As a result, Latvia has been left in a Baltic limbo, torn between closer links to the Nordic states and Central Europe, while attempting to ignore Russia.

Attempts at building a common Baltic identity through the creation of political institutions such as the Baltic Assembly3 and the Baltic Council of Ministers4 have largely failed precisely because the elite has supported European, rather than Baltic,

References
Di Mauro, F (2000) "Economic integration between the EU and the CEECs: A sectoral study", Centre for European Policy Studies
Eurostat (2003) Statistics in Focus: GDP of the candidate countries

* Daunis Auers is EuroFaculty lecturer in political science at the University of Latvia. Email: dauers@eurofaculty.lv. This is a revised version of the conference paper.
1 See the OSCE election monitoring reports http://www.osce.org/odihr/documents/reports/election_reports/  
2 Russian-speakers make up 37% of the Latvian and 32% of the Estonian populations (CIA Factbook - http://www.cia.gov/cia/publications/factbook ).  
3 See http://www.baltiinam.org/cover.htm  
4 See http://www.bcmvs.net
integration. The degree of solidarity achieved on the 23rd of August 1989 (fifty years after the signing of the Molotov-Ribbentrop pact), when citizens of all three Baltic States formed a huge human chain stretching across the region, has not been emulated. Relations have been particularly taut between Latvia and Lithuania, who have shared a bitter, long-standing and still unresolved conflict over their seaborde (an area which may contain large oil deposits), as well as a trade-war triggered by the alleged dumping of Lithuanian pork and dairy products.

Nevertheless, this article will consider the political consequences of accession on the Baltic States as a whole. Juan Linz and Alfred Stepan’s (1996) five arenas of domestic democratic activity will form the basic framework for what follows. These are: (i) civil society, (ii) political society (iii) the rule of law, (iv) state bureaucracy, and (v) economic society.

Civil Society

Civil society encompasses the sphere of activity between the state and the individual. It plays an important role in defending democratic freedoms and holding government to account through the organizations, institutions and other activities occupying this space. However, civil society was not tolerated in the Soviet Union where all spheres of social life were controlled by the Communist party. Thus civil society had to be constructed anew post-1991.

Table 1: Freedom House Country Ratings

<table>
<thead>
<tr>
<th>Year</th>
<th>Estonia</th>
<th>Latvia</th>
<th>Lithuania</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>2.5F</td>
<td>2.5F</td>
<td>2.5F</td>
</tr>
<tr>
<td>1992-93</td>
<td>2.5F</td>
<td>2.5F</td>
<td>2.5F</td>
</tr>
<tr>
<td>1993-94</td>
<td>3.2F</td>
<td>3.2F</td>
<td>3.2F</td>
</tr>
<tr>
<td>1994-95</td>
<td>3.2F</td>
<td>3.2F</td>
<td>3.2F</td>
</tr>
<tr>
<td>1995-96</td>
<td>2.5F</td>
<td>2.5F</td>
<td>2.5F</td>
</tr>
<tr>
<td>1996-97</td>
<td>1.2F</td>
<td>1.2F</td>
<td>1.2F</td>
</tr>
<tr>
<td>1997-98</td>
<td>1.2F</td>
<td>1.2F</td>
<td>1.2F</td>
</tr>
<tr>
<td>1998-99</td>
<td>1.2F</td>
<td>1.2F</td>
<td>1.2F</td>
</tr>
<tr>
<td>1999-2000</td>
<td>1.2F</td>
<td>1.2F</td>
<td>1.2F</td>
</tr>
<tr>
<td>2000-2001</td>
<td>1.2F</td>
<td>1.2F</td>
<td>1.2F</td>
</tr>
<tr>
<td>2001-2002</td>
<td>1.2F</td>
<td>1.2F</td>
<td>1.2F</td>
</tr>
</tbody>
</table>

(Freedom House 2003)

All three Baltic States have scored a respectable 1.2F in the Freedom House ratings since 1997-1998 (see Table 1). This indicates that the institutional and legal framework for civil society has been largely developed. However, while there are a growing number of civil society organizations, they generally have few members and managerial practices remain weak (as do their finances). Many of the most active organizations are financed by international organizations or foreign donors, making it difficult to claim or attract grass-roots support. Moreover, there has been a growing tendency for increased government funding of organizations, leading to questions of exactly how independent a state-sponsored organization can be. Furthermore, governments still tend to exclude civil-society from the policy-making process and resent being held accountable by them.

Accession will not have an immediate impact on civil society. There are many formal and informal procedures that attempt to involve interest groups in the European policy-making process. However Baltic organizations do not have the financial resources or management expertise to represent their interests in Brussels. For example, only one Latvian organization currently has a representative in Brussels, and this is financed by the Ministry of Agriculture. Accession could actually undermine civil society because major financial sponsors such as the Soros Foundation, and the United Nations Development Programme (UNDP) are disengaging from the Baltic States precisely because of their impending accession to the EU. However, the possibility for increased cooperation with experienced Europe-wide organizations, as well as increased access to new EU financial resources, will help civil society to consolidate in the long-run.

The Russian minority in Estonia and Latvia has generally been favorable of accession to the EU but fervently opposed NATO. This is because the EU has been seen as a defender of minority rights, although this is largely because of an inability to differentiate the EU from the rather more interventionist (in minority and human rights) Council of Europe. The most significant development in minority policy could be a large increase in the number of Russian-speakers applying for citizenship in order to enjoy the freedom of travel and residence that EU citizenship provides.

Political Society

Linz and Stepan define the core institutions of political society as ‘political parties, elections, electoral rules, political leadership, interparty alliances, and legislatures’ (Linz and Stepan 1996: p. 8). In the Baltic States, all these institutions had to develop virtually from scratch. While the EU has long declared that the Baltic States have achieved stable political institutions, electoral rules, procedures and legislatures, a recent article found that Baltic political parties generally suffer from weak organization, political fragmentation and volatility (Pettai and Kreuzer 1999).

An autumn 2001 survey revealed that only a small minority of people trust political parties. For example, only one Latvian organization currently has a representative in Brussels. For instance, most distrusted political institutions were the courts and the police (Rose 2002: pp. 14-15).

Table 2: To what extent do you trust political parties (%)

<table>
<thead>
<tr>
<th></th>
<th>in Lithuania</th>
<th>in Latvia</th>
<th>in Estonia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lithuanians</td>
<td>Russians</td>
<td>Lithuanians</td>
</tr>
<tr>
<td>Trusts</td>
<td>7 11</td>
<td>8 9</td>
<td>9 7</td>
</tr>
<tr>
<td>Neutral</td>
<td>26 24</td>
<td>18 16</td>
<td>20 15</td>
</tr>
</tbody>
</table>

(Rose 2002: p. 14)
has severely constrained public debate on policy issues to the extent that ‘the political party systems in the region have thus offered electoral accountability but not policy accountability’. They argue that this has caused programmatic similarities between parties, contributed to voter volatility and a disenchantment with parties. Indeed, the 80,000 pages of acquis communautaire, as well as impending accession to the euro-zone, will impose additional political and economic constraints on the policy debate.

However, accession should eventually have a significant impact on the institutionalization of political parties in the Baltic states through the introduction of new areas of party competition and increased international exposure. Participation in the June 2004 elections to the European Parliament and the subsequent alignment of Baltic parties with their European counterparts, as well as the participation of politicians in European Council and Council of Ministers meetings, will allow parties to develop their ideological basis and organization through regularized contacts with their more established European counterparts.10

The Rule of Law

The rule of law sees political actors behaving in a transparent, legal fashion as outlined in the spirit and words of the democratic constitution. Little attention was paid to legality by the previous Soviet regime. It is a significant achievement that the European Commission has claimed that the Baltic States have ‘achieved stability of institutions guaranteeing democracy and the rule of law’ (European Commission Accession Reports 1998-2002). However, corruption, which gnaws away at the rule of law, is an area where all three Baltic States have been continually criticized.

Levels of corruption vary between the three Baltic States. In 2001 the World Bank published an extensive report analyzing two types of corruption in the post-communist world: ‘administrative’ and ‘state capture’ (World Bank 2000).12 While all three Baltic States suffer from differing degrees of administrative corruption, Latvia was identified as a country with a particularly high degree of state capture (5th among the 20 East-Central European and Commonwealth of Independent countries surveyed). Further evidence is found in the Transparency International global corruption perceptions index, which uses a different methodology but again sees Latvia finish last among EU accession countries (see table 3).

Table 3: Transparency International Corruption Perceptions Index13

<table>
<thead>
<tr>
<th>Year</th>
<th>Estonia</th>
<th>Latvia</th>
<th>Lithuania</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998 (85 countries)</td>
<td>26</td>
<td>71</td>
<td>--</td>
</tr>
<tr>
<td>1999 (99 countries)</td>
<td>27</td>
<td>58</td>
<td>56</td>
</tr>
<tr>
<td>2000 (94 countries)</td>
<td>27</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>2001 (91 countries)</td>
<td>28</td>
<td>59</td>
<td>38</td>
</tr>
<tr>
<td>2002 (102 countries)</td>
<td>29</td>
<td>52</td>
<td>36</td>
</tr>
</tbody>
</table>

(T Transparency International 2002)

10 As Jānis Jurkans, leader of the Harmony for Latvia party, argued: ‘when Latvian parties compete in the European Parliament elections, they will gradually have to take on the standards of their European counterparts’ Rez Notikai’, Vol. 1, Nr. 3, 28 June 2002.

11 The definition of corruption used by the world bank, states that it is the abuse of public power for private benefit (Transparency International 2002).

12 The World Bank report is based on interviews and questionnaires with firms in the region - the 1999 Business Environment and Enterprise Performance Survey (BEEPS) commissioned jointly by the World Bank and the European Bank for Reconstruction and Development. Administrative corruption sees distortions appear in the formulation of laws by both state and non-state actors. State capture sees agencies ‘intrude deep into the boundaries of their ‘normal’ lives, regularize the incomes of officials and their families, and see their influence the formation and administrative capacity.

13 In contrast to the World Bank, the Corruption Perceptions Index (CPI) is a composite index drawing on surveys of business people, the general public and country analysts over a rolling three year period (in this case from 1998-2000).

The Political Consequences of EU Accession for the Baltic States

However, accession is unlikely to have an immediate impact on corruption – as the slew of recent political scandals in Italy, France and Germany as well as the European Commission itself has revealed, western Europe still has problems with this issue. Also, the expected inflows of structural funds will become another potential source of scandal and corruption.

The Bureaucracy

The success of managing these EU funds in a transparent and capable manner largely rests on the competence of the recently established national Baltic bureaucracies. The bureaucracy of the Soviet Union was run on the principle of democratic centralism whereby lower level bodies elected higher level ones, and then followed instructions from these higher organs. This led to the centralization of bureaucratic power in Moscow, the loss of bureaucratic initiative and the complete isolation of the public from the policy process. Thus when the Soviet Union collapsed, the three Baltic States had to build an administrative capacity appropriate to serving the new democratic system virtually from scratch. The Baltic administrations continue to suffer from a high turnover of staff due to low salaries (particularly in comparison to the public sector), and with attending weaknesses in administrative capacity.

Accession will initially exacerbate this situation. Approximately 200 of the best qualified administrators in each country will defect to lucrative positions in the European institutions. This comes at a time when the national and local administrations must take on the significant task of ensuring the implementation of the 80,000 pages of the acquis communautaire ‘that in many instances bear little or no relation to their domestic policy-making processes and prior policy decisions but reflect, instead, the politics, policy-making processes, and policy choices of the EU and its earlier member states’ (Cameron 2003: p.25).

Economic Society

In 1991 there was a broad consensus among the political elite in all three countries that a market economy would be adopted. The communist system had failed to deliver living standards comparable to western Europe. However, the Soviet state had owned, planned and integrated the Baltic economies for over half a century. The transition from a planned economy to a market economy was inevitably painful.

There appear to be two clear political consequences. First, excise taxes will climb steeply, raising the price of alcohol, tobacco and petrol. Bearing in mind the heavy use of all three products in the Baltic States, as well as their cheapness in comparison to current European union member countries, this will prove to be a deeply unpopular development and undermine support for the EU. Second, there will be large inflows of EU structural, social and other funds after accession. Latvia alone is budgeted to receive €1,658,500,000 (while paying in only €287,000,000) in the 2004-2006 budget period. To put this into context, the income side of the 2004 Latvian national budget is an estimated €3,000,000,000 (1,923,000,000 Lats)14. However, the ability to absorb and utilize these funds effectively depends on the quality of project management and effectiveness of bureaucratic administration...
at both national and local levels. The inexperience and weakness of the Baltic bureaucracies makes this unlikely to happen. Moreover, the national banks of the Baltic States have carefully managed the momentous currency reforms of the last decade and are generally well-regarded in the region. Baltic citizens will also be unhappy about giving up their national currencies, symbols of their hard fought independence, for the euro.

Conclusion

The biggest impact of the European Union on the fledgling Baltic democracies actually came well before accession. The conditionality of integration with the EU, whereby the Baltic States and other candidate countries had to fulfill the Copenhagen criteria* laid out at the June 1993 European Council meeting in Denmark, served as the key framework for political and economic development for the last decade.

Thus the political consequences of accession will not be so momentous. Political parties and civil society will develop increased links with their European counterparts helping them to become more established and professional over time. However, there will be little impact on the rule of law or corruption. The immediate economic benefits largely depend on the professional ability of the bureaucratic apparatus to manage large inflows of structural funds as they simultaneously come under other accession related pressures. Meanwhile price rises from increased excise taxes are likely to be deeply unpopular.

The biggest benefits of accession will only be felt in the long run. First, the psychological benefits of ‘joining’ Europe as an equal partner and building a firm border with Russia may be difficult to quantify but are very real. Second, Baltic elites will gradually realize that their ambitions and interests are best served by a Benelux type model of regional political cooperation. Ironically, increased engagement with a wider Europe could ultimately bring the Baltic States closer together.

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Linz, Juan & Alfred Stepan (1996), Problems of Democratic Transition and Consolidation, Johns Hopkins University Press: Baltimore
Rose, Richard (2002), New Baltic Barometer V: A Pre-Enlargement Survey, Studies in Public Policy Number 368

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*15 The Copenhagen ‘political criteria’ require the existence of stable institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities.
I have been asked to provide some comments on the effect of accession to the European Union on the Estonian legal system. This is an important, complex and rather huge topic, and I will not do it justice here. Instead, I have narrowed the question down to ask whether two legal process oriented sectors within the Estonian legal community (judicial and legislative), are ready to handle certain challenges of membership. I hope that this will provide a glimpse of some potential effects of membership, as well as insight into the dynamics of legal reform in the accession context.

Before turning to the two sectors, we should place the discussion in the appropriate context. Just over ten years ago, Estonia was an administrative unit of the Soviet Union. Its economy and state apparatus were totally integrated into that system. So too was its legal community. There have been huge changes since those days in society, governance, and law. Most importantly for our purposes, a whole new set of legal institutions has produced a mountain of new laws. But I would believe this is an appropriate starting point to discuss legislative and judicial process.

Some Comments about Post-Soviet Legal Culture

As a lawyer, I hesitate to go far into the realm of “culture” It seems more a field for sociologists or other social scientists. But I believe the phrase is important to describe aspects of how people interact within and connect to legal institutions. This provides us with a tool to carve out policy argument on the appropriate role of law in society. Lawyers are the group of professionals who control the agenda for these interactions and connections. As a result, it is appropriate to look closely at the orientation of lawyers to assess legal culture. Lawyers, in turn, generally take actions based upon their understanding of what they are supposed to do as legal professionals working in a given institutional setting.

How do they form this understanding? Is there any evolution or learning that affects it? I would argue that lawyers generally form their understanding of what they are supposed to do from their legal education. This provides the intellectual framework for constructing the model of how the legal system fits into society, its role so to speak, and how individual lawyers fit into the system. This educational framework in turn may make the lawyers receptive to, indifferent to, or hostile to challenges from experience in assessing their model.

So what is the model in Estonia? We should consider that a significant percentage of the lawyers in Estonia either received their legal education during the Soviet era, or received a significant amount of teaching or mentoring from such a person. From this, and from my experience in Estonia, I would argue that the Estonian intellectual model is influenced by aspects of the Soviet idea of the role of law in society, especially with respect to the degree of accountability of lawyers for the effects of law in society. In short, there is a Soviet “hangover”. A few words about some aspects of Soviet legal thinking may make this a bit more clear.

The Soviet system was premised on the idea that its ideology was beyond question. If the ideology was correct — and it was certain to be so — there was no need for social institutions such as law to have or exercise independence. Indeed that might be harmful by producing deviations from the “correct” conception. Lawyers handled the mundane tasks of protecting the state (criminal law) and helping to organize it (administrative law – but not in a western sense). Nothing more was needed or allowed. The lawyers were a small group and closely connected to the communist party. Law was a prisoner of and served ideology, in turn imprisoning everyone else.

The result was a heavy reliance on what turned out to be a false sense of certainty that Soviet ideology answered the problems of the Soviet people. Moreover, the fear of deviation from accepted interpretations of ideology made coercion the tool of choice in regulation. The irony is that while the legal system was coercive, and thus imprisoned citizens to its ideology, the legal culture that had minimal accountability to the real world. One did not hear the lawyers asking, “Hey wait a minute, is this right?” The Soviet era lawyers were technicians, tinkering around with rather dry problems of evidence, organizational competences and so on. Even as the Soviet system started to rot, the lawyers did not consider this rot to be their problem. Indeed, I have never heard any Soviet era lawyer argue that a failure of law or legal institutions in the Soviet system bore any responsibility for the decay and fall of that system.

The fall of the Soviet system brought tremendous changes in Estonia, with many new tasks for lawyers. There has been a huge amount of law drafting, and decision making to do. The curriculum for legal education had to be totally rebuilt. A new system for providing private and public legal services had to be developed. Legal institutions to enforce rights and solve disputes had to be established. This work has gone forward with great energy. But as lawyers undertook the work, did they develop a new legal culture?

I would argue that this is necessary but has not proceeded far enough. In contrast to the Soviet model, western thinking requires legal culture to develop argument about public choices. Legal institutions provide a forum for challenges to accepted wisdom. I will argue that this is especially important in the framework of European law. But has Estonian legal culture taken on such a role? There are many new legal ideas in Estonia, and the new ideas have changed legal culture. Most important has been the shift from near total deference to authority in the state, to deference to individual choice. At the same time, as set forth more fully below, one might question whether Estonian lawyers have found a new sense of accountability...
to society, or whether they still view themselves as technicians, implementing but not questioning someone else’s ideas.

A Look at Reform Issues in Legislative and Judicial Process

Law is the tool that gives effect to public decisions. It transforms abstract ideas into norms that are applied to shape day-to-day life. In this sense, law is a core part of a society’s identity, as well as the tool by which it shapes its future. Law does this by the process of developing and enforcing normative standards. If we are interested in testing the accountability of law to society, it follows that we should be focused on these activities — legislative (development of norms) and judicial (enforcement of norms) process. At the most basic level, we might test these activities by asking the question to what extent do they reflect what people want?

We probably cannot provide a definite answer what people want at any given moment, and it is likely instead that they want many contradictory things. We can assess, however some more objective indicators of the value that legal institutions place on this process: We might ask:

To what extent does the law making process reach out for ideas from people?
To what extent does society promote development of the competence to participate in a discussion of what they want?
To what extent do legal institutions develop an institutional memory of the dialogue to inform further decision-making?

These questions are important in any setting, but they are more so in a post-Soviet setting. Because of the coercive role of state institutions and law, people and institutions do not have the experience of participation or dialogue. But dialogue is needed for a sense of legitimacy to develop, and to unleash the creative ideas of people in communities.

I would argue that these questions also are crucial in light of accession. After accession, Estonians will not only need to debate their own local issues, but will have to participate in the debate over a European, Estonian identity, and make decisions on a regular basis for this identity to evolve. If the local capacity for dialogue on state decision-making is weak, it is likely that the integration process will be more elite driven, and vulnerable to complaints about exclusion. Let us then assess Estonian legislative and judicial process according to the above standards.

Legislative Process

In Estonia, the legislative policy agenda has generally adhered to the original policy idea imposed from the political elite in the early days of independence (shock therapy). More recently, this agenda has become more complex as Estonia took on the obligation to harmonize its laws with those of the European Union. Throughout the period, Estonia has maintained a relatively coherent, if rudimentary policy direction.

Estonian lawyers helped create and work within the system of norm creation. They have followed and continue to follow the rather standard path to get this work done. They have copied and translated most of the norms from more developed legal systems (often using German law as the model) and continue to do so. Most

...
Instead of building competence, the system may be nurturing distrust. From the outside (taking the view of Estonian civil society) the system appears to be relatively closed. There is a sense that those in power like things this way. True or not, instead of promoting cooperation and empowerment, the system tends to promote exclusion, and build the potential for confrontation. If it persists, this negative mood has the potential over time to undermine trust in the system.

One might expect this type of system in a post Soviet legal culture. The system is logical from the perspective of the old reliance on certainty, and view of law as a technical exercise. At the same time, such a regime of law copying simply does not lend itself to very much creativity in developing legislation or thinking about the law making process. Instead of a local legislative cuisine, one gets an odd sort of McDonalds. Moving to our third question, this does not encourage learning about what is needed in Estonia for the Estonian people (let’s refer to that as a local legislative cuisine in contrast to McDonalds).

I would argue that this poses various problems of legal reform that should be better understood and overcome as a matter of Estonian legal reform8. This is likely to cause additional problems after accession. At the outset, because the Estonian law making system has been and remains small, there is likely to be a shortage of Estonians who are competent to work with European law making institutions. Moreover, for the time being it is likely that Estonian participation in the harmonisation process will follow the same pattern as its local law making —— without sufficiently developed mechanisms and competence for public participation.

Judicial Process

Judges are on the front line of the battle to give real effect of law to the people. Day after day, people come to court with real life problems and ask for legal remedies. In a transition setting, the problems can be severe and the capacity of law to address and solve these problems is limited. One would expect, therefore, a gap between societal expectations and the performance of the courts. There has been one in Estonia.

Estonia reconstituted its judiciary in 1992. This meant that all judges were let go and applications received for a whole new set. Former judges could reapply but were not guaranteed a position. As a result of this process, nearly 70% of the judges in Estonia were replaced. These new judges had virtually no experience in judging, apply the law to the facts, write opinions, and handle post trial procedure. There are a whole host of skills to master if the judge includes in his “task list” persuading society of the credibility of the courts.

At the outset, and for a period of years, the judges were subjected to a deluge of new law. It was a challenge simply to keep up with the changes. Moreover, there were the inevitable gaps and contradictions, and confusion about what law applied, what the laws said and meant. Moving beyond problems of law, few present or working in the courtroom arena had a clear idea of how judicial process was supposed to work. What happened before trial? What was the role of the judge in court? What were the roles of lawyers? What was the role of a judicial decision? All of these things were new. And the judges themselves had no mentors or experience to draw from. They had to learn by the seats of their trousers or skirts9.

There were early and persistent anecdotal signals that the Estonian judiciary was having difficulty meeting these challenges. Opinion polls showed that the public held a relatively low estimation of the effectiveness of the judiciary. Lawyers also complained of uneven performance by judges in case management, in court, and in deciding cases10. A large percentage of cases were being reversed on appeal11. Instead of acting as a buffer between the people and the law, the courts seemed to provide a source of added doubt that the legal system was functioning. At times law offered “tough love” — rigid standards that are enforced in an unpredictable manner. At other times the law was irrelevant.

These problems were no huge surprise. But what to do? The judges complained that they needed training, administrative reform and more resources to improve the performance of the court system. Over time, the amount of resources provided to the courts has increased and especially in the key issue of salaries, is not a crisis. Developing effective training and administrative reform have proved to be more difficult. A dispute over training between the ministry of justice and the courts raged for years and was only finally resolved in 2002 with a new law on courts. The parallel dispute over administrative reform simmers on12. One wonders why reform has progressed so slowly.

The difficulty with developing training relates back to the old Soviet legal cultural problem of over reliance on certainty. The Estonian Ministry of Justice had the view that the new law — mostly taken over from Germany — was comprehensive. The training needs of the judges could be reduced to the proposition of instructing the judges how the Germans had handled questions of application of laws. And so the Ministry pinned its hopes on an extensive re-training programme featuring German lecturers. The idea was to reduce the potential for judges to make mistakes.

But handling the social responsibilities of being a judge requires more. Judges must be able to understand the factual background of cases. They must be skilled in developing and assessing argument. They have to be able to make fact assessments, apply the law to the facts, write opinions, and handle post trial procedure. There are a whole host of skills to master if the judge includes in his “task list” persuading society of the credibility of the courts.

Turning to our tests for legal reform, there are serious concerns. First, without programmes to work with judges on how to use and assess argumentation, the capacity of judges to incorporate policy analysis is likely to remain limited. The same is true for the use of persuasion in judicial opinion writing. With neither of these emphasized, it is likely that judicial opinions will not incorporate a developing institutional memory.

8 But what should be done? One might start by surveying what local resources are available to produce change. There are alsoplin in Estonia in legislative process, nor is there a legislative drafting course in the curriculum of Estonia’s major law faculty at Tarts University44. Also there is no political discussion let alone consensus on a theory of law drafting45. Going further, there is no consensus on the role of public participation in the process of drafting, or about the mechanisms to promote this. Nor are these issues on the political agenda. The institutions responsible for making law are not hostile to these concerns but have other priorities. This is a difficult starting point.

9 A relatively large percentage of the judiciary in Estonia is women. 44 An aside, judges were complaining about lawyers as well.

10 By some estimates, this was above 50%.

11 A relatively large percentage of the judiciary in Estonia is women. 44 An aside, judges were complaining about lawyers as well.

12 The Estonian ministry of justice administers trial courts and first level appellate courts. The Supreme Court administers itself. The argument over court administration tends to focus on this split, and the manner in which the ministry handles its responsibility.
This means that after accession, the Estonian judiciary is likely to have some difficulty in handling European based claims. Setting aside whether they can master the substantive European law (which is open to question), it is likely that the judges will apply the law in a relatively mechanical manner. This will limit the ability of the Estonian courts to play a leading role in handling European policy issues, as well as limiting the ability of the Estonian courts to fill their cooperative role in working with the European Court of Justice.

Conclusion
Accession is around the corner, yet there is much about it that remains unclear. One thing is clear that in Estonia the legal community will have to cope with a broad set of new responsibilities. It will be natural that the technical responsibilities will capture the headlines. Will the Estonian public law sector be able to properly transpose laws in order to avoid the wrath of the Commission? Will the courts know how and when to make preliminary references to the European Court of Justice? Of course, these are important questions and deserve attention. But I believe they can be handled over time.

A more difficult challenge will be to discuss and change legal culture. In the first big round of legal reform from Soviet to western legal thinking, the laws changed but the legal culture did not change enough. Now Estonia has a second opportunity for a round of legal reform. I would argue that the reform agenda must include better thinking about legal process. The goal should be to enhance the accountability of lawyers to societal expectations. This will, in turn, require moving beyond the old reliance on “certainties”, and beginning to explore how argument and persuasion inform legal decision-making, and can become a social teaching mechanism.

Book Review

While this book deals with three disciplines that are all crucial to the transition and democratization process in the former Soviet Union and Central and Eastern Europe, this review is solely restricted to the section dealing with economics.

Local authors from the transition countries provide virtually every contribution to the economics portion of the Handbook though three authors received graduate training in economics or political science in the U.S. The exception is the final essay that is contributed by a German author. This particular book is devoted primarily to reform of higher education and the state of professional research.

The economics section begins with an overview essay aptly titled, “Business as (Un)usual.” The essay discusses several issues common to nearly every transition country including intellectual schisms between young and old scholars and the frequent misunderstandings that occur between eastern and western scholars.

The introductory essay is followed by a series of country studies. Eight individual country (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia) essays are included for each of the three disciplines. In the book’s preface, the editors note, “The authors of the reports were asked to address the following issues: The situation of the discipline before 1989, its redefinition since 1990, core theoretical and methodological orientations, funding, public space and academic debates, and a view of further development.” For the most part authors followed these general guidelines. There is also a discussant for each country report though the discussants’ comments are not included in the volume.

The comparable essay structure makes this book a potentially valuable reference source for individuals interested in comparative educational development and reform in the economics discipline. In fact several interesting comparisons arise from a reading of the individual country studies.

First, it is apparent that the situation confronting almost all eight countries was quite similar in 1989. Slovenia stands out as something of an exception as Yugoslavia’s attempt at market socialism separated it from the Soviet Union and its satellite states. However virtually every author notes an almost complete absence of research relevant to the economics discipline at the international level prior to 1990. Many authors note exceptions in the area of quantitative analysis. Further it is clear that, subsequent to 1989, educational and research development has been uneven across the eight transition countries. It is also clear that views regarding the reforms differ substantially across the eight authors with age and background
appearing to play a major role.

It is apparent that the reform process (or perhaps simple change process as some authors seem to view things) has generally progressed further in countries that have experienced greater economic progress in general. Slovenia, for example, probably the most successful transition country in terms of overall economic transformation, also appears to be one of the most successful in terms of educational reform and research output.

This leads to another interesting point that arises from cross-country comparisons. Despite the fact that the situation appears to be relatively good in Slovenia, the Slovenian author (who has a Ph.D. in economics from the University of Pennsylvania) is also one of the more critical. In fact the three authors with graduate training in the U.S. are all relatively critical of the situation in their respective countries (which include Slovakia and Romania – which certainly does appear to have been relatively slow in reform – as well) as being relatively backward. The Polish author (Poland also stands out as a relatively quick reformer) is perhaps the most critical author of all. However his criticism is that change has been too complete and neo-classical economic thought embraced too thoroughly. He tends to lament the Americanization of economic thought in Poland. It is perhaps worth noting that he received his Ph.D. at Warsaw University in 1958.

The economics section concludes with an essay by Hans-Juergen Wagener. Wagener discusses the dramatic increase in demand for individuals able to teach economics and conduct economic research. He concludes that there has been a supply-side response in terms of teaching but not in terms of research. In general Wagener provides a fine discussion of many of the issues that arise in the individual country studies. Several important points he makes include the need to distinguish between "open" Marxist states, such as Hungary, Poland, and Slovenia, and "closed" Marxist states, presumably the other five countries, when examining countries' initial position at the start of transition, the extent of knowledge transfer that occurred from citizens living abroad, and the considerable resources that are wasted in developing local textbooks rather than using universally accepted western texts. The concluding essay presents a valuable discussion of many issues raised in the Handbook.

One unfortunate aspect of the handbook is the fact that discussants’ comments are not included. Especially with respect to the more critical essays and when the backgrounds of the authors and discussants differ significantly, this certainly could have made the book a more interesting read.

Kenneth Smith  
Assistant Professor  
Millersville University  
e-mail: Kenneth.smith@millersville.edu

Book Review


Across the former Soviet Union and Central and Eastern Europe, primary and secondary schools and institutions of higher education are attempting to introduce economics courses or update economics courses where they presently exist. Watts and Walstad present an edited volume that addresses several issues concerning the importance of educational reform in economics and describes and critiques reforms in a number of countries in the region. While some attention is paid to primary and higher education, the contributions tend to focus on secondary education.

The book is divided into three sections. The first five chapters constitute the first section. These chapters address many of the issues involved in the educational reform process including general societal attitudes toward market reforms, the difficulty involved in transforming economic instruction in the transition countries, how a lack of economic education impedes policies aimed towards overall economic reform, and how educational programs (usually financed by Western governments or NGOs) have aided the reform process and influenced attitudes toward market reforms.

Chapter 4 entitled, “The Effects of Teacher Programs on Student Economic Understanding and Market Attitudes in Transition Economies,” perhaps anchors the first section. This chapter presents evidence concerning the benefits of participation in the International Education Exchange Program (IEEP). The author (Walstad in this case) provides some evidence that participants in the IEEP program generally improved their understanding of basic economic concepts and that IEEP improved standardized test scores. However, the improvements appear to be rather small in a practical sense and the evidence is somewhat inconsistent. Regression analysis of the effects of the IEEP program provides somewhat more convincing evidence of its benefits. The regression analysis indicates that a student taught by an IEEP teacher scores significantly better than a student taught by a non-IEEP teacher. However, the test is certainly subject to a considerable bias problem as teachers apparently self-select for IEEP. Thus, clearly, the most motivated teachers (and those who speak English and so have much broader access to educational materials) are somewhat more convincing evidence of its benefits. The regression analysis indicates that a student taught by an IEEP teacher scores significantly better than a student taught by a non-IEEP teacher. However, the test is certainly subject to a considerable bias problem as teachers apparently self-select for IEEP. Thus, clearly, the most motivated teachers (and those who speak English and so have much broader access to educational materials) are those most likely to enter IEEP. This problem is not adequately addressed in the chapter. Finally, fairly weak (though statistically significant) evidence is provided indicating students of IEEP teachers have enhanced support for market reforms.

The second section consists of eight chapters that present individual country studies. All eight studies are written by individuals from an institution in the U.S. or U.K. partnered with one or more individuals working at institutions in the particular country studied. Included countries are: Belarus, Bulgaria, Kyrgyzstan, Latvia, Poland, Romania, Russia, and Ukraine. The format of the second section allows for easy comparison across countries making the book an excellent reference source in this regard. The chapters typically start with an overview of economic education – or the lack thereof – during the Soviet era and then proceed to reform progress and the involvement of programs devoted to educational reform. The programs usually discussed are Soros programs, Junior Achievement, local associations of economists and/or economics teachers, and the (U.S.) National Center for Economic Education (NCEE). Naturally discussion of programs varies somewhat across countries as...
program involvement varies across countries.

Chapter structure in section II thus allows for easy comparison of starting points, the state of reform across countries, and the differential impact of discussed reform programs. For readers who have been or are involved in the educational reform process in one or more transition economies, these chapters potentially provide a valuable source of information on the process in countries where they likely have little familiarity. For the novice, these chapters are likely to be eye opening with respect to the often-dismal state of economic education and the frequent obstacles that block reform in many of the transition countries.

It is clear from the individual country studies, though differences certainly existed, that the transition countries examined had fairly similar starting points with respect to the state of economic education. Most countries had little or no economic education required during the Soviet era. What was taught lost what relevance it had as the Soviet Union collapsed and the transition process started. Further all eight countries faced rapidly rising demand for market oriented economics and business instruction as the transition began despite a fairly universal lack of qualified teachers. The section’s greatest strength lies in the overviews of the reform processes. The chapters make it clear that progress has been quite uneven. In most cases, educational reform progress mirrors general economic reform progress. Of the countries examined, Poland has clearly progressed the furthest followed by Latvia with Belarus and Kyrgyzstan lagging well behind the others.

Section III concludes with the editors summarizing the reform process and providing insights into the potential future of the reform process. One valuable insight is provided in their discussion of change agents. Walstad and Watts write, “The first and most important change agents, however, are the domestic or in-country organizations, including Ministries of Education, universities, pedagogical and faculty retraining Institutes and a variety of NGOs…” This is a statement that most everyone with in-country experience at educational institutions in the transition countries is likely to agree. Further it touches on perhaps the most important reason for uneven reform of economic education. It is small wonder that Poland – a country that has been open to reform – has made considerable progress in educational reform while Belarus, with a government hostile to economic reform and organizations dedicated to educational reform (the Belarusian government’s problems with the Soros Foundation are well known), has made virtually no progress.

The editors also state in the concluding chapter, “The most optimistic prospects are at the university level, where there is strong interest in establishing a curriculum based on current thinking in western economics and indeed a professional vested interest for both institutions and individual faculty members in meeting academic standards like those at leading universities in the rest of the world.” This rings true but also points to one of this book’s greatest weaknesses.

In terms of addressing overall reform of economic education, the book seems somewhat incomplete as it devotes relatively little space to higher education. As the authors allude to above, if economic education is to thrive in general in the transition countries, there will need to be strong university programs. Throughout the Western world primary training for economics professionals and teachers, regardless of the level they teach at, occurs at colleges and universities. While this book is strong and an excellent reference in the areas covered, to provide a truly comprehensive overview and discussion of educational reform in economics in the transition countries would have required considerable expansion into the area of higher education or for this volume to be accompanied by a volume devoted to higher education.

Kenneth Smith  
Assistant Professor  
Millersville University  
e-mail: Kenneth.smith@millersville.edu