

Estonian Labour Market and EMU Membership – Challenges and Policy Options*

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With the planned membership in EMU, Estonia will give up every option to pursue a discretionary monetary policy. This demands a very flexible labour market, returning to equilibrium by itself after a negative external shock. In general, the Estonian labour market regime allows for flexibility and labour force mobility. Nevertheless, there is a serious problem on the Estonian labour market, namely, a mismatch with respect to qualification. The paper discusses three potential remedies for this problem: 1) further development of the relatively underdeveloped social dialogue in Estonia, 2) an increase of the low extent of public labour market spending, and 3) a significant improvement of the education and training system. It turns out that concentration on education policy promises the highest yields. We conclude by referring to earmarked education vouchers. Such a system allows to fully employ the capacities of competition to generate the structure of qualifications necessary to increase the level of employment in Estonia.

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Contents

1. Introduction	3
2. Estonian Labour Market Regime and Performance	4
2.1. Labour Market Flexibility.....	4
2.2. The Regime.....	5
2.3. The Performance of the Estonian Labour Market	7
2.4. Three Types of Remedy.....	8
3. Further Development of the Social Dialogue.....	8
4. Focus on Active Labour Market Policy.....	9
4.1. Theoretical Aspects of Active Labour Market Policy	10
4.2. Mixed Empirical Evidence for Successful ALMP	10
4.3. How to Improve the Effectiveness of ALMP in Estonia.....	12
5. Reform of Education and Continuous Training	13
5.1. Current Problems of Education and Training in Estonia.....	13
5.2. The Alternative: A Voucher Scheme.....	14
5.3. The Rationale for Vouchers.....	15
5.4. Potential Problems of a Voucher System in Estonia	16
5.5. Details of the Voucher Scheme for Estonia.....	18
5.6. Dealing with the Costs.....	20
5.7. Some Thoughts about the Feasibility	20
6. Conclusions	21
References	22

1. Introduction

After almost 15 years of successful transition from a part of the Soviet Union to a modern industrialised market economy, the next challenge is ahead of Estonia, in particular of its labour market participants. As Estonia is applying for membership in the EU and subsequently in the EMU, the flexibility of its labour market has to be very high. While under the currency board arrangement (CBA), there is at least the option to react to negative external shocks on the labour market (either by using excess reserves to issue money or by even giving up the board), such an option would not be available under EMU. The European Central Bank (ECB) has the obligation and seems to be determined to safeguard price stability at any rate, implying that in case of negative shocks in a small country such as Estonia it will not react by a change in monetary policy. Consequently, the labour market has to be equipped with the necessary tools to react upon a shock and get back into equilibrium by own means. In other words, it is necessary to allow for wage flexibility and labour force mobility. Only then can structural changes be met adequately.

The transition process already forced a considerable need for structural change on the Estonian labour market. Old uncompetitive enterprises had to leave the market, causing mass lay-offs, new enterprises had to emerge to absorb the suddenly increased number of unemployed. In case of the Baltic countries, initially this problem seemed even more severe than in other transition countries. In particular, having been part of the Soviet Union implied a higher degree of integration with it than the other CEE countries had. After the secession, Estonia did not become part of the CIS, leading to a sharp reduction of trade relations with Russia. This caused a dramatic fall in demand for Estonian products, leading to mass lay-offs. A second potential reason for a stronger structural change on the labour in Estonia than in other transition countries can be found in the existence of some ethnic problems, eg language problems, ethnic conflicts and the like (Noorkõiv *et al*, 1997, pp 1–3).

Therefore, there is an economic rationale for a high degree of labour market flexibility in transition countries applying for EMU membership, even more prevalent in Estonia and the other Baltic countries. Indeed, the labour market in Estonia has been very flexible from the beginning of transition process. Estonia, like the other Baltic States, is an exception, as other transition countries organised their labour markets rather comparable to labour market regimes in Continental Europe and paid much attention to vested interests (Belke and Hebler, 2002, pp 62–74). In Estonia, it may have been helpful that with the secession from the Soviet Union a new state with completely new organisations and rules was established. Therefore, vested interests were absent in the early stage of transition, which was favourable for preventing an inferior policy design (Olson, 1982).

Nevertheless, the Estonian labour market is characterised by a high degree of unemployment, which even increased during the late 1990s. One important explanation for this high unemployment is mismatch with respect to qualification and region. The current paper is dealing with different ways to overcome this mismatch and to increase employment in Estonia. The following section is dedicated to an assessment of the Estonian labour market regime and performance. As a consequence, we first analyse the economic sensibility of an increase in social dialogue; secondly, discuss active labour market policy programmes, and thirdly, develop an alternative way to organise education and continuous training in Estonia.

2. Estonian Labour Market Regime and Performance

2.1. Labour Market Flexibility

Before we analyse the Estonian labour market regime and the performance of the Estonian labour market since 1989 in more detail, it is sensible to outline the features of labour market flexibility in brief. Labour market flexibility can be defined in several ways.¹ We concentrate on labour market regulations, governing the relations between employers and employees, including the wage setting process and employment protection legislation as the most relevant regulations for the ability of the labour market to react efficiently to shocks. In general, it is sensible to distinguish six features of the labour regime:

- the wage setting process, determining the size of an insider-outsider problem;
- employment protection legislation, in particular lay-off protection;
- obligatory benefits, eg sickness payments and employees participation requirements;
- unemployment benefits;
- social dialogue and
- active labour market policy such as wage subsidies, training on the job or public employment of unemployed.

The flexibility of the labour market is the higher, the more decentralised is the wage setting process, the lower the lay-off protection, the lower the benefits, the lower the unemployment benefits, the more open the social dialogue and the less directly intervening the active labour market policy. Although highly desirable, it is difficult to give a precise assessment of labour market flexibility. Several attempts have been made to calculate indices of labour market flexibility with the most widely accepted being the index of employment protection legislation (EPL) as constructed by the OECD (1999) and improved by Nicoletti, Scarpetta and Boylaud (2000). This index is composed of three elements, namely, the degree of individual lay-off protection, the level of collective lay-off reported and part time work restrictions.² The lower the value of this index, the higher the labour market flexibility. Although calculated very sophisticatedly and allowing for an international comparison, the EPL index only tells a minor part of the story. In particular, the wage setting process is not included into the index.

High labour market flexibility is one prerequisite for high labour force mobility. The second factor contributing to labour force mobility is education policy, in particular concerning the quality of schooling, vocational training and on the job training. The better educated the labour force, the higher its potential mobility. These elements contribute to the level of employment and are in fact considered as being important for the future development of the Estonian labour market (eg Eamets, Philips and Annus 1999). However, it would be difficult and not much directed to the point to incorporate this field under the heading labour market regime. Therefore, in this Section we concentrate on the six topics mentioned above.³ Finally, the flexibility of the labour market and the mobility of the workforce are determined by the ability

¹ See Paas *et al* (2002, pp 11–16) and Eamets (2002) for overviews.

² These elements are further specified in OECD (1999, Chapter 2).

³ Education policy will play a significant role in Section 5.

of the enterprises to leave the market, in other words, the existence of a bankruptcy law and the absence of subsidies for insolvent enterprises, both given in Estonia.

2.2. *The Regime*

The following will give an overview of Estonian labour market regulations and institutions. Estonia has made considerable efforts to adjust its labour market policy to requirements set by the International Labour Organization (ILO) and the European Union. Among these requirements one finds regulations of work time, vacancies and termination of contract as well as non-discrimination rules and minimum wages.⁴ Table 1 shows the features of Estonian labour market regulations in some detail.

The wage setting process as the most important element is relatively open. Wages are set in bilateral negotiations between the employer and the employee or the trade union respectively on firm level. There is no general enforcement of collective agreements. This allows for a high wage flexibility reflecting differences in the developments of regions, sectors and even firms within the same industry. Thus, it seems possible to integrate unemployed persons relatively quickly again into the labour market. Given the ECB's probable orientation to Union-wide price stability without any reference to potential or existing Estonian labour market problems, this ability to react relatively quickly to structural changes is very important for a small country at the periphery of the Union.

Apart from the wage setting process, other elements of the labour market regime are also relevant. To start with employment protection legislation, the index of employment protection for regular employment, being a part of index for employment protection legislation (EPL) (Nicoletti, Scarpetta and Boylaud, 2000), has been applied on the Estonian labour market regime (Paas *et al*, 2002, pp 44f). The result is slightly surprising as it is higher in Estonia (3.31) than in all other OECD countries except for Portugal (4.3). It can be partly explained by the prohibition of firing pregnant women, single mothers and disabled persons. From the perspective of the employer, this prohibition may prevent the hiring of members of these groups and even of young women who bear the risk of becoming pregnant during the contract's term. However, the index only reflects part of the EPL index. The probably more important element of collective lay-off protection is missing, obviously for good reasons – it does exist to a very moderate extent in Estonia. The almost complete absence of this requirement allows the employers a very fast response to any shocks.

In general, the same holds for obligatory benefits such as part time work restrictions and employees' participation. On the one hand, it makes it much more attractive to hire persons (knowing that firing them is easily possible) than with the existence of these regulations. On the other hand, the absence of employees' participation may have a negative impact on productivity, as employees are not automatically involved in the entrepreneurial decisions. The currently low unemployment benefits provide a strong incentive for the unemployed to search

⁴ For details see Paas *et al* (2002, pp 29–34).

for a new job within a short time span.⁵ Nevertheless, this element only makes sense if the insider-outsider problems are negligible, which is the case in a decentralised wage formation process. The decentralisation of the wage formation process reflects the weakly, but increasingly developed social dialogue. This can also be interpreted as a lack of cartelisation of the Estonian labour market. Some argue that the tight relations between employers' organisations and trade unions in combination with their right to exclusively negotiate wages in Germany has contributed to a cartel-like situation.

Table 1. The Estonian labour market regime

Feature	Details
Wage formation process	<ul style="list-style-type: none"> • In general, wages are set by employers and employees in individual negotiations – only rarely by collective bargaining process; • collective agreements cover union members, no general enforcement; • increasing minimum wage (currently 1,850 EEK/month);
Employment protection legislation	<ul style="list-style-type: none"> • Individual lay-off protection, in particular to protect pregnant women, single mothers and disabled persons, terms of termination of contract are laid down in the employment contract, no restriction otherwise; • collective lay-offs demand for some time of notifying and permit by the employment office if it exceeds a certain number of employees.
Obligatory benefits	<ul style="list-style-type: none"> • No part-time work restrictions; • employees' participation restricted to big enterprises, no participation on the board of overseers; • obligatory sickness payments; • overtime restrictions; • no additional vacation and Christmas payments.
Unemployment benefits	<ul style="list-style-type: none"> • Unemployment benefits (400 EEK/month) are paid by the government; • since January 2002, compulsory unemployment insurance (premium 1% of salaries); • other benefits for registered unemployed (eg health insurance).
Social dialogue	<ul style="list-style-type: none"> • No obligatory collective wage bargaining between social partners; • tripartite roundtables on minimum wages; • agreement on curricula for vocational education and training (VET).
Active labour market policy (all to a very low extent)	<ul style="list-style-type: none"> • Subsidises for self employment and employment of risk groups; • labour market training; • public employment; • promotion of entrepreneurial spirit.

Sources: Eamets, Philips and Annus (1999, Chapter 8), Noorkõiv et al (1997, pp 4–6), Paas et al (2002, pp 29–45), National Observatory of Estonia (2001, pp 20f), Republic of Estonia (2001), own compilation.

⁵ However, this sentence has to be qualified, as the total of all social benefits (unemployment, housing, health care) granted by different state levels in Estonia is difficult to calculate. See National Observatory of Estonia (2001, pp 19–21).

To summarise, the overall assessment of the Estonian labour market regime is very positive; its flexibility can be regarded as being extremely high, setting up only very few entry and exit barriers to the labour market. Although it is impossible to calculate a single number indicating the degree of labour market flexibility, we regard the Estonian labour market as being one of the most flexible in Europe. Despite recent changes in Estonian labour market regulations due to the planned EU accession and according to ILO standards (Paas *et al*, 2002, pp 29–45), the market still seems to be very different from highly regulated and therefore distorted labour markets in Continental Europe (Berthold and Fehn, 1996). Moreover, as the requirements of the *acquis* and of the ILO have already been fulfilled to a great extent (Estonian Government and the European Commission, 2001), one can expect a satisfying labour market performance, at least in terms of structural change and its management.

2.3. Performance of the Estonian Labour Market

Two aspects of labour market performance will be in the focus here, namely adjustment to structural change and unemployment. First, we assess the extent to which the labour force adjusted to structural change that was forced upon the Estonian economy after the breakdown of the Soviet Union. The development of other areas and countries suggest that during transition in Estonia, employment and value added in labour intense industries decline, whereas they increase in capital and human capital intense industries.⁶ Estonian experience follows this pattern. Due to the high labour market flexibility, the adjustment of the labour force to the structural change since the beginning of the 1990s has been considerable, albeit not perfect. This can be observed by looking at sectoral shifts in employment and changes in the sectoral wage structure. Different from its Baltic neighbours, in the 1990s Estonia has managed to reduce the share of employees in agriculture remarkably from over 20% in 1991 to less than 8% in 2000. To compare, in Latvia and Lithuania the share of employment in agriculture during this period changed from 18% to over 15% and from 18 to 20%, respectively. In the same period, employment in industry first decreased slightly and increased thereafter, so that the year 2000 is a little below its share in employment of 1991 (37%). In its Baltic neighbours, the share of industries has declined much sharper from over 35% in 1991 to between 25 and 30% in 2000. Consequently the share of employment in services increases remarkably in Latvia and Estonia (from 46 and 43%, respectively, in 1991 to about 60% in 2000) and reasonably in Lithuania (Paas *et al*, 2002, pp 9–11).

This development is compatible with the wage development. Noorkõiv *et al* (1997) used the Estonian Labour Force survey to assess some 10,000 employees with regard to their wage and employment development between 1989 and 1995. There was a considerable shift in sectoral relative wages, which reflected relative changes in employment in these industries – wages declined in sectors with employment reduction and increased in those sectors with employment gains. This is perfectly in line with the theory, as it shows that decreasing wages can be a reaction to declining demand in the respective industry and explains incentives for individuals to move between sectors. In addition to these findings, Noorkõiv *et al* (1997) showed that between 1989 and 1995 the relative returns to education and to experience rose. Investments in human capital have on average paid off in Estonia. Moreover, immigrants lost shares in employment. To summarise this study, Estonia has been characterised by a high

⁶ For a more detailed analysis and a scenario for Estonia see Randveer (2002).

labour force mobility (obviously in combination with human capital investment) and high wage flexibility. Paas *et al* (2002, pp 21–23) show that both prevailed after 1995.

Nevertheless, unemployment is high and persistent, in particular structural unemployment. Venesaar, Marksoo and Maldre (2001) show that unemployment is especially high among young and less educated persons.⁷ In addition, labour mobility is particularly high among educated persons, young persons, people from the Tallinn area and Estonians (Rõõm, 2002b). As can be expected with a high share of structural unemployment, labour mobility has decreased on average (*ibid*). At the same time, there is a surplus demand for highly skilled labour (Kukk, 2002) as well as craftsmen and sales personnel (National Observatory of Estonia, 2001, p 33). In other words, there is a mismatch with regard to qualification and regional aspects.⁸

2.4. Three Types of Remedy

The mismatch obviously cannot be overcome by measures dedicated to further deregulation, but rather by other measures. Three main directions of the reform can be distinguished: 1) further development of the relatively underdeveloped social dialogue in Estonia; 2) an increase of the low extent of public labour market spending, in particular, active labour market policy measures; and 3) a significant improvement of the education and training system. These directions are in line with formal requirements set up by the EU. According to the ‘Joint Assessment of Employment priorities in Estonia’ by the Estonian Government and the European Commission (2001), a further deepening of the social dialogue is proposed. Second, in particular an improvement of active labour market policy, including the necessary administrative capacities, a better co-ordination of tax and benefit systems as well as the consideration of regional and gender aspects of labour market policy are also suggested. Third, vocational and continuing training are identified as subject to further efforts. It turns out that while all three categories of measures point to the same direction, namely to better education, the concentration on a reform of education and training in Estonia is promising the best results.

3. Further Development of the Social Dialogue

It is criticised that the social dialogue in Estonia is underdeveloped and should therefore be improved. The argument behind this claim is that better organised social dialogue is likely to generate consensus about labour market policy. Interestingly, it is also argued that an increase of collective bargaining can lead to more employment friendly wages (Government of Estonia and European Commission, 2001, p 21). Public choice reasoning as well as empirical evidence in Continental Europe would suggest the opposite, namely a cartel like behaviour of the social partners on the expense of the unemployed. This behaviour can be explained by an obvious deviation of competence and responsibility: the social partners have the competence to negotiate wages collectively for the whole labour force, but they are not responsible for any increase in unemployment due to their negotiations. Only if the social partners were fully

⁷ See also IMF (2001, p 18) and Rõõm (2002a).

⁸ There may also be cumulative effects: many unemployed persons belong to more than one group mentioned above, for instance, a young unqualified non-Estonian living in Ida-Viru County, although significant evidence for this hypothesis is lacking so far.

responsible for the management of unemployment insurance and benefits,⁹ one could imagine a collective wage bargaining process leading to new jobs, ie a reduction of unemployment. Otherwise, it is rather likely that a process of collective wage bargaining only takes care of existing jobs.

Currently, there is not much rent seeking and cartel-like behaviour on the Estonian labour market going on. Unions are weak and separated, implying competition among them for the employees in one industry. Unionisation is very low.¹⁰ In addition, employers' associations are also weak (Paas *et al*, 2002, pp 55–58). However, this cannot be expected to hold on forever. In an enlarged European Union, other than Estonian interest groups will also participate in the Estonian political market. Estonia will be part of a huge labour market. In particular, an increase in collective wage bargaining would mean stronger incentives for an insider to prevent outsiders from entering the labour market. One can also imagine that social partners from other member countries will exert pressure to export their models to new members in order to raise costs and to weaken competitors.

Moreover, for meeting EU requirements further measures to ensure employees' participation, gender equality, etc have to be taken (Government of Estonia and European Commission, 2001). Although there is broad consensus that any kind of discrimination on the labour market has to be prevented, discussions are going on about the appropriate way to do so. Legal protection for threatened groups such as young women and disabled persons may have opposite effect – while *ex post* it may provide protection and legal opportunities for these groups, *ex ante* it may be an obstacle to their employment. Potential employers anticipate the difficulties to lay off persons from these groups, and thus avoid hiring them. However, the *acquis* does not prescribe the form and degree of legal protection for these groups.

To summarise, further development of the social dialogue and other protective measures have to be carried out carefully. Social partnership is not to be mixed up with a closed shop between the state, the employers associations and the trade unions – with benign neglect of unemployed persons. It can be very useful to settle disputes between trade unions and employers on principle issues. It can also be (and in Estonia it has already been) used to develop strategies regarding training and education (see below).

4. Focus on Active Labour Market Policy

The extent of public labour market spending has two aspects: the still low level and the structure of public expenditures for labour market policies. These two aspects raise concern in two respects. First, the absolute amount of public labour market spending is low with 0.22% of GDP in 2001 (as compared with 2.48% of GDP in the EU). Second, the share of active labour market spending is only 28.0%, whereas unemployment benefits make for 61.5% (10% is

⁹ See Risch (1983) for a detailed proposal.

¹⁰ Obviously, it is not planned to change the wage setting process to demand a compulsory collective bargaining processes (Turpits, 2002). It may even be useful to fix the absence of a compulsory collective wage setting process in the constitution as individual liberty. Such a constitutional right protects individuals from collective power, and it still does allow union members (and others) to bargain collectively, if they wish. It has to be assessed whether this is possible. The rationale for such a proposal is experience suggesting that EU labour unions outside Estonia will try to export parts of their labour market regime to Estonia.

public employment services and administration). In the EU, approximately 40 per cent of public labour market spending is dedicated to active labour market policies. In Estonia active labour market policy (ALMP) consists of measures the state takes to actively improve the chances of unemployed persons, among them public employment services and administration, subsidised employment and labour market training (Eamets, Philips and Annus, 1999, p 63).

4.1. Theoretical Aspects of Active Labour Market Policy

It is argued that active labour market policy (ALMP) is superior to passive, as it allows for targeting special groups – those suffering most from long-term unemployment, such as young people without vocational training, former workers in heavy industries in their mid-forties, non-Estonians in the Eastern part of Estonia, etc. In addition, the participants in ALMP programmes will not be detached from the labour market as they keep their skills, in particular, the skills enabling them to work at all (OECD, 2001, p 29). On the other hand, there are some problems related with active labour market policies.

- The main problem is that the government cannot have adequate knowledge about the future demand for labour. Although this is a very commonplace critique to special and discriminating state measures, it has to be taken seriously.
- Second, the problem of crowding out has to be solved: unemployed persons, working in active policy programmes are likely to crowd out regularly employed persons. In this case, the net effect of ALMP is very low or even zero.
- Third, it cannot be excluded that the active labour market programme only temporarily reduces unemployment – as soon as the programme runs out, the participants will be unemployed again.
- Fourth, one has to take care of rent-seeking behaviour: the suppliers of certain programmes may lobby their case successfully, even if their programmes do not match the industries' demand for labour force. These fears are not as far-fetched as empirical evidence shows.

4.2. Mixed Empirical Evidence for Successful ALMP

Notwithstanding the alleged positive effects of active labour market policy, it is doubtful whether it really reduces the rate of unemployment significantly. Indeed, empirical evidence is not very supportive. Bergemann *et al* (2000) show that active labour market programmes in East Germany did not have significant positive effects on employment between 1990 and 1998. Even multiple participation increased the chances to find a new job only insignificantly. Empirical evidence in OECD countries shows that there is no clear relationship between the average ratio of active labour market policy spending to GDP and the average rate of unemployment (for the same year) over time. Even the direction of the correlation differed between country groups (OECD, 2001, pp 25–29).

It may make sense to analyse the correlation between active labour market expenditure and unemployment in a more dynamic perspective. In contrast to the analysis of OECD (2001), we apply a lagged analysis. The hypothesis of the following analysis is that a country's active labour market policy in period t affects its rate of unemployment in the following period $t+1$, in that unemployment will be reduced. In Figure 3.1 we plot the unemployment rate in 2001 (bottom) and the expenditure for ALMP in 2000 (left). The figure suggests a loose negative

relationship between both: the higher the expenditure for ALMP in 2000, the lower the rate of unemployment in 2001. However, a regression (OLS) with unemployment in 2001 as endogenous variable and ALMP expenditures in 2000 as well as the index for employment protection legislation (EPL) for the late 1990s as exogenous variables indicates that the correlation is not significant; the results are not reported here.

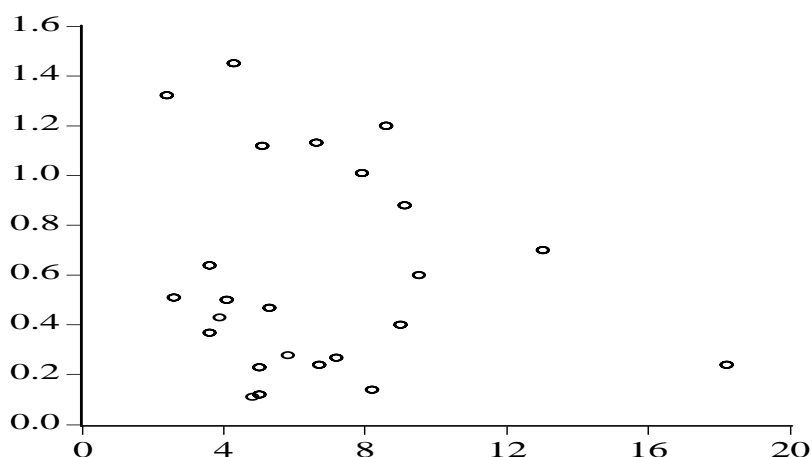


Figure 1. Active labour market policy expenditure in 1999 (per cent of GDP) and unemployment (per cent) in 2000: empirical evidence for OECD countries

Sources: OECD (1999) and (2002), own calculations.

Although the direction of influence is as expected, the correlation is not significant. It cannot be claimed that relatively high expenditures for ALMP reduce unemployment, the same holds for the index of labour market flexibility. On the other hand, the opposite hypothesis, namely, that unemployment in the mid-1990s (1995) influences active labour market policy spending in the late 1990s, also finds no support in the data.

Another regression displayed – unsurprisingly – more promising results. Instead of the level of unemployment, we used the relative change in unemployment in OECD countries between 1999 and 2001 as a dependent variable and the expenditures for ALMP in 1999/2000 (as share of GDP) as an independent variable. Again, the sample size is 24. Active labour market policy, in particular subsidised employment, can increase employment and reduce unemployment. Nevertheless, the results have to be taken with great care, as in this regression ALMP is the only explanatory variable for a huge shift in unemployment. Other positive economic developments in the OECD countries in the late 1990s, which also, and probably to a higher extent, contributed to decreased unemployment, are not considered. It also seems appropriate to employ the change in ALMP between 1998 and 2000 as explanatory for the change in employment from 1999 to 2001. Again, the sign is correct, but the result is insignificant (not reported here).

A second regression shows the impact of public expenditures for labour market training in 1999 (as a part of ALMP expenditure) on the development of unemployment between 1999 and 2001. The sign is the expected one, although insignificant. This can be explained by the very short horizon. Efforts in training and education can be regarded as being long-term

investment, which does not affect the labour market immediately. The results are shown in Table 2.

Table 2. Relative change in unemployment (1999–2001), AMPL (1999–2000) and in expenditures for training in OECD countries

Regression	Variable	Coefficient	t-Statistics	Prob.	R ² adj
1	ALMP	15.929	3.186	0.004	0.30
2	Training	17.334	1.250	0.2247	0.09

Source: OECD (1999) and (2002), own calculations.

4.3. How to Improve the Effectiveness of AMLP in Estonia

Given the weak and contradictory empirical evidence, the advice to simply increase expenditures for active labour market policy may not be helpful. In addition, public funds are not available to a greater extent than actually spent.¹¹ Nevertheless, as the barriers to enter the labour market in East Germany as well as many OECD countries are higher than in Estonia – resulting in low impact of ALMP there –, it makes sense to analyse potential active labour market programmes carefully. In particular, measures to support the disadvantaged groups in the labour market, such as young, less educated non-Estonians that are in the focus. It makes sense to seriously consider appropriate measures. However, again the procedure should be strongly rule-based. It seems particularly necessary to develop rules to identify target groups as well as rules to consider changes in target groups over time.

In addition, it seems necessary to support the development of entrepreneurship and enterprises. Thereby, the focus should be laid upon general assistance, in particular with bureaucratic procedures. It may also make sense to provide some legal information and to take measures that may change the attitude of Estonians towards entrepreneurship (Nommann, 2002). Finally, the administrative capacity of the Public Employment Service (PES) has to be improved. For one, it seems to be incapable of its task so far, which are mainly directed to job mediation. Second, the focus on active labour market policy as well as the participation in the European Social Fund demand more and better qualified personnel (Government of Estonia and European Commission, 2001).

A particular important element of ALMP is training and qualification for unemployed persons. Obviously, so far the administration does not deal very well with the issue. It seems to rely on past experience when setting up new programmes (Eamets, Philips and Annus, 1999, p 69; Järve, 2002). It is highly questionable whether a state agency is at all capable of doing this job. Instead, it can be assumed that the necessary widespread knowledge of the future demand on the labour market is not gathered in a bureaucracy. As we show below, there are ways to avoid the problem of pretence of knowledge.

¹¹ Some funds may be available via structural funds of the EU from 2004 on.

5. Reform of Education and Continuous Training

Improvement of the social dialogue and increased focus on active labour market policy neither guarantees success nor tackles the main problem – the qualification mismatch – directly. The following analysis concentrates on education and training policy in Estonia, in particular, on vocational education and continuous training. Two groups are in the centre of the attention – school leavers and long-term unemployed persons –, as these seem to be the risk groups. After a brief assessment of the current state of education policy, we develop a voucher scheme for both groups directed at more flexibility and the creation of the knowledge about future demands on the labour market. The final objective of such a scheme is to reduce the mismatch.

5.1. Current Problems of Education and Training in Estonia

To begin with, we take a look at the situation of school leavers.¹² Currently, primary school leavers can receive general secondary level qualification or vocational secondary qualification in a minimum 3 years. Secondary school leavers can receive vocational secondary education in 1–2 years. After that, higher vocational education or university education (for those who received general upper secondary education) starts (Eamets, Philips and Annus, 1999, pp 114f). The Law on Vocational Education Institutions (1998) prescribes the skills to be learned on both levels. In 2000, 31,000 students were enrolled in 78 VET schools, of which 62 were public. At the same time, about 51,000 students were enrolled in private and public universities (National Observatory of Estonia, 2001, pp 34–42). This indicates that the current mismatch (see Section 2.3) will probably prevail in the immediate future.

Education and especially vocational training obviously need improvement for several reasons. First, it does not attract many students. Less than 40 per cent of the age group attend VET schools, more than 60 per cent are enrolled in universities. Obviously most capable pupils prefer the universities. Consequently, the dropout rate in vocational institutions is high and the job placement of the participants is poor (Eamets, Philips and Annus, 1999, p 48f). The curricula are apparently not appropriate for secondary school leavers. Hence, many of these are leaving school without a concrete specialisation and do not attend the universities. As a result, in 1998 this group accounted for 30 per cent of the unemployed (ibid).

Thus, the main problem is to adjust the curricula of the vocational training institutions to the market needs. This requires a degree of knowledge the state usually does not have (basic: van Hayek, 1975). Currently, the government is trying to create this knowledge by carrying out studies to identify employers' needs on a regional and branch level, which form the basis for the planning of VET (National Observatory of Estonia, 2001, p 65). Such studies not only face the problem of pretence of knowledge, but are also prone to rent-seeking activities by the industries analysed. Nevertheless, there actually has been some progress. By the end of 2001, 215 vocational standards were set up (ibid, p 7). At the same time, money is spent for continuous training of potential entrepreneurs who then can offer education for primary and secondary school leavers. When the curricula are fixed, the task has not ended. The challenge lies in the permanent need to adjust the curricula to the needs of a very small market as in Estonia. The closure of a single big manufacture can make a whole curriculum obsolete.

¹² For the purpose of this paper, it is sufficient to concentrate on post-primary education.

In addition, education and vocational training are expensive. In 1997, the average costs for education were 12,000 EEK per annum in secondary education, between 11,000 and 15,000 in post-secondary education and about 18,000 EEK in universities (Eamets, Philips and Annus, 1999, p 48). These figures have to be adjusted for the average inflation since then, which probably implies that the costs have risen by 40–50%. The fees for post-secondary education differ among institutions. Public schools for vocational training are free of charge, private schools for vocational secondary education as well as public and private universities charge fees. The fees for private universities, for instance, are ranging from 16,000 EEK to 40,000 EEK per annum. For many young persons it may be too expensive¹³ and directly after leaving secondary school they look for a job without a long-term perspective. If they loose the job, they may have difficulties to find a new one, and even if they find one, it is only a limited investment in human capital. Hence, the government should spend more money on vocational education, especially in regions where youth unemployment is high. One can think of the endowments for Estonia from the EU structural funds to finance this task (Nommann, 2002).¹⁴ The education policy for unemployed persons seems to be less developed (ibid, pp 52f). At least, it does not cover a majority of the unemployed persons. In addition, it is directed at advanced skills. It is fair to assume that the long-term unemployed are not in the focus of the training programmes. For these groups, an active labour programme has been set up, which focuses on so-called Activation Centres. Their main tasks are to mediate between firms and long-term unemployed and create work at the centres. Qualification is not in the focus of the programme. The job mediation institutions are not fully able to match unemployed and vacancies properly (Järve, 2002). This problem is also related to the lack of knowledge public institutions are likely to have. It may, therefore, make sense to allow for private job mediation firms to compete with the public bureaus. One could also make the bureaus' budget to a certain extent dependent on the former success in job mediation.

5.2. The Alternative: A Voucher Scheme

A well organised education and training system is important to combat the long-standing structural unemployment in Estonia. The efforts so far have proven to be insufficient. Therefore, we take a closer look at an alternative, namely, a voucher scheme for Estonian post-school education and for training of long-term unemployed persons taking into account peculiarities of the Estonian education and training system. In general, the proposal means that youngsters leaving primary or secondary school get vouchers, which they can use to finance vocational training or university studies of their own choice. Similarly, the unemployed can invest the vouchers in their human capital building. They can use the money for continuous training either in their old or in a new occupation.¹⁵ The vouchers are not meant as unemployment vouchers, which are given to long-term unemployed persons and used to reduce wages for them in their new job (Orszag and Snower, 1999). Although this sort of vouchers may also have a training effect, it is not in the focus. By contrast, our proposal

¹³ Those who can afford it prefer universities.

¹⁴ Estonia can spend about 200 million euro per annum from 2004 to 2006. Structural funds can be used for development of backward regions (target 1), economic and social change of regions with structural problems (target 2) and for modernisation of education and training (target 3). Therefore, a dedication of the funds to labour market issues in a broader sense is feasible. For a detailed introduction and analysis of the EU structural funds see Mallossek, 1999, pp 124–130.

¹⁵ For a summary of the details see Box 1 below.

focuses on training and education, as it has been identified to be the main obstacle to full employment and not excessive wages. An education voucher is characterised by the following properties (Bradford and Shaviro, 1999):

- it is a grant to individuals for their education, which cannot be used by others than the named person;
- the range of choice is limited to pre-defined education and training services;
- there is supplier competition being controlled by the government;
- it is not necessary that the vouchers cover the full costs of education. To provide an incentive for individuals to invest in human capital, partial financing is sufficient.

Before we explain details of the proposed scheme, we show that its rationale is powerful and that related problems can be solved.

5.3. The Rationale for Vouchers

The rationale for vouchers can be seen both from the demand and supply of education. We start with the demand side. First, there are strong arguments in favour of the government financing education and forcing people to educate themselves, namely externalities and paternalism. If education opportunities are either lacking or not affordable, a part of the population will fail to educate appropriately. As a consequence, externalities may occur. Both positive and negative externalities can be recognised in education. Well-educated people provide social and political leadership.¹⁶ They are also able to take economic responsibility as entrepreneurs and provide new employment opportunities. As another facet of positive externalities, firms are not willing to pay for education, as long as they have to fear that the educated employees change their employer afterwards. The investment would have been useless. On the same token, there are negative externalities resulting from a lack of education. A high number of badly educated and consequently unemployed persons increases social expenditure and contributes to a slowdown of the economy. In this situation, social peace is also likely to be undermined.¹⁷

Beside this economic argument of market failure, one can also take a paternalistic view. Young people may underestimate the benefits of being well educated and, therefore, do not spend enough time and resources to invest in human capital. Similarly, long-term unemployed may misjudge the benefits of education, as they are disappointed by the situation and do not trust in any measures. Therefore, cash endowment without a special dedication to education and training would imply the danger of the recipients spending it differently. The purpose of the personal subsidy would be missed.

Second, the government cannot have the knowledge necessary to organise education and training appropriately: for one, it is impossible to know the future qualifications demanded by potential employers. On the same token, the already existing training system does not ensure

¹⁶ See Friedman, 1955, pp 126–135. Friedman himself restricts the argument to basic education and excludes vocational training.

¹⁷ Public spending for education can be seen as part of a social contract. See Section 2.4 and Homann and Pies (1996).

that the courses on offer reflect the market needs; it also does not guarantee an adequate allocation of talent to the correct courses.¹⁸ Therefore, it makes sense to let the market generate the necessary knowledge decentrally. Moreover, it is even more unlikely that government can allocate individuals into adequate programmes under the current regime. Experience in Estonia has proved this argument right. Therefore, a voucher system promises that individual choices will be made according to preferences and (potential) market demands.

As for the supply side, the voucher system will cause readjustment of the education system. The direct public funding of education institutions will (at least to a great extent) be substituted for the funding of individuals with earmarked vouchers, for which the education suppliers compete. Therefore, there will be the tendency that the quality of education services enhances, given that it is currently not satisfactory. Old suppliers may disappear, new one emerge. Similarly, the voucher scheme takes into account the demand side of the labour market. If there is a lack of labour force in certain professions, the respective enterprises can either delegate the task of education to already existing education firms or set up new ones, which offer the respective training.

5.4. Potential Problems of a Voucher System in Estonia

However, there are also important and relevant caveats to a voucher system in Estonia, which have to be taken into account when designing the scheme. First, there is the problem of rent seeking. Firms offering education may lobby their cases and try to get certain privileges enabling them to attract more students. During the standard setting process, there is scope for rent-seeking activities. State universities (if included) may also be tempted to argue for special protection, eg by demanding certain standards or by trying to hide the true costs of their products. Thus, they might be less expensive than private suppliers and gain a competitive edge. One way to avoid rent-seeking activities and their negative implications is to integrate the Estonian education system into Europe. This implies to accept foreign standards and to apply the principle of origin: foreign education suppliers, which already have been licensed in their countries of origin, get the Estonian license without further assessment. In this case, domestic suppliers will have much more difficulties in shaping the system according to their needs and to extract rents.

Second, it has been argued that the quality of the emerging Estonian education industry is varying strongly between firms and that it may be difficult for the voucher recipients to distinguish high quality from low. The problem of asymmetric information may lead to either economically useless investment decisions or even to less demand for education than economically necessary. However, it has to be taken into account that a state monopoly for education does not safeguard high quality at any rate. The diversity of educational quality may be lower, but the average quality and market value of education is not necessarily higher than in a voucher system with competition on the supply side. In addition, the experience in the United States suggests that private efforts are quality enhancing. In Maine, a public primary schooling system and a voucher system have been run parallelly since 1873. In towns without a public school children are entitled to receive tuition vouchers from the state to licensed

¹⁸ Therefore, the argument that the current system of courses is sufficient can be countered by theoretical reasoning and empirical evidence.

private and public schools.¹⁹ Interestingly, the Maine Educational Assessment results indicate that education is better in the voucher system (Heller, 2001).

Third, there seems to be a bias of secondary school leavers to prefer university education over vocational training (Eamets, Philips and Annus, 1999, pp 48f). This bias seems to contribute to the mismatch in that the supply of highly qualified professionals grows without the demand for them keeping pace. As university education is on the upper end of the price scale for students, there is the danger that the vouchers may even increase the demand for university education, as it lowers the relative prices of it.²⁰ However, the voucher scheme may prove helpful in this respect. The suppliers of education receive signals from both supply and demand side of the labour market. In particular, if in-company-training and education²¹ is offered, the terms of these education programmes can be shaped and marketed due to the demand-side wishes. Strong signals from the labour demand side may subsequently give incentives to the supply side of the labour market.

Fourth, the issue of abuse has to be discussed. There may be the temptation for individual recipients of vouchers to illegally cash in the vouchers to education firms, which themselves cash in the vouchers from the government and pretend to train these recipients, but never do. For example, long-term unemployed who have lost trust in the market economy and who have also started a life in the shadow economy may be prone to this sort of behaviour. Although this can be a serious problem, one can protect the system to a certain extent from this abuse by erecting a control system. Job mediation institutions can be made responsible for the control and should be equipped with the necessary resources.

This leads directly to a fifth counter argument, namely that the administrative capacities in Estonia may not be developed well enough for the scheme. This argument can be countered as follows: first, under the voucher scheme the job mediation institutions in Estonia will loose some responsibilities, as they do no longer allocate long-term unemployed to certain training courses or create work for them. Second, the introduction of the scheme as such will take some time; meanwhile, the administration can be trained and equipped with the appropriate resources.

Finally, one popular argument against individual liberty in education is that school leavers and long-term unemployed will not be able to make the right decisions about the level and subject of education that prepares them best for the labour market. Part of this lack of ability is due to bad information, part to low motivation (see above). However, this is a static argument. Even if it currently looks as if the respective persons are not capable, this may change under a different system. If the future prospects for individuals will improve under the voucher scheme, there will be incentives to be better informed or more highly motivated. Again, job mediation institutions can consult school leavers and unemployed persons entitled to vouchers

¹⁹ When a town has a public school, children have to go there.

²⁰ Needless to say that in the long run the problem will be solved via wage adjustment. However, there is no time to await this adjustment, as many school leavers will have undertaken the investment and will suffer from the adjustment.

²¹ The term 'in-company-training' is somewhat imprecise, as it suggests that work and training are mixed. The education supplier has to be an independent firm, sticking to strict curricula (see below).

(even obligatorily) and provide information about the suppliers of education, eg in the form of rankings, price lists, websites and the like.

5.5. Details of the Voucher Scheme for Estonia

These pros and cons demand for a carefully designed scheme, taking into account the Estonian vocational education and training system and the university system.

The proposed voucher scheme, therefore, changes both the supply and the demand side of the education system. As for the demand side, there are three focused groups:

1. primary school leavers (or secondary school drop-outs) who want to receive secondary vocational training (otherwise, they will be part of the second group);
2. secondary school leavers;
3. long-term unemployed persons.

The amount of money given to everyone is equal (see Box 1). This can be regarded as being just. In addition, the money is given as a lump sum, which avoids difficult calculation of marginal reimbursement rates (MRR), but also does not allow calculating an optimal MRR (Bradford and Shaviro, 1999, pp 29–38).²² The voucher is not meant to fully cover the enrolment fees, which the students or the unemployed have to pay. Partial financing gives incentives to spend the vouchers carefully. It also can be expected that individuals who are equipped with vouchers inform themselves properly if encouraged. Both signalling and screening will lead to (almost) symmetric information.

As for the supply side, two elements are important, the standard setting procedure and the funding. First, the scheme needs a standard setting procedure for curricula (already existing in Estonia to a satisfactory extent), criteria for licensing and an appropriate control system. Any firm or university that wants to cash in vouchers has to follow clearly defined standards and must possess a valid licence. Standards can follow international practice and involve international experts. The acceptance of foreign standards may prove helpful in this respect to avoid rent-seeking behaviour. Standards may be set with the help of domestic industry and teachers, as it is already the case in Estonia. To safeguard the, in principle, adequate process in Estonia against rent-seeking activities, it makes much sense to include foreign firms into the licensing procedure, as this raises competition. The government can decide to accept foreign official standards and give licences to firms already licensed abroad (principle of origin). This implies that students may use the vouchers abroad. It is also sensible to install a fast procedure and to opt for a regular, eg biannual, assessment. It can be expected and has been proven by experience that such a system generates and increases competition among suppliers (Heller, 2001). Competition in a dynamic setting delivers better quality than monopoly and encourages firms to solve the problem of asymmetric information.

²² On the same token, an equal lump sum given to everyone does not consider different ratios of private and public rates of return in different professions. Therefore, socially sub-optimal allocation of funds and talent cannot be excluded. Again, lack of governmental knowledge and public choice considerations lead us to take this risk and to select a simple scheme.

Second, it is necessary to change the funding of vocational education and continuous training. The first step is to stop public funding of suppliers of vocational training offering their services for free. If they are run by the government or by municipalities, they should be closed down or privatised. They then will compete with newly set up firms and international (eg Finnish) suppliers of education for students and their vouchers. All education suppliers have to be independent firms to prevent abuse (see above). The prices charged by the suppliers are not restricted to the value of the vouchers. Additional tuition has to be paid by the student, whose willingness to do so depends on the value given to the particular education or training service. Finally, to include state universities and to ensure that state universities compete fairly, structural separation is necessary. Those subjects where the vouchers are valid should be calculated independently to full costs to make the offer comparable to private firms.²³ To give the universities an incentive to maintain research, it may be sensible to reduce public transfers to the universities to a lesser extent than vouchers cashed in.

Box 1. A voucher scheme for higher education and continuous training: details

The scheme has the following features:

- Vouchers will be given to two well-defined groups, namely to school leavers (primary secondary schools) and to long-term registered unemployed persons. Long-term unemployment will be defined exactly, eg more than 12 months.
- Each person is restricted to two vouchers in his/her lifetime, among them only one voucher for school leavers. The voucher contains the name of the entitled person.
- The vouchers are separated into twelve monthly slips worth 1,000 EEK each for long-term unemployed persons, and into 36 monthly slips worth 900 EEK for school leavers. They can be used for any licensed education supplier in Estonia and abroad. They can be split over several years and are not due to repayment.
- The voucher is not tradable and cannot be cashed in by the recipient.
- An education standard will be defined and an adequate licence mechanism will be set up. The standard will be subject to an assessment every two years and will be set in accordance with foreign experience. A control mechanism will also be set up.
- The funding of vocational training, continuous education and universities will be subject to reform. No direct funding will be allowed.
- Adequate service suppliers will be licensed. They include private training companies and universities. These suppliers have to be assessed biannually by the government or an agency appointed by the government. For foreign suppliers, the principle of origin may hold.
- Regular producers of goods and services among the licensed suppliers of education and long-term unemployed persons are not allowed to use the vouchers in the enterprise that had laid them off, as this would probably give the incentives to firms to fire employees and to hire them again after the time span defined as long term (Klodt, 1991).

Source: Own compilation.

²³ Whether or not the whole system of university funding will have to be reformed depends on the details of the realisation. It may also be the case that some subjects are not included into the voucher scheme at the beginning.

5.6. Dealing with the Costs

The following subsection is dedicated to the costs associated with this proposal. The number of potential recipients can be calculated as follows: in December 2001, roughly 75,000 persons²⁴ were unemployed, of which about 45%, ie about 35,000 persons can be estimated as being long-term unemployed. They would be subject to an annual payment of 12,000 EEK each. The maximum cumulated costs for long-term unemployed will add to about 27 million euro for one voucher each; even if every long-term unemployed Estonian participates twice, the costs will be below 55 million euro. The number of school leavers is roughly 25,000 per year, able to receive 10,800 EEK per annum over three years. This implies annual costs of about 17.5 million euro per age group, resulting in a sum of 52.5 million euro per annum.

Suppose that the system will be valid for 10 years. Assume further that the average long-term unemployed person spends 1.5 vouchers during this time and 5% of the school leavers, 12,500 persons over 10 years, will also become long-term unemployed during this time span, using one voucher each. In sum, about 65,000 vouchers will be used, implying costs of about 50 million euro. In addition, 525 million euro have to be spent for school leavers. The annual (undiscounted) costs of the voucher system will add to less than 60 million euro. The administrative costs have to be added. Given that structural funds amount to roughly 200 million euro, this is not too demanding.

In addition, the vouchers will be a substitute for public education expenditure, as part of it reduces money going directly to university budgets. These budgets can be cut to this amount of money. It is by no means sure that the alternative, namely to proceed as before, will be less expensive. It can be expected that a competitive education system will reduce costs in the medium term. To the contrary, experience in Maine (USA) suggests that a voucher system is cheaper than a state monopoly. The costs per capita in the voucher system will account for about 80% of the costs in the public system.

5.7. Some Thoughts about Feasibility

Needless to say that the introduction of a completely new education system will be subject to widespread criticism and resistance, probably very high within public universities. In addition, the empirical evidence is mainly restricted to local system²⁵ so that the knowledge necessary to introduce the voucher scheme at once may not be available. Therefore, in addition to the required careful preparations, it may make sense to start with pilot projects, restricted to either certain subjects or levels of education or to certain regions. A regional or horizontal pilot project may be too demanding if not restricted to certain forms of education. Hence, it seems applicable to choose among the different subjects and levels, and to select a region (probably one severely hit by long-term and youth unemployment) for a pilot project.

²⁴ The number of registered unemployed is lower (about 45,000). However, to make the system effective the real figures will be used.

²⁵ Besides the mentioned voucher system in Maine, others exist in Vermont and Wisconsin (Bradford and Shaviro, 1999, p 11).

Such a project does not make sense, if it is not well prepared and if the time frame is too narrow. Consequently, the Estonian government should give it an appropriate time for preparation including case studies of past and present experience with vouchers and a detailed search for adequate subjects, levels and regions (cities). In addition, the pilot project should be scheduled for at least five years. Anything less would probably prejudice a failure and reduce the chances to employ an innovative education system in Estonia.

The proposal to introduce education and training vouchers can also be judged against the background of political economy. It protects the labour market administration from both vested interests and a lack of knowledge causing inefficient and ineffective labour market policies. Given the wage flexibility and the mismatch problems in Estonia, vouchers may indeed help significantly with reducing structural unemployment. They also promise a non-selective and effective use of structural funds in Estonia. The higher the share of funds spent this way, the lower the likelihood of unproductive rent-seeking activities to obtain high shares of the funds.

6. Conclusions

The paper has shown that the rather high unemployment in Estonia does not stem from typical structural problems of labour markets in Europe. Instead of being very rigid and closed, the Estonian labour market is characterised by a high degree of flexibility, in particular, with respect to the wage setting process. The main explanation for unemployment in Estonia is given by a mismatch of labour demand and supply with respect to qualification. This paper has discussed several (non-exclusive) ways to overcome the problem.

The analysis shows that the most promising way is a direct reform of the Estonian education and training system. While the government in its efforts concentrates on changes within the current system, we develop a more substantial reform proposal, namely, a reorganisation of the funding of education with consequences for both supply and demand for education and training. A voucher scheme for school leavers and long-term unemployed persons can help to bring both sides of the labour market closer together in the long run, as it reduces the typical problem governments and administrations have when shaping the future – a significant lack of knowledge. Experience strongly suggests that decentrally created and used knowledge is more compatible with the market needs. Moreover, the voucher scheme gives Estonia the opportunity to integrate its education system and labour market very closely into the EU. Thereby, it can learn from experiences of other member countries. With such a system, Estonia can again be very innovative, as it has been with the introduction of unilateral free trade and the currency board arrangement in the early 1990s.

References

- Belke, A. and Hebler, M. (2002), 'EU-Osterweiterung, Euro und Arbeitsmärkte', Verlag Oldenbourg, München and Wien.
- Bergemann, A. *et al* (2000), 'Multiple Active Labour Market Policy Participation in East Germany – An Assessment of Outcomes', *Konjunkturpolitik, Beiheft No 51*, pp 195–243.
- Berthold, N. and Fehn, R. (1996), 'The Positive Economics of Unemployment and Labour Market Flexibility', *Kyklos*, Vol. 49, pp 583–613.
- Bradford, D.F. and Shaviro, D.N. (1999), 'The Economics of Vouchers', *NBER Working Paper 7092*, Cambridge MA.
- Commission of the European Communities, (2001), '2001 Regular Report on Estonia's Progress towards Accession, Brussels', quoted as Commission.
- Commission of the European Communities, (2002), 'Accession Negotiations: State of Play (July 30th, 2002)', quoted as Commission, <http://www.europa.eu.int/comm/enlargement/negotiations/chapters/index.htm>.
- Eamets, R. (2002), 'Eesti tööturu paindlikkus Euroopa Liiduga liitumise kontekstis', in: *Effect of Accession to the European Union on the Economic Policy of Estonia*, Proceedings of the X. Scientific and Educational Conference, Tartu-Värska, June 27–29, 2002, pp 54–64.
- Eamets, R., Philips, K. and Annus, T. (1999), 'Employment and Labour Market Policy in Estonia', Background Study for the European Training Foundation, Tartu.
- Friedman, M. (1955), 'The Role of Government in Education', in: Robert A. Solow (ed) *Economics and the Public Interest*, Rutgers University Press, New Brunswick, New Jersey, pp 123–144.
- Government of Estonia and European Commission, (2001), 'Joint Assessment of Employment Priorities in Estonia', Tallinn and Brussels.
- Heller, F. (2001), 'Lessons from Maine: Education Vouchers for Students since 1873', *Cato Institute Briefing Papers No 66*, Washington DC.
- Hayek, F.A. von (1975), 'Die Anmaßung von Wissen', *ORDO-Jahrbuch*, Vol 26, pp 12–21.
- Homann, K. and Pies, I. (1996), 'Sozialpolitik für den Markt: Theoretische Perspektiven konstitutioneller Ökonomik', in: Ingo Pies and Martin Leschke (eds), *James Buchanans konstitutionelle Ökonomik, Konzepte der Gesellschaftstheorie*, Vol 2, Mohr (Siebeck) Tübingen, pp 203–240.
- International Monetary Fund, (2001), 'Labour Markets in Hard-Peg Accession Countries: The Baltics and Bulgaria', *IMF Country Report No 01/100*, July, Washington DC, quoted as IMF.
- International Monetary Fund, (2001b), 'Republic of Estonia: Statistical Appendix, Various Issues', Washington DC, quoted as IMFb.
- Järve, J. (2002), 'Kuidas Tõsta Eesti Töörtru Paindlikkust?', in: *Effect of Accession to the European Union on the Economic Policy of Estonia*, Proceedings of the X. Scientific and Educational Conference, Tartu-Värska, June 27–29, 2002, pp 99–107.
- Klodt, H. (1991), 'Wirtschaftsförderung für die neuen Bundesländer: Qualifizierungsgutscheine als Alternative', *Die Weltwirtschaft*, No 3, pp 91–103.
- Kukk, K. (2002), 'The Estonian Labour Market in Transition', Mimeo, Tallinn.

- Mallossek, J. (1999), 'Die Erweiterung der Europäischen Union um mittel- und osteuropäische Länder: Wirtschaftspolitische Reformbedarf bei gegebenen Budgetrestriktionen', *Untersuchungen zur Wirtschaftspolitik* Nr 116, Köln.
- National Observatory of Estonia, (2001), 'Modernisation of Vocational Education and Training in Estonia', National Report, Tallinn.
- Nicoletti, G., Scarpetta, S. and Boylaud, O. (2000), 'Summary Indicators of Product Market Regulation with an Extension to Employment Protection Legislation', *OECD ECO/WKP* 226, Paris.
- Nommann, S. (2002), 'Interview about the Group of Experts' Recommendations on EU Structural Funds', Tallinn.
- Noorkõiv, R., Orazem, P.F., Puur, A. and Vodopivec, M. (1997), 'How Estonia's Economic Transition Affected Employment and Wages, 1989–1995', *World Bank Working Paper* 1837, Washington DC.
- OECD, (1999), *OECD Employment Outlook*, Paris.
- OECD, (2001), *OECD Employment Outlook*, Paris.
- OECD, (2002), *OECD Employment Outlook*, Paris.
- Olson, M. (1982), 'The Rise and Decline of Nations', New Haven and London.
- Orszag, J.M. and Snower, D.J. (1999), 'Unemployment Vouchers Versus Low Wage Subsidies', *Discussion Paper in Economics No 5/99*, Birkbeck College, London.
- Paas, T. *et al* (2002), 'Labour Flexibility and Migration in the EU Eastward Enlargement Context: The Case of the Baltic Countries', Mimeo, University of Tartu.
- Paas, T. and Philips, K. (2002), 'Pikaajalised töötud Eesti tööturul: kas toetada passiivset kohanemist või aktiivset arengut?', in: *Effect of Accession to the European Union on the Economic Policy of Estonia*, Proceedings of the X. Scientific and Educational Conference, Tartu-Värska, June 27–29, 2002, pp143–150.
- Randveer, M. (2002), 'Majandusstruktuuri Konvergenst', in: *Effect of Accession to the European Union on the Economic Policy of Estonia*, Proceedings of the X. Scientific and Educational Conference, Tartu-Värska, June 27–29, 2002, pp 168–175.
- Republic of Estonia, (2001), *Employment Action Plan 2002*, Tallinn.
- Risch, B. (1983), 'Alternativen der Einkommenspolitik', Mohr (Siebeck), Tübingen.
- Rõõm, M. (2002a), 'Struktuurne tööpuudus Eestis', in: *Effect of Accession to the European Union on the Economic Policy of Estonia*, Proceedings of the X. Scientific and Educational Conference, Tartu-Värska, June 27–29, 2002, pp 192–199.
- Rõõm, M. (2002b), 'Unemployment and Labour Mobility in Estonia: Analysis Using Duration Models', *Working Papers of Eesti Pank*, No 7, Tallinn.
- Statistical Office of Estonia, (2002), *Statistical Database*, internet recherche, <http://gatekeeper.stat.ee:8000/px-web.2001/dialog/statfileri.asp>.
- Turpits, A. (2002), 'Interview about Legal Aspects of Estonia's EU Accession', Tallinn.
- Venesaar, U., Marksoo, Ü. and Maldre, M. (2001), 'Outflow from Employment and Resulting Social Exclusion of the Vulnerable Groups in Estonia', in: Ülo Ennuste and Lisa Wilder (eds), *Factors of Convergence*, pp 153–190, Tallinn Technical University, Tallinn.