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LABOUR MARKET FLOWS IN TRANSITION COUNTRIES WITH PARTICULAR REFERENCE TO MACEDONIA

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Abstract

The aim of this paper is to describe the labour market flows in transition countries and to determine the level of dynamism of their labour markets. The stock-flow model, which is used at the heart of the analysis gives an insight into the number of workers who are employed, unemployed or out of the labour force in the given reference period of the survey and the number of those who have changed the status between two surveys. Stylised model of labour market flows in transition countries describes the reality of labour market adjustment by dividing the employment in two sectors: the private sector and state sector. Empirical evidence shows that unemployment rates in transition countries are highly responsive to the inflow rates to unemployment from employment and outflow rates from unemployment to employment. The reason for the stagnant unemployment pool observed in most transition countries is the low outflow rate from unemployment to employment, rather than a high inflow rate from employment to unemployment. Labour market flow rates in Macedonia between 2002 and 2003 have been estimated from the labour force survey data in order to determine the dynamism of Macedonian labour market and the extent to which it resembles to the characteristics of the labour markets of the rest of the transitional world.

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1. Introduction

The process of transition from centrally planed to market oriented economy is characterised by tremendous changes in all spheres of the society. Transition economies during the 90's, as well as at the beginning of the 21st century have faced challenging tasks of establishing new political, economic and social systems. Bearing in mind the systemic character of transition, we would expect labour markets in transition countries to be highly dynamic. At the beginning of transition, labour market adjustment was associated with the labour shedding from declining state sector and improving employment possibilities in the growing private sector. Today, the private sector has dominant share in all transition economies, but most of them are still fighting the problem of high unemployment and particularly long-term unemployment.

Labour mobility is an important factor for the optimal allocation of resources in the economy. Supposing that the allocation of resources in the centrally planned economies was far from being optimal, reallocation of labour during the transitional restructuring is expected to improve the productivity of transition economies. Thus, the mass reallocation of labour from the state to the private sector that has occurred during transition is one of the main contributing factors for economic growth after the initial transitional recession.

The aim of this paper is to describe the labour market flows in transition countries and to determine the level of dynamism of their labour markets. The stock-flow model, whose basic concepts are introduced in the first part of the paper, will be used at the heart of this analysis. In the second part, a stylised model of labour market flows in transition countries is introduced. The empirical evidence of labour market flows in transition countries is presented in the third part. In the fourth part attention is focused more on details of the labour market flows in Macedonia in order to determine the dynamism of Macedonian labour market and the extent to which it resembles to the characteristics of the labour markets of the rest of the transitional world. Finally, in the last part conclusion remarks are presented related to labour market dynamics in transition countries.

2. Basic concepts for labour market flows

The overall rate of unemployment is the most frequently used indicator of labour market conditions. Even that unemployment rate can be disaggregated for various groups of population, it is characterised by its limited possibilities of reflecting the duration of unemployment spells. From the point of view of dynamism, we can distinguish two distinct types of labour markets: dynamic and sclerotic. Highly dynamic labour markets are those, where most of the workers go trough unemployment experiencing short spells while searching for job. On the other hand, sclerotic labour markets are those, where considerable number of workers remains in the pool of unemployed for a long period of time. In both cases the overall unemployment rates can be equal, but the latter case is of more serious social concern because one group of workers remain without wage income for long periods of time.

The long-term unemployed are those workers who stay in the unemployment pool for one year or more. Workers who experience long-term unemployment by the course of time become weakly attached to the labour force and socially marginalized for two basic reasons (OECD Employment Outlook, 2002): First, their skills become obsolete; second, there are adverse signalling effects to employers.

One of the most apparent phenomena among the long-term unemployed is the so-called state dependence, which means that the longer one person is unemployed the harder it is to quit the unemployment status for employment. Consequently, workers who experience long spells of unemployment can easily turn into the group of "discouraged workers" who are detached from the work force and are more likely to declare themselves as non-participants rather then unemployed. Thus, the long-term unemployed are not attractive fillers of vacancies, implying that unemployment rate, which includes long-term unemployed with same "weight" as short-term unemployed, does not give an accurate image of the labour market conditions.

A possible solution for this problem is to use a kind of weighted unemployment rate, where groups of workers with longer unemployment spells will be counted more heavily than those who experience shorter unemployment spells. Another possible approach is to use the probability of exiting unemployment instead of the unemployment rate itself. According to Blanchard (1997), a better indicator of labour market conditions is not the unemployment rate, but rather the exit rate out of unemployment.

The usual measure of labour mobility in one economy is the labour turnover calculated as a sum of hirings and separations during a one-year period. Dividing the sum of workers who are hired or separated by average annual employment gives a rate of labour turnover. Hirings may be intended to fill a vacated jobs or new openings. On the other hand, separations may be voluntary (quits) or involuntary (lay-offs). The difference between hirings and separations gives the net change in employment.

We have to distinguish between labour turnover and job turnover. Job turnover is defined as sum of job creation and job destruction during a one-year period. Job creation consists of all employment gains from opening or expanding establishments. On the other hand, job destruction consists of all employment losses from closing or contracting establishments.

Labour turnover equals job turnover plus the movements into and out of ongoing jobs, which is called "labour churning". In some cases workers separate because jobs are terminated, but in other cases they move into and out of existing jobs because of inconvenient matching or other factors such as leaving the labour force due to retirement or other reasons. Thus, we can conclude that worker flows exceed job flows (Haltiwanger and Vodopivec, 2002) and real structural changes in an economy can be assessed through job turnover.

The best way of describing the transitions among the basic labour market states is by using the stock-flow model. The stock-flow model gives an insight into the number of workers who are employed, unemployed or out of the labour force in the given reference period of the survey and the number of those who have changed the status between two surveys. Thus, the stock-flow model allows assessing not only the cross sectional state of the labour markets, but also the dynamism of transitions among the basic labour market categories. On the basis of stocks and flows of workers among the basic labour market states, we can estimate the transitional matrix, which contains probabilities of transition among these basic labour market states.

We can use the following notation:

E-Employed;

U-Unemployed;

O-Out of labour force;

The are nine possible transitions, which can be described with the following transitional matrix P_i:

$$P_i = \begin{bmatrix} EE & EU & EO \\ UE & UU & UO \\ OE & OU & OO \end{bmatrix}$$

The probability of one person to move from one to another state in the labour market is given by the following formula:

$$P_{ij} = \frac{F_{ij}}{S_i}, \text{ where: } i, j = E, U, O$$

and:

F_{ij} is the number of persons who moved from state i at time t into state j at time $t+1$;

S_i is the initial number of persons in the state i at time t.

Elements *EE, UU* and *OO* are peculiar because they represent the probabilities of maintaining the same status, either employment, unemployment or out of labour force. In the context of employment, we can further distinguish those who have maintained the same job and, those who have changed the job, experiencing so-called job-to-job movements. It is worth mentioning that in some cases the design of labour force surveys does not allow the capture of job-to-job movements, which is a source of underestimation of the labour force mobility.

Another limitation using Labour Force Survey data is the difficulty in assessing the so-called "round tripping". "Round tripping" is a situation where one person between two surveys moves from state *i* to state *j* and than turn back to the original state *i*. Because the survey registers only the state of the person at the beginning and on the end of the survey period, it is unable to cover the movements described above. Consequently, the results of the labour market flows can be biased in terms of underestimation of the "round tripping" movements.

3. Stylised model of labour market flows in transition countries

The transitional process in post-socialist countries has affected all domains of societies including labour markets. Stylised models, which are frequently used to describe the labour market adjustment in transition countries after the initial shock,

consist of two sectors (Blanchard, 1997). One sector is the state sector containing the "old" jobs, while the other is the private sector containing "new" jobs in the privatised or newly created private firms. We assume that the state sector is associated with obsolete technology, while the private sector is associated with investments in new technology. Thus, the productivity of the private employment is greater than the productivity of the state employment.

During the initial transitional recession, real output sharply declined and labour market started to adjust. Almost all socialist economies, initially were suffering from huge labour hoarding and large state sector. Thus, open unemployment emerged in all transition countries, as they gradually adopted the market orientation. Rising unemployment is mostly due to the declining state sector where considerable number of workers has been laid-off. Another contributing factor to rising unemployment rates in some transition countries is the increasing number of new entrants who facing poor employment opportunities stay unemployed for long period of time. On the other hand the growth of the private sector in the first phase of transition was not strong enough to receive the "army" of unemployed. Consequently, the net change in employment during the initial phase of transition in almost all transition countries was negative.

The laid-off workers from the state sector were trapped in unemployment primarily because of two reasons. First, there is skill mismatch between effective skills possessed by workers and required skills for the new jobs in the private sector. Second, there is insufficient job creation (demand for labour) in existing firms (Svejnar, 2002).

However, another point of view argued by Boeri and Terrell (2002) points out the relative importance of voluntary quits over the laid-offs as a contributing factor to the rising unemployment in transition countries. According to Boeri and Terrell, the stagnant pool of unemployment is mostly due to the remarkably low outflow rates from unemployment rather than to lay-offs of workers from the state enterprises. Persistence of long-term unemployment is also attributable to the significant rate of job-to-job movements from the state to the private sector and employment of the new entrants as well.

Similar conclusion about the character of the labour market flows in transition countries are presented by Cazes and Nesporova (2003). They analyse separations distinguishing between terminations by employers (economic reason or redundancy)

and separation for other reasons including voluntary quits. In almost all transition countries the voluntary quits and other reasons for separation are higher than the terminations by employer throughout the whole period of transition. This tendency is much more emphasised in the Former Soviet Union countries than the CEECs. However, we should be careful in assessing these differences because, as pointed out by Cazes and Nesporova (2003), employers in most of the cases agree with redundant workers on early retirement or other forms of quasi-voluntary quits. This solution is acceptable for both sides, since it is less costly for the employers, while workers can benefit from the income from the public social funds.

The second stage of transition, when the major restructuring process of the state sector has finished, is characterised by a so-called "balanced path". Assuming a reduced state sector, the major employment in the second stage is realised in the private sector, where workers are mainly pulled from unemployment. Thus, the growing employment opportunities in the private sector, once the state sector has restructured, help unemployment rates in transition countries gradually to converge toward the OECD average. Other factors contributing to mitigate the unemployment problem in some transition countries were growing emigration particularly among the high skilled workers and rising number of early retirements due to the emergence of relatively generous retirement schemes. Consequently, we can assume that the net change in employment in the second phase of transition is positive.

In order to describe the reality of the labour markets flows in transition countries, it is helpful to divide the employment category into employment in the state sector E_s and employment in the private sector E_p. In this case, we obtain sixteen possible transitions, which can be described with the following transitional matrix P_i:

$$P_i = \begin{bmatrix} E_sE_s & E_sE_p & E_sU & E_sO \\ E_pE_s & E_pE_p & E_pU & E_pO \\ UE_s & UE_p & UU & UO \\ OE_s & OE_p & OU & OO \end{bmatrix}$$

Alternatively, in disaggregating employment, it is possible to include self-employment as a distinct group. In that case, we can estimate the employment opportunities in self-employment relative to other types of employment i.e. in the state or private sector.

The labour market flows in transition economies, graphically can be represented on Chart 1.

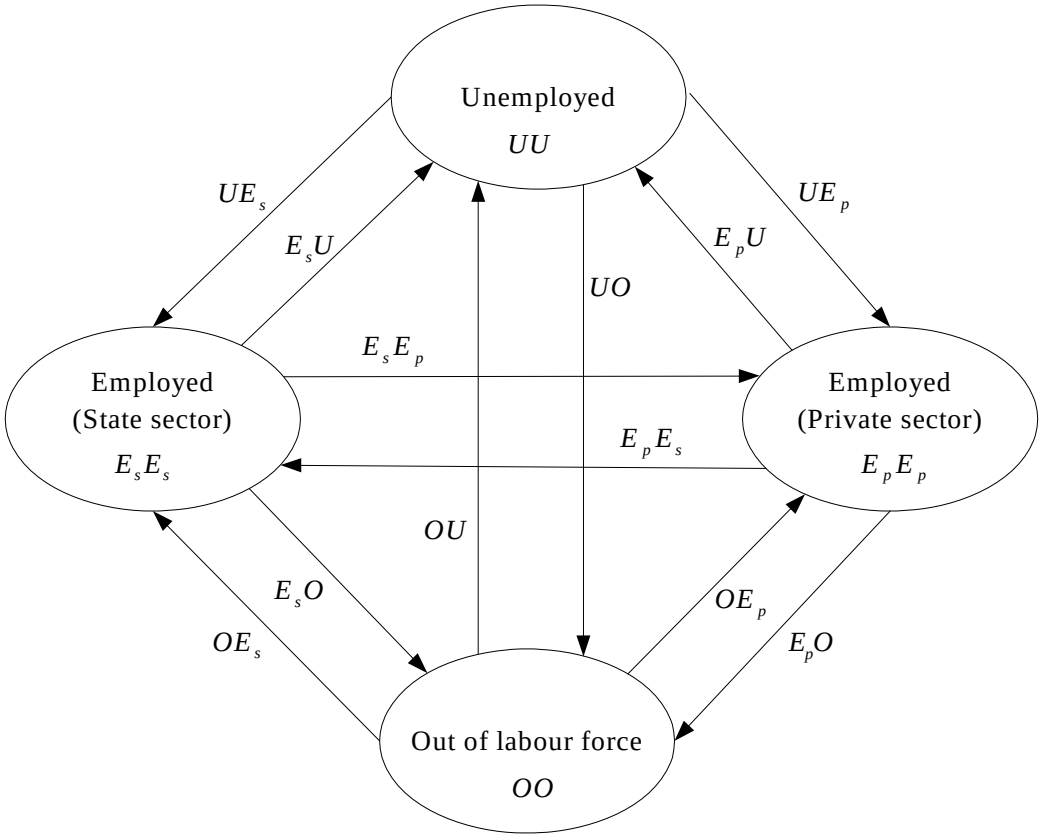


Chart 1. Stock-flow model

This representation is appropriate to apply in the case of transition countries because it allows estimating the growth of the private sector relative to the state sector. Assuming that transitional restructuring leads to growth of the private sector, we can expect that flow of workers into the private sector is greater than that into the state sector. By using this model, we can separately estimate:

- Inflow rates either from the state sector or private sector to unemployment;
- Outflow rates from unemployment either to the private or state sector;
- Flows of workers either from the private sector or state sector to out of labour force;
- Flows of workers from out of labour force either to the private or state sector;
- Direct flows of workers from the state to private sector and vice-versa.

4. Empirical evidence for labour market flows in transition countries

Various authors have estimated transition probabilities among the basic labour market states in transition countries, in order to assess the dynamism of their labour markets. Most of the studies are based on labour force survey data, which usually are conducted on an annual basis. Thus, relying on these data we can estimate the annual gross flows between the three labour force statuses.

The general characteristics of the labour market flows for selected transition countries are presented in Table 1.

Table 1. Gross labour market flow rates for selected transition countries

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Country	Employment to unemployment	Employment to out-of-LF	Unemployment to employment	Unemployment to out-of-LF	Out-of-LF to employment	Out-of-LF to unemployment	LFS unemployment rate	Long-term unemployment rate
Bulgaria (1994-1995)	5,9	9,2	32,3	24,4	5,5	4,4	20,0	7,5
Czech Rep. (1994-1995)	1,3	2,8	49,6	12,9	4,2	1,2	4,3	0,8
Czech Rep. (1995-1996)	1,0	5,6	47,1	15,6	6,7	0,4	4,0	1,3
Czech Rep. (1998-1999)	1,8	2,5	33,5	9,0	3,6	1,7	6,5	2,0
Macedonia (2002-2003)	**5,8**	**5,2**	**9,8**	**16,8**	**1,9**	**3,8**	**31,9**	**26,9**
Poland (1992-1993)	4,0	7,6	36,1	15,8	9,5	4,5	12,9	4,7
Poland (1993-1994)	4,0	6,3	35,4	15,9	7,4	4,3	14,0	5,0
Poland (1994-1995)	3,5	5,5	38,0	15,6	6,0	3,2	14,4	6,4
Russia (1995-1996)	3,4	7,2	39,9	32,8	10,9	6,4	8,9	3,0
Slovakia (1994-1995)	2,3	4,5	23,7	7,8	1,8	1,7	13,7	5,7
Slovakia (1995-1996)	2,9	2,7	34,8	4,2	2,0	1,6	13,1	7,0
Slovenia (1994-1995)	2,4	5,8	38,7	19,4	6,3	2,1	9,1	6,8
US (1992-1993)	2,8	5,3	65,9	28,8	4,3	16,1	7,5	0,8

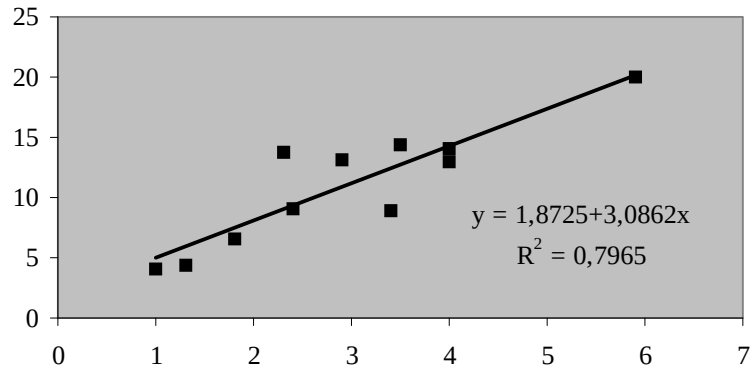
The probabilities of transition among the basic labour market states are presented in the first six columns of the table[2], while the labour force survey unemployment rate and long-term unemployment rate in corresponding countries are given in the last two columns[3]. In the last row of the table are given the data for the United States gross flows between 1992 and 1993, serving as referent point in comparisons with the other transition countries.

From the table, we can see that the highest inflow rate to unemployment from employment is registered in Bulgaria, while the lowest rates are registered in the

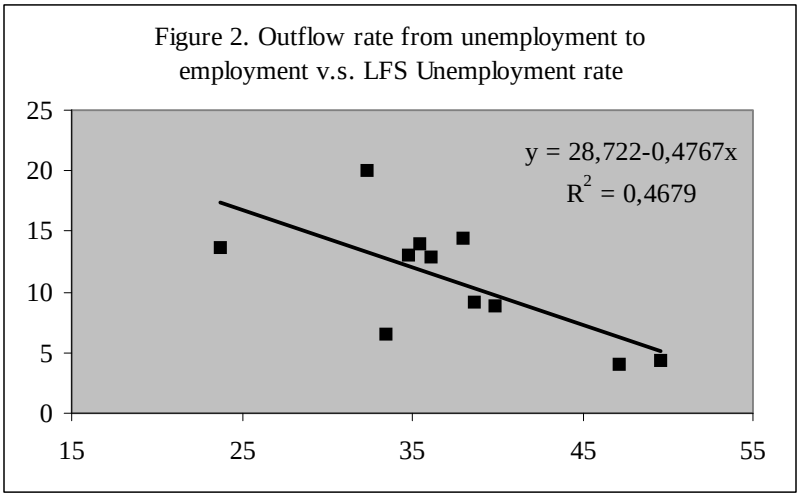
[2] *Source*: Boeri and Terrell (2002)
[3] *Source*: ILO

Czech Republic. Compared to US labour market flow rates, it is obvious that inflow rates to unemployment from employment in number of transition countries are only slightly higher that the rate registered in US, and in Czech Republic and Slovenia are even lower. The dynamics of the inflow rate in Czech Republic shows that as unemployment rate in the later stage of transition (1998-99) increased, the inflow rate has also increased. The relationship between the inflow rate to unemployment from employment and LFS unemployment rate is positive. This relationship is estimated with a simple regression model and the main results are presented in Figure 1.

Figure 1. Inflow rate to unemployment from employment v.s. LFS Unemployment rate



On the other hand, outflow rates from unemployment to employment are considerably lower than the corresponding rate for the US. The outflow rates from unemployment to employment among transition countries are highest for the Czech Republic, while the lowest rates are registered in Slovakia and Bulgaria. The low outflow rates from unemployment to employment are considered to be the main factor for the persistence of long-term unemployment in transition countries. The relationship between the outflow rate from unemployment to employment and LFS unemployment rate is negative. This relationship is estimated with a simple regression model and the main results are presented in Figure 2.



By bringing together these two flows from employment to unemployment and vice-versa, we can conclude that the generator of stagnant pool of unemployment in transition countries are not the high rates of inflows from employment to unemployment, but rather the low rates of outflows from unemployment to employment. Thus, the low probabilities of exiting unemployment induce long spells of unemployment, which increases the percentage share of long-term unemployed.

As a reminder, it is worth mentioning that the data in the table are mostly given for the period 1994-1996, when the main restructuring process of the state sector had already finished. Consequently, it is reasonable to argue that inflows to unemployment from employment are due more to voluntary quits rather than involuntary layoffs of the workers in the state firms.

Considering the flow rates from employment to out of labour force we can conclude that they are not negligible. For instance, these rates are higher in Bulgaria, Russia and Poland, but lower in the Czech Republic and Slovakia compared with the corresponding rate for the US. These patterns of high flow rates from employment to out of labour force in certain transition countries reflect the poor demand condition for labour, but also the generous eligibility criteria for early retirement and access to disability pensions (Cavalcanti, 2001). The high rates of flows from employment to out of labour force accompanied with high rates of flows from unemployment to out of labour force for some transition countries like Russia and Bulgaria are an indicator of the phenomenon of “discouraged workers”.

Considering the other way around, the flows from out of labour force to employment are fairly similar to that estimated for US with the highest rate registered

in Russia and the lowest in Slovakia. On the other hand, the flow rates from out of labour force to unemployment are considerably low in almost all transition countries. This fact implies that, facing poor employment prospects, potential new entrants are more likely to decide to stay out of labour force than to turn into the pool of unemployed.

In the literature on labour markets in transition countries we only occasionally find application of the stylised stock-flow model. For instance, using the stock-flow model adapted for transitional labour market flows, Blanchard (1997) presents a simplified two-sector adjustment of labour markets in Poland and Hungary in the early stage of transition (1992). According to the above-presented general framework of transitional labour markets adjustment, it was confirmed that outflow rates from unemployment to employment were considerably lower than inflow rates to unemployment from employment. In his analysis of the labour market flows, Blanchard gives the absolute numbers of workers instead of rates of flows across the labour market states. Comparing the inflows from the state and private sector we can conclude that in both cases the number of workers that have transferred from employment into unemployment is higher for the state than for the private sector for Poland (730.000 and 400.000 respectively) and Hungary (230.000 and 100.000 respectively).

If we consider the flows into employment, the conclusion is that in the very first stage of transition, the state sector was still employing important numbers of workers compared to the private sector. For instance, in 1992 the number of workers flowing into state employment in Poland was 700.000, while into private employment was 750.000. The corresponding numbers for Hungary were 280.000 and 250.000 respectively. It is interesting to note that the transfer of workers between state and private employment was asymmetric. To illustrate, the flow of workers from state into private employment in Hungary was 130.000 workers, while in the opposite direction, i.e. from private into state employment was just 30.000 workers. The job-to-job flows in the state sector itself counted for 150.000 workers, while the corresponding number in the private sector was 70.000.

These two examples of the labour market flows in Poland and Hungary at the beginning of transition fit well into the stylised model of labour market flows in transition countries. It is important to notice that in both cases the stocks of workers in the state sector were almost twice as large as the corresponding stocks in the private

sector. In the second stage of transition as state sector had contracted, the flows of workers from the state sector into private sector as well as into unemployment due to involuntary layoffs have diminished. Consequently, the main driving force of labour force adjustment in the second stage of transition is the private sector where the major entrants into employment comes from the pool of unemployed rather than directly from the state sector.

A study undertaken by Gimpelson and Lippoldt (2000), as a part of the broader analysis of the Russian labour market, also points out the growing absorption capacity of the private sector relative to state sector. They also examined the general characteristics of workers that moved across the labour market states. According to this study, considerably higher labour turnover is marked among manual workers than for managers. Age is also an important factor for labour force mobility showing that younger workers are much more mobile than the older groups of workers. The gender analysis showed marked asymmetry in labour mobility with men being more likely to go into unemployment, while women were more likely to leave the labour force. Finally, higher educational attainment was revealed as a contributing factor in maintaining employment status.

An apparent exception from the general transition world is the case of the Czech Republic, which experienced relatively low unemployment rates during the initial phase of transition. As estimated by Gottvald (2001), in the early stage of transition the Czech labour market is characterised by a high probability of staying in employment, while the unemployed on average experienced a relatively short duration of unemployment. Gottvald also estimated the sectoral and occupational mobility of the Czech labour force. The results of this analysis showed that the largest decline in employment are in mining and agriculture, while the sectors with highest employment growth are financial services, trade and public administration. Considering the occupational characteristics of the workers, the highest probability of staying in employment is for professionals, while the lowest is for agricultural workers and elementary occupations.

5. Labour market flows in Macedonia

Macedonia, similar to the other Central and Eastern European Countries (CEECs) during transition, has experienced a so-called U-shaped trend in the

evolution of the gross domestic product and industrial production. If we track the evolution of Macedonian GDP, we can conclude that there is substantial decline during the first period of transition (1990-1995), followed by a period of gradual increase (1996-2000) which was interrupted in 2001 due to political instability at that time. Despite the positive growth trend of GDP in the second phase of transition, Macedonia is one of the few transitional countries, which has still not reached the pre-transitional level of GDP.

The employment trend for the same sub-periods shows that employment in the first phase of transition declined less rapidly than real output, indicating the fall in the aggregate productivity. However, the second phase of transition is characterised by a stable rate of employment despite increasing output. This situation reflects the stabilisation of the Macedonian economy and increasing aggregate productivity, which is expected having in mind the prevalence of the private sector since the mid 90's.

According to the stylised model described earlier, changes in ownership structure, reflect the emergence of a private sector where small businesses represent the predominant part. For instance, the percentage share of workers in private firms in 2002 accounts for 52,4% of total employment, while in 1996 the percentage share of employment in the private firms accounted for just 33,5% of total employment. The emerging private sector in Macedonia, as well as in other transition countries has confirmed its role as a generator of employment. Despite, the importance of the growing private sector as a stabiliser of the economy, in the case of Macedonia its absorption capacity has not being sufficient to absorb additional unemployed from the still declining state sector.

A recent estimation of transitional matrix for labour market flows in Macedonia based on the labour force survey data is given in the Table 2.[4]

Table 2. Gross labour market flow rates in Macedonia

	Employed 2003	Unemployed 2003	Out of labour force 2003
Employed 2002	88,97%	5,80%	5,23%
Unemployed 2002	9,76%	73,42%	16,82%
Out of labour force 2002	1,86%	3,82%	94,32%

[4] *Source*: Macedonian Statistical Office

It is worth mentioning the existing time distance between the data used to describe labour market flows in Macedonia presented in the table above and data for other transition countries discussed in the previous part, which are mainly related to the earlier phase of transition. Thus, we have to take into consideration this fact in drawing conclusions when making a comparative analysis between characteristics of the Macedonian labour market flows and those in other transition countries.

Comparing the gross labour market flows in Macedonia with those in other transition countries and in US as well, we can draw the fallowing conclusions:

- The inflow rate to unemployment from employment is among the highest, while the flow rate from employment to out of labour force is in the range observed for other transition countries;
- The outflow rate from unemployment to employment is among the lowest, while the flow rate from unemployment to out of labour force is in the range observed for other transition countries;
- The flow rate from out of labour force to employment is relatively low, while the flow rate from out of labour force to unemployment is in the range observed for other transition countries;

A careful analysis of Macedonian labour market flow rates shows that the inflow rate to unemployment from employment even in the later phase of transition is very high, which means that the process of transitional restructuring is still not terminated. On the other hand, the outflow rate from unemployment is very low with approximately a twice-higher probability of the unemployed quitting the unemployment pool to go into non-participation than to employment. Thus, facing poor employment possibilities in the labour market, Macedonian unemployed are more likely to stay in the unemployment pool or to become discouraged workers turning out of labour force than to become employed. This fact explains the persisting high unemployment and particularly the high long-term unemployment rate during the 90's as well as at the beginning of 21st century.

By disaggregating the employed in two sectors: employed in the private sector and employed in other sectors, where the predominant part of ownership is not the private ownership[5] we can obtain a more detailed transitional matrix given in Table 3.

[5] Social, mixed, collective and state

Table 3. Gross labour market flow rates in Macedonia (Employment in different types of ownership)

	Employed private 2003	Employed other 2003	Unemployed 2003	Out of labour force 2003
Employed private 2002	86,15%	3,63%	5,77%	4,44%
Employed other 2002	2,58%	85,50%	5,84%	6,08%
Unemployed 2002	7,79%	1,98%	73,42%	16,82%
Out of labour force 2002	1,41%	0,46%	3,82%	94,32%

From Table 3 we can see that the difference between inflow rates from private employment and employment in other types of ownership to unemployment is negligible. On the other hand, the outflow rate from unemployment to private employment is approximately four times higher than the outflow rate from unemployment to employment in other types of ownership. This fact confirms the assumption that the private sector is principal generator of employment primarily from the pool of unemployed. In line with the previous assertion goes the fact that the flow rate from out of labour force to private employment is about three times higher than the flow rate from out of labour force to employment in other types of ownership. Finally, the direct flows between the two employment contingencies show that the flow rate from private employment to employment in other types of ownership is slightly higher than the flow rate the other way around. Having in mind that in 2002 the predominant type of employment is that in the private sector, we can assume that as privatisation has slowed down it implied the slowing direct flow of workers from state to private sector.

Comparing the probabilities of staying in the same status, we can conclude that the highest is the probability of remaining out of the labour force, then to stay employed and finally, to remain in the pool of unemployed. The relatively low probability to stay unemployed is mostly due to the higher flow rate from unemployment to out of labour force rather then from unemployment to employment. The probability of remaining in private employment is slightly higher than that to remain in employment in other types of ownership. Because in the group of employment in other types of ownership, a part of employment in the state sector are included other types of ownership, it is not possible to draw clear conclusions whether employment in state sector is more secure then employment in the private sector.

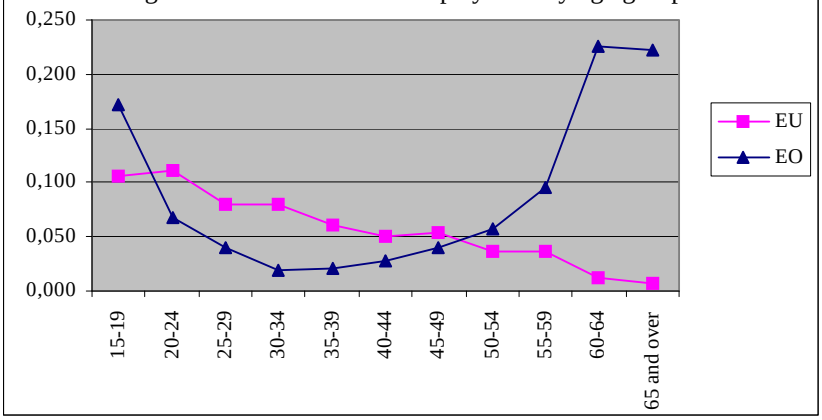
The design of Macedonian Labour Force Survey, like the surveys in many other transition countries, misses questions, which help to assess job-to-job

movements within the sector as well as round tripping movements of the labour force. Supposing that the extent of these movements is significant, the calculated probabilities of labour force mobility presented in the tables above underestimate the real mobility of the Macedonian labour force.

For a more detailed assessment of the character of the labour market flows in Macedonia we can disaggregate the gross labour market flows by age groups. According to theory, younger workers experience much higher mobility compared to the more experienced workers because of the higher incidence to be laid-off, but also higher propensity to voluntary quits. The most likely reason for this difference in mobility is the different level of firm-specific human capital that workers acquire throughout their working life and quality of match (Lazear, 2003). Since firms systematically invest in their workers' human capital, which is to some extent idiosyncratic for a given firm, they are reluctant to lay-off more experienced workers in periods of downturns. The adoption of deferred payment schemes is a second reason that favours higher mobility of younger workers. According to these schemes, younger and inexperienced workers are underpaid relative to their marginal productivity, and overpaid when they are older and more experienced (Prendergast, 1999). Thus, incentives for voluntary quits are much higher among younger then among older workers. Finally, due to the differences in family responsibilities younger workers are geographically and occupationally more mobile compared to the senior workers.

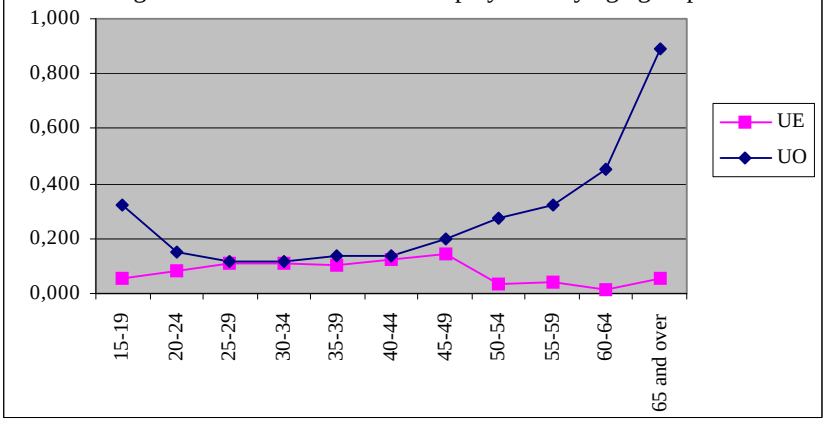
If we compare the flow rates from employment for different age groups (Figure 3), we can see that inflow rates to unemployment from employment are highest for the younger group of workers (15-24) and constantly decrease with age. Thus, the observed high overall inflow rate to unemployment from employment is due to higher inflow rate of young workers. On the other hand, flow rates from employment to out of labour force by age groups manifest a U-shaped distribution, which means that younger and older groups of workers face a higher probability to become non-participants than prime age workers. Consequently, the empirical evidence confirms the previous theoretical assumption that even in stagnant labour markets such as Macedonian the incidence of younger workers becoming unemployed is higher than that of older workers.

Figure 3. Flow rates from employment by age groups



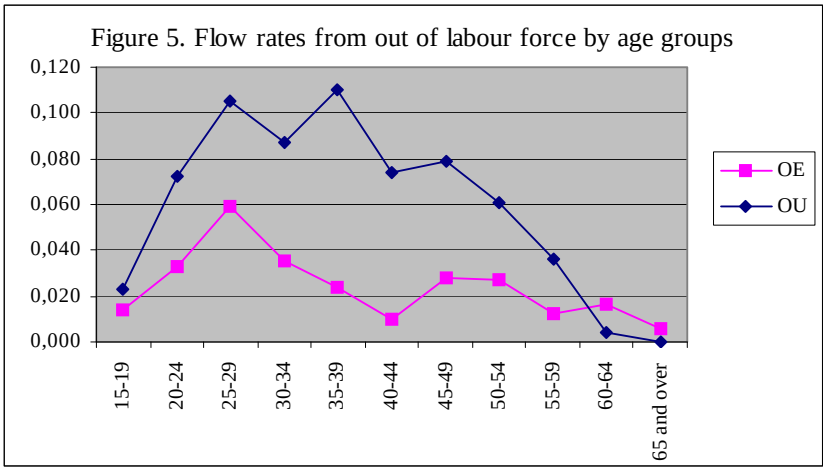
If we compare the outflow rates from unemployment to employment by age groups (Figure 4) we notice that their distribution is flat. On the other hand, the outflow rates from unemployment to out of labour force have a U-shaped distribution by age groups. In other words, for the workers on both tails of the age distribution (younger workers between 15 and 24 and older workers above 45) the incidence to transfer from unemployment to out of labour force is higher than that of becoming employed. On the contrary, prime age unemployed workers (25-44) experience more or less the same probability of becoming employed or transferring to non-participation. Now, it is clear that due to the younger workers and those who are close to the retirement age, the overall outflow rate from unemployment to out of labour force is approximately twice as higher as the outflow rate from unemployment to employment. Thus, the phenomenon of "discouraged workers" is more likely to occur among younger and older workers than among prime age workers.

Figure 4. Flow rates from unemployment by age groups



The flow rates from out of labour force to unemployment are higher than the flow rates from out of labour force to employment for all groups except the workers above 60 (Figure 5). This gap is small for the group of the youngest workers, then becomes wider for prime age groups of workers and decreases again for older groups of workers. On the other hand, the inflow rate to unemployment from out of labour force is lower for younger groups of workers (15-24 years), but increases sharply for subsequent age groups (25-39 years) and than decreases gradually for older group of workers. The lower inflow rate to unemployment from out of labour force among young workers can be explained by the prolonged post-compulsory schooling as a way to postpone entrance in the labour market. On the other hand the gap is largest for the group of workers 35-39 who are more then four times more likely to enter the labour force as unemployed rather then as employed.

Figure 5. Flow rates from out of labour force by age groups



In sum, the results of this analysis of labour market flows by age groups confirm the assertion of an uneven distribution of the incidence of becoming unemployed or staying out of the labour force. Particularly the younger groups of workers face a higher probability of becoming unemployed or remaining out of the labour force by postponing the entrance in the labour market. Thus, the poor market prospects are the main reason for the observed state dependence phenomenon in the Macedonian labour market, which is particularly pronounced among young workers.

A broader analysis of the characteristics of the labour market flows should assess the dynamism of the labour force mobility for the whole period since the first labour force survey conducted in 1996 until the last one. The availability of data from the Macedonian LFS allows only an analysis of the labour market flows by age

groups. A more complex analysis of determinants of labour market flows in Macedonia should include the other social and demographic characteristics of workers for every distinct labour market flow like gender, level of education, profession, nationality and so forth.

6. Conclusion

Labour market flows are an important indicator of labour force mobility. A usual measure of the labour force mobility is the labour turnover rate, calculated as a sum of all separations and hirings during a one-year period relative to the average annual employment. Additionally, the stock-flow model is an effective tool for presentation of labour market flows by assessing the number of workers in each labour market category for a given reference period, and number of those who change the status between two reference periods. On the basis of stocks and flows of workers among the basic labour market states, we can estimate the transitional matrix, which contains probabilities of transition among the basic labour market states.

Analysis of the labour market flows is particularly relevant in assessment of dynamism of the labour markets in transition countries. Bearing in mind the systemic changes during transition, we would normally assume that labour markets in transition countries are highly dynamic. Stylised model of labour market flows in transition countries describes the reality of labour market adjustment by dividing the employment in two sectors: the private sector and state sector. The first stage of transition is characterised by the sharp decline of the state sector, where considerable number of workers has been laid-off. In the second stage, the expanding private sector starts to absorb workers mainly from the pool of unemployed contributing to a decrease of unemployment rates.

Empirical evidence shows that unemployment rates in transition countries are highly responsive to the inflow rates to unemployment from employment and outflow rates from unemployment to employment. The reason for the stagnant unemployment pool observed in most transition countries is the low outflow rate from unemployment to employment, rather than a high inflow rate from employment to unemployment. A socio-demographic analysis of the labour market flows in transition countries confirms the assumption that younger workers, those with lower educational

attainment and those with elementary occupations experience higher mobility than other groups of workers.

Labour market flow rates in Macedonia between 2002 and 2003 have been estimated from the labour force survey data. The principal characteristics of gross labour market flows in Macedonia can be summarised as follows:

- The inflow rate to unemployment from employment is one of the highest among transition countries. The high inflow rate implies that the process of transitional restructuring in Macedonia is still not terminated;
- The outflow rate from unemployment to employment is among the lowest in transition countries. The low outflow rate explains the stagnant pool of unemployment and persisting long-term unemployment;
- The probability of the unemployed going into non-participation is about twice then the probability of becoming employed. This fact confirms the existence of the phenomenon of "discouraged workers" among the unemployed;
- The probability of the unemployed to go in private employment is about four times higher then probability to go in employment in other types of ownership. Thus, despite the insufficient demand for labour, the private sector is the main generator of employment;
- The probability of non-participants to go in private employment is about three times higher then probability to go in employment in other types of ownership;
- Probability to become unemployed is unevenly distributed across different age groups of workers, where particularly younger groups of workers face higher probability to become unemployed or to remain out of labour force;

This analysis of gross labour market flows in Macedonia is the first attempt to assess Macedonian labour force mobility. However, a broader analysis of the labour market flows is limited because of the following reasons:

- The lack of available data from the Statistical Office for the gross labour market flows prior to 2002;
- Except the age, it is not possible to analyse the other socio-demographic determinants of labour market flows (gender, level of education, profession, nationality and so forth);
- Design of labour force survey does not allow an assessment of job-to-job movements within the sector and round tripping movements;

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