SOCIAL RISKS OF TRANSITIONS WITHIN THE LABOUR MARKET-A CASE STUDY OF PLANT CLOSURE

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My thesis examines social risks of the employees made redundant. I research the earning losses and career perspectives of the dismissed labour force. Further, I study how different social characteristics affect income and career perspectives and what kind of risks are associated with loss of the income or decrease in career possibilities.

My goal is to contribute to the knowledge of collective dismissals using empirical data and analysis. Subject is important and current because the ongoing process of globalization has a growing impact on the national labour relations and on the national labour markets. Moreover, well-known concept of economic cycles becomes a new dimension of labour market theories, since the same processes are going different ways in the era of growth and recession.

The empirical analysis consists of two datasets: European working conditions survey 2005 and data from The Perlos Corporation gathered in 2008 after the negotiations on the exiting plant had proceeded to an end. The first dataset had a representative sample of the Finnish population of 1039 people. The second dataset had a representative sample of the former Perlos employees of 508 people. There were two methods of analysis used in this paper: the non-parametric alternative to the t-test (comparison of two independent samples based on Mann-Whitney criteria) and log-linear modeling.

forms of social selectivity. However, the present analysis still has its own mean of investigating the social risks of the redundant employees. I find selectivity in the career advancement of the former Perlos employee in terms of gender. The results describing the behavior of men are not significant in explanation if their attitude towards career is dependent on occupational status in The Perlos Corporation. On the other hand, the results for women are significant suggesting that those women who worked as managers are concerned about their career on the new job (after closure). My findings are coherent to the previous findings in literature, proving that the chances to maintain the income after the loss of job are higher for skilled male employees who had resigned themselves before the closure of the plant occurred. These workers are more flexible and not attached to one employer; they can find external job opportunities without the necessary participation in active labour market policies.

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1 Introduction

Transitional labour market theory is a new concept, which contains many yet not fully understood elements. The main idea of the concept is the investigation of the labour market dynamics. Transitional labour market theory considers the labour status of an individual as a dynamic status. The one cannot get the perfect understanding about the effect of active labour market policies if transitions are not observed. In the context of globalization, social risks embedded in the transitions within the labour market can be even more dangerous for a personal life course, career and employability. The same holds true for economic fluctuations, given that recession is hardening the requirements for the risk coping strategies. Therefore, the main objective of the thesis is to study the social risks embedded in the transitions within the labour market. The possibility to see the change that happens to the individual career opportunities and income according to transitions between employment and unemployment is challenging. For the most part, the challenge is linked to data. The major contribution to the success of this paper was the chance to use the data collected from the former employees of The Perlos Corporation as the main data for the research. This factory has closed its facilities in September 2007. Within one year, all of the employment contracts were terminated either voluntarily or involuntarily. In my opinion, the data is suiting my objective, because it has several indicators of transitions. Using the Perlos data I am able to investigate the changes of the career opportunities and income that happened to the former workers after the mass dismissal had taken place.

The inclusion of two datasets requires separate, nevertheless, linked research questions. The main research problem is social risks. Therefore, I can study the prevention of social risks and suggest some ways to cope with them. Using the dataset of the European Working Conditions Survey 2005, I can study the effect of vocational training in Finland. The effect of vocational training is the first narrow research question. The second narrow research question could be stated as follows: what are the risks that the former employees of The Perlos Corporation can experience? To put it more practically, what variables or their interactions can explain the risks

the former employees of The Perlos Corporation may face.

Within the actuality of the research topic, I would like to mention the method of data analysis I am using. For the first dataset (EWCS 2005), I am employing the non-parametric test of Mann-Whitney for comparing two independent groups. The test is a non-parametric alternative to the t-test. For the main dataset (the Perlos data), I am exploiting the log-linear model. The latter is not the very widespread method in social sciences because the method does not assume any clear dependent variable. The dependent variable in this case is a frequency in the crosstab's cells but that is not the dependent variable as evident as, for instance, in logistic regression. However, I can judge in rather the original way about the direction of the interactions between the variables and reference coding does this. For instance, I will be able to infer whether women, who work manually, are more likely to be concerned about their career advancement on the new job after the Perlos.

The paper is organized as follows: introduction describes the aims and aspirations of the thesis; chapter 2 describes the objectives and foundations of the active labour market policy approach. Within this chapter, I have several parts. Parts 2.1, 2.2 and 2.3 provide the foundations of the active labour market policy approach. They content information on the development of the active labour market policies and their effect on employment. Moreover, the central concept of the thesis - transitional labour market – is discussed in part 2.3

Following the transitional labour market theory, I apprise of transitional characteristics of the Finnish labour market. Parts 2.3.1, 2.3.2, and 2.3.3 contain the discussion on structural unemployment in Finland, which is another central phenomenon for this paper. In addition, there is information on active labour market policy implementation in Finland. Chapter 2.3.3 provides empirical findings concerning the effect of vocational training in the context of economic recession. Further, parts 2.4.1, 2.4.2, 2.4.3, 2.4.4 and 2.4.5 comprise the broad theoretical debate on the phenomenon of plant closing. My intention was to familiarize the reader with the most influential, in my opinion, results acquired by different authors throughout Europe. Separate part (2.4.3) is dedicated to longitudinal studies for a good reason. The majority of sources I refer to have longitudinal nature, following up the same sample over some crucial time periods.

Chapter 3 is the first empirical chapter of the paper. Part 3.1 includes the statement of the empirical research problem as well as narrow research questions. Further, chapter 3 is divided into two parts each of which addresses one dataset. Part 3.2 demonstrates the data from the European working conditions survey 2005 and method for analysis. Part 3.3 does the same work but utilizes the dataset from The Perlos Corporation. Since the latter dataset is the main for the paper, there is part 3.3.1 to introduce the data and method used to analyze the Perlos data in somewhat broader sense. Chapter 4, containing the results of the analyses of both datasets follows logically later. Again, more space was taken to explain the model building; technique and findings related to the Perlos data. Therefore, parts 4.2.1, 4.2.2, 4.2.3 and 4.2.4 contain all these necessary elements of the research report. The findings from EWCS 2005 dataset are compactly discussed in part 4.1.

Chapter 5 concludes and includes possible future scientific debate.

2 Theoretical background

2.1 Social risks and governmental intervention into the labour market

In this part of the thesis, I have attempted to introduce the main concept of the labour market. There are various models implemented in the European countries to conceptualize the labour market and provide every social institution functioning in the labour market its niche. Further, I would like to introduce the theory of flexicurity. The interrelations between welfare system, smaller part of which is labour market policies, and the market has always been of great value. However, in order to understand the nature of welfare state and market relationships one should ask history about that. Unemployment itself (even in the ages prior to the time when large-scale redundancies could occur) has always played a significant mediating role between society and state's welfare provision. It has been documented already since the 18th century.

In this first chapter, it would be necessary to define Welfare State (WS) as a scientific term according to our needs. «A Welfare State is a state where organized power is deliberately used (through politics and administration) in an effort to modify the play of market forces…» (Briggs, 2006, P.17). The way that the state uses to modify the forces is divided in three directions. The first is guaranteeing individuals and families minimum income irrespective their contribution to the labour market; the second is narrowing the extent of such hardships as unemployment, sickness, old age; the third is equalizing distribution of the agreed level of social services. Employment itself is bought ability to work; the market starts to influence the welfare from the very beginning, in particular, from the point where bought and sold abilities to work exist. Unemployment is a product of industrial societies and it is unemployment more than any other social contingency, which has determined the shape and timing of modern Welfare legislation. (Briggs, 2006).

Social policy system first started its struggle with unemployment through the first poor laws in the 18th century. I can find the pamphlets (projects) on these laws, such as "Observation of the poor and misery of the poor" published in 1756.[*] Here, one can already find some relation to employment policy. However, back then unemployment was not a mass phenomenon; consequently, there was no need to create a system of institutions to implement the policy in that direction. Since 1880, welfare state institutions have gradually superseded the poor laws. The introduction of the early social insurance programs began after a change in the political strategies of state elites, especially, in the continental Europe. In the late nineteenth century, political elites and religious circles in these countries designed the state corporatist strategy with social insurance being the central part of it (W. Korpi, 2001). In the early stage of corporatism, efforts were made to encourage the cooperation between employers and employees. Bismarck pioneered the development of state corporatist institutional ideas in 1880. The two-pronged strategy introduced by him was based on the law on the social danger of striving democracy and on the law on social insurance legislation. Here, Bismarck promoted the development of well-being of workers. The first German social insurance programs covered sickness (1883), work accidents (1884) and old age pensions (1889). They were directed at manual workers and low-wage white collars, being implemented by social partners (Rimlinger, Gaston, 1971)

In the European context, at the end of the nineteenth century, the Catholic Church eventually became one of the strongest proponents of the corporatism insuring that the state safeguards the welfare of workers. This has signified the move away from the poor laws and market liberalism of the 18th century. Interestingly, in Britain, the move from market liberalism around the turn of the century resulted in the so-called "social liberalism". The latter was in favor of providing everyone the flat level of benefit regardless of the level of the lost earnings (Korpi, 2001). Therefore, the possibility of political intervention into the market was limited. At the same time, flat level of benefits encouraged the salaried employees to secure themselves by private insurance or saving.

After the WW2, some European countries (continental) reacted against state corporatist structures by introducing the schemes of "People Insurance". Summarizing, Korpi and Plame

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[*] http://library-2.lse.ac.uk/collections/pamphlets/document_service/HV/00000228/doc.pdf

(1998) state that one can distinguish between five ideal type institutional models:

- Targeted models - originate from the old poor law, give minimum benefit level for the needy.

- Voluntary state-subsidized models - programs with the low ceiling of benefits.

- State corporatist model- originates from Germany (1880). Excludes the economically non-active and rests on contributions and belongingness to occupational categories. Benefits are earning related.

- The basic security model -all the citizens are covered with a flat rate of benefits

- Encompassing model=universal coverage +earning-related benefits.

The possibility of using governmental power has been related in each country to the balance of economic and social forces, estimates for the proper functions and for the available resources of the state. Effective techniques of influence and control are resting on knowledge and, of course, the belief, that societies could be formed by the conscious policies designed to eliminate abuses, which in earlier generations had been accepted as the inevitable features of the human condition. Unemployment is of different nature, thus, it *is* inevitable, due to industrial changes in economy (Briggs, 2006). It should be explained here that the state actually has two options to solve problems which come along with industry growth and developing of the market economy system. First is to require more contributions from the citizens by payroll taxes; second is to develop individualistic pattern of market relations. The latter was implemented, for example, in England and was indissolubly connected with the name of Thatcher. Scandinavian countries and Finland use the first.

It is believed that if one considers the state as a major player, who can intervene in the market in order to eliminate the hardships of the poor and unable to work, the one should understand that the state has not become this player by chance. All the historical preconditions played a big role. The range of agreed social services set out in the provisional definition of the WS is a shifting range. Policies, despite the finalism of much of the post-war criticism, are never fixed for all time. What at various times was considered a decent range shift? Public health was once a highly

controversial issue in European societies and it still is in some other societies. The sanitary idea was rightly regarded by the pioneers of public health as an idea, which had large and far-reaching chains of consequences. In Great Britain, public health was taken out from the conflicts in policy, but personal health remained the duty of the person without help from the government. There is a controversy, very bitter, indeed, in the US, not only about the range of services but also about the means of providing them. To say more about the USA: the remarkable level of social inequality and, of course, the recent trends of growing unemployment will put some other questions for this country, i.e. whether this true or false that liberal social policy provides people with their needs, bearing in mind that they will be able to support their income with work (Smeeding, 2005). The choice of means has been tangling the existence of WS all its history. The WS can and do employ a remarkable variety of instruments, such as social insurance, direct provision in cash or in kind, subsidy, partnership with other agencies (including private business agencies and action through local authorities). In health policy alone, although medical knowledge is the same in all countries of the West and the same illnesses are likely to be treated in much the same kind of way, there is a remarkable diversity of procedures and institutions even in countries, which make extensive public provision for personal health services.

There are important historical considerations to take into account in tracing the relationships between the three different directions of public intervention in the free market. The demand for minimum standards can be related to a particular set of cumulative pressures. Yet the idea of basing social policy as a whole on pubic commitment to minimum standards has not become practical politics in Britain until the so-called Beveridge revolution of the 2WW. The third direction of WS can be understood only in terms of older logic and more recent history. The idea of separating welfare policy from subsistence standards (the old minima, however, measured) and relating it to acceptable standards (usual work income) provides an indication of the extent, to which primary poverty has been reduced in affluent societies. The idea may be related, on the one hand, to the older ideas of equality, some of which would not lead directly to the state's intervention in the market. On the other hand, separation from subsistence standards may be linked to the elimination of the market altogether, at least, as a force influencing human relationships. Another big problem remains how to provide equal standards for everybody in case of changing economic conjecture. A consideration of the contemporary debate is more

rewarding if it is grounded in history.

In this chapter, I introduced the conception of state's role in coping with hardships that society faces. Since the 18th century, the major hardship has been individual incapability to work. Each state has implemented its own policies: The GB shifted to the liberal policy leaving only health on the state's responsibility, the Nordic countries still have the universal welfare model. However, nowadays there is a call for a new theory, which will explain transitions between various statuses people have in the society. If in the previous ages government intervened in the free market targeting unemployment only, now the authorities ought to emphasis on the mitigation of problems following as well as compose social measures, which will shape the society in the long run. The measures will include benefits people can receive while unemployed, the activation of individuals with passive and active labour market polices. Today, the Transitional labour market theory (thereafter, the TLM) and flexicurity are said to be the new social policy approaches combining separate unemployment measures and overall social security.

2.2 Effect of active labour market policies on employment

In this section of the thesis, I would like to set the basic structure of the relations between employment and active labour market policies (thereafter, ALMPs). I realize that the relations between ALMPs and large-scale dismissals could be much more sophisticated than it will be shown in this paper. However, I will restrict myself with providing the simple understanding about the general effects of ALMPs on the labour market.

ALMPs can have a number of effects on employment. Some of the effects are intended and some are unintended. There are three basic conceptions included in the structure: the real wage, the regular labour demand (demand excluding participation in labour market programs) and the labour force (supply). The picture as a whole is described using the relations between those elements (Calmfors, 1994).

The effects that ALMPs can exert on employment are:

- Effects on the matching process

- Effects on the competition for job

- Effects on productivity

- Effects on the allocation of labour between sectors

- Direct crowding out effects

Since labour demand depends negatively on the real wage and, on the contrast, wages can be set at the higher level in case of growing regular employment. The aim of the public employment offices, which provide job broking and counseling services for the out of work, is to make the matching process more efficient. This means to increase the number of successful matches at a given number of vacancies and job seekers. When a firm decides to fire an employee the expected future revenues of hiring a new one depends on how quickly the vacancy is filled. The more efficient matching means the higher employment and the bigger salary. Growing efficiency also means reducing the real wage and increasing employment. When the company hires the employee, they have a surplus to be shared. However, if they can not agree the company is in the better position in case of high matching efficiency given that it can find another employee rather rapidly. To increase the matching efficiency labour market training should work in the direction of participants' willingness to inflow to employment after the training.

In terms of competition for the jobs the ALMP work in the direction of preserving the skills of the unemployed and, therefore, they can be considered as being more attractive. Here, it is important to note that the reason why the employee has been fired owns a significant share in his image observed by the prospective employer. As written in Gibbons&Katz (1991), the laid off workers (not in case of large-scale dismissals) are seen as the ones of low-ability. Thus, whether, the training exceeds this negative image or nor is still an empirical question. Nevertheless, the theory states that the increase in labour force leads to both lower real wage and lower employment as a fraction of labour force (the lower employment rate). The effect of the larger labour force as the fraction of population is even stronger. The increase in employment as a fraction of population leads to the reduction of real wages. The latter means that before implementing the ALMP the evaluation of what are the consequences should be done. The

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implementation should take into account the wage settings and who dominates them. Hence, the impact on competition is derived.

The effect on the productivity of job seekers is linked rather closely to the different work experience programs as well as on-the-job training. The effect is created by the growth of the productivity of the non-employed because of the vocational training programs, as an example. In this case, the reservation wage (the lowest wage enough for the non-employed to decide positively on any job offer he/she has) also grows, since the non-employed have quite high expectations of revenue their skills. In other words, the net effect is zero; thus, the balance between training and motivation to accept the jobs should be sought for. In this paper, this balance is considered in the context of recession as shows the research by Hämäläinen (2002) below. The research provides the empirical evidence of the balancing between jobs offer acceptance and wish to increase the reservation wage.

The next effect on employment to be considered is one rather important. This is the intended effect on the allocation of the work force between sectors. Below, within the text about the Gelsenkirchen's case, I could show how the transfer to the growing demand sector was organized. However, it was simply a case of one factory, which I can not generalize to the population. It seems that there is a full theory describing the process of reallocation of labour. The main points as those in Calmfors (1994) are:

• Transfer of the labour from the low productivity sector to the high productivity one causes the shift from the labour demand in the opposite direction

• The real wages do not grow in the low productivity sector but fall substantially in the high productivity sector

• As a result, the number of employed in the low productivity sector does not fall much but grows substantially in the high productivity sector

The balance depicted above can be affected by the ALMPs. A young person chooses between the job in the low and the high productivity sectors. For the latter he/she needs education. Thus, the

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person compares the expected revenue of the regular education against the possibility to work in the low productivity sector and access the education (to move to the high productivity sector) through the labour market training incentives. Greater educational possibilities for the unemployed in the low productivity sector (or on-the-job training opportunities for the employed in this sector) will raise the expected return from starting the work here without the education. This will reduce the employment in the high productivity sector and overall in the economy.

The explanation could be the following. The employment in the high productivity sector is rather insensitive to the variations in labour demand because the real wage grows quite steadily. Whereas, the employment in the low productivity sector depends on fluctuations in the labour demand. This is caused by the given minimum wage (through restrictions). If the return from working in the low productivity sector rises because more unemployed (employed) are let in the vocational training programs, than the revenue from the regular education and consequent work in the high productivity sector will also increase. However, this can happen only in case of the growing wage with the given employment rate as a share of the sectoral labour force. Since the real wage depends negatively on the labour demand, the growth in the real wage is associated with the decrease in the workforce in the sector. The latter happens if the total workforce in the high productivity sector falls. This total comprises two shares: the inflow from the regular higher education and the inflow from the labour market schemes. Therefore, the more of the high productivity workers there are from labour market schemes, the less young people are thinking about the regular education. The work force increases in the low productivity sector and, consequently, the labour demand decreases. Therefore, the aggregate employment falls having rather controversial result.

2.3 Active labour market policy measures and the transitional labour market theory

The Lisbon strategy was established in March 2000. However, the process of developing took a lot of time. Since the publication of the White Paper on Growth, Competitiveness and Employment in 1993, The European Employment Strategy has been gradually developed

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through many European Council resolutions[*]. Employment was finally integrated as a title in the Amsterdam Treaty of 1997. The extraordinary job summit in Luxembourg at the end of 1997 laid the basis for the implementation of the strategy. The commission enacts guidelines, which are implemented and monitored by the member states through national action plans. Four policy areas are covered: employability, equality, entrepreneurship and adaptability. (Schmid, 2008)

The conception of flexicurity was first introduced in the Danish labour market at the beginning of the 90s. Decentralization of agreements regulating the working time and organization of work was the precondition for the flexibility of employers. Another example of the flexibility, but for workers, can be the introduction of rules on training and education on the local agreements. On the other hand, security for both employers' and employees' competence has been declared already from the late 80s. Social partners had to include new issues in collective bargaining such as labour market pensions. Another important element of the Danish flexicurity model is the state's financing both unemployment benefits and active labour market policies, such as trainings and vocational education (Andersen, Mailand, 2005). In 2006, The European commission appealed to the strategy of flexicurity with an emphasis on transitions between employment and unemployment as well as between different kinds of employment. This, initially not extremely sound proposal explains the further development of the whole conception, which underlies the flexibility and security approach. Here I talk about the transitional labour market theory (TLM) as an empirical frame and analyzing tool of labour market researches. One necessary working definition is: transitional labour market - is a social institution located at the critical phases of the life course, which encourages the take up of labour market transitions through institutional regulations and policies, which safeguard and motivate both employers and employees (Brzinsky-Fay, 2010)

It is worth bearing in mind that transitions are essentially dynamic characteristics of the labour market. That is why they are of interest. Choosing the TLM theory as an empirical framework, I need to distinguish the transition from status and life course changes. I understand the life course as the object broader than status change. The life course includes the changes of statuses and the most meaningful change is between gainful employment and unemployment. Individuals

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[*] http://aei.pitt.edu/1139/01/growth_wp_COM_93_700_Parts_A_B.pdf

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are considered to remain in employment continuously and avoid interruptions. Moreover, they are supposed to develop within the status of "employed" constantly promoting their career, hence, prevent the risk of unemployment (Erlinghagen, 2008). It should be made clear that the different strategies suggested for enhancing transitions (introducing life learning accounts, inducing job mobility etc. (Schmid, 2008) are built-in in the life course of a person. Yet, empirically and analytically, the TLM theory does not take the life course as its object. Working in the TLM framework, I am rather concerned about, say, knowledge characteristics of the displaced labour force. If a number of people were dismissed from a big plant, the standard approach would be to analyze the impact the closure has had on the regional unemployment level and assess the stocks of unemployed. The TLM theory requires the researcher to go deeper into the question of structural unemployment and, preferably, answer the question whether the training scheme's introduction is needed to save the workforce and, hence, a region or a province (the effect of training is understood in various societies, as an example-Lynch (2009)). Another important issue could be expanded even to the field of economics. This is the problem of the subsequent income loss of the displaced labour (be that "regular" or large-scale separation).The closely related sociological topic is prestige and statutory losses following the job separation (Munoz-Bullon, Malo, 2003). The TLM theory would provide a tool-kit to investigate social risks embedded in transitions more effectively than the other paradigms; partially, due to the extensive usage of the micro data gathered. The empirical branch of the TLM theory supports the incentive to explore transitions on the individual level. Obviously, in terms of data-collection that would be extremely expensive. Luckily enough nowadays, the researcher has all the instruments available to make significant statistical inferences. The only thing required is the effective sample size. Such techniques as logistic regression (and plenty of others) can predict the probabilities of random variables' realization to each observational unit (a person). Then the results can be generalized and recommendation may be made for groups of people very precisely, taking into account their observable characteristics.

Maybe the most important result of the TLM theory is its ability to evaluate the effect of the active labour market interventions. As de Koning puts it, there are six instruments of ALMPs: mediation (information), job counseling, sanctions, bonuses, training, wage subsidies along with job creation schemes (de Koning J. 2007). The interventions require special attention to be paid

in terms of plant closures. Since the time resources of the facilities' shutdown are very restricted, all the social partners need to implement the active measures (along with passive) fast. This obviously needs precision, tailoring and targeting of the measures. Therefore, I believe that the usual tools of ALMPs when used in context of plant closing become increasingly more meaningful. This meaning can be both positive and negative. In the second part of this paper, I provide the representative data on Finland and analysis, which was carried out through the TLM paradigm in order to see how ALMPs can be investigated through national data.

As a normative concept, TLM envisages a new stage of active labour market policy, which focuses on social risks over the life course. The core idea is to empower individuals to take more risks not only through making the work pay but also through making transitions pay. As the European commission states, the theory of flexicurity should ensure the sustainable integration and progress of the individuals in the labour market (Schmid, 2008). Of course, it is obvious that every society has its own dynamics of labor; therefore, each country should implement its own specific measures to reach the aims of 70% employment and promote meaningful working life for the people.

The transitional labour market concept is founded by the following principles: justice as fairness, solidarity in risk sharing, developing individual agency and transitional social cohesion. The first principle opposes the idea of maximizing happiness for all, saying that it is not a solution for problems. For example, if labour institutions should promote measures for young people to save them from the precarious career this may enable negative consequences to other groups of people and these consequences will be treated in order not to cause long-term unemployment. The second principle stands for equality in risk taking. If to recall the first part of the previous chapter, it is easy to understand the thought that the market forces are distorting the labour balance. Someone should take care of it and re-establish this balance. However, the question of risk sharing is specific for each country, which means that if in Finland society takes all the risks in case of, for instance, dismissals than in the UK it could be different. Promotion of the active individual role in a person's career underlies the third principle. This principle gives a long-run understanding of critical position towards comprehensive long-lasting unemployment benefits.

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The fourth principle's incentive is in line with all the other international European documents, such as Lisbon strategy, which call for country-specific measures meanwhile moving towards the more generalized aim.

In this work, I have a good possibility to compare the TLM theory with more traditional ways to analyze labour market processes. For example, the emphasis is made stronger on the flows and the dynamics of the workforce rather than on stocks and simple transitions from job to job. As it has been said before, the TLM theory takes into account both transitions from unemployment and employment as well as between different employment relationships (part-time, non-standard). Therefore, one should be very precise when considering the impact of contractual variety on people's careers, because many are stuck in exclusionary transitions in low-skilled jobs and non-standard employment. Three strategies following the TLM theory can be established: preventive, mitigating and coping. Since this paper contains further analysis of the dismissals occurred at the Perlos Corporation in Finland, mainly the combination of coping and mitigation strategies will be described here. According to the principles of TLM it is not always the best solution to use high long-term unemployment benefits. They may be used, nonetheless, in combination with active mitigation and coping measures as a means of decreasing income insecurity right after the lost of gainful employment. Generous income security should be considered as active labour policy because it endows people with immediate income, which has been lost after the closure. However, the size of the severance pay can be either inducing the motivation or re-employment (as in Finland) or reducing the latter with an emphasis on income security (as in Germany).

The strategies derived from the TLM theory include several practicalities. Firstly, if a person becomes unemployed, the state should ensure a training place after six months; all firms should financially participate in their working force's vocational trainings. Secondly, a decent ground level of wage along with the basic income guarantee is a good preventing measure. For instance, in Finland, the National Insurance Institute guarantees the basic income (the one, which is not linked to labour market contributions). Thirdly, long-term or lifelong learning accounts could be used as smoothing and coping schemes. These accounts will prevent income volatility (for example, will induce the incentive to move to another region with the bigger market or to take

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additional training) (Schmid 2008, 1998). Fourthly, right after the dismissal has occurred income concession to a generous extent should be used; this will help the individual to start the job searching. One needs to understand why rough using of the unemployment benefits could damage the workforce. It is clear that according to TLM principles, all the measures to cope with the risks people face should involve a large share of their individual activation but it is not transparent how one can do that. The answer is in using active labour market policies and passive labour market policies. For example, paying unemployment benefits rather than insuring from unemployment and creating life course accounts can be seen as an active measure to some extent and only along with improving qualifications and allowing for a proper job search without stress (keeping people from the necessity to take any job available). Passive and active labour market policies are some of the few instruments in policy makers' tool kits that enable them to influence the labour market directly as they allow for job search and job matches, for supply enhancement and reduction, for the creation of additional jobs. In passive labour market policy schemes, claimants do not have to be involved in any activity, be that subsidized employment or training, but must be available at the market and actively search for a job. In ALMPs they are required to take part in either work or training activities. Unemployment benefit systems had to face increased structural change as the consequence of shifts in the sectoral distribution of employment, technological and organizational change and globalization, which together led to continuous 'downsizing' in traditional parts of economics and rising employment in new sectors.

2.3.1 Transitional characteristics of the Finnish labour market

In this passage, I will describe the general features of the transitional labour market in Finland. At first, in the EU 25 the percentage of those who lost their job and stayed without the one in the next year is 48%, whereas in Finland – 38%. Moreover, Finland has 21% more people moved form outside the labour market for other statuses than the EU 25. In gross terms, flows into and out of employment are mirror images of each other. In sum, the amount of people entering and exiting the market is a gross range of 400 000 to 500 000 person yearly (Räisänen, 2008). At second, in net terms, the main contribution to employment has been coming from students during the period of 1988-2007. Annually, some 30 000 to 50 000 new employed people come from this source in excess of the opposite flow from unemployment to studying. Flows between

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unemployment and employment are large in magnitude in gross terms despite the last few years, which means a large number of transitions taking place. This means that the net contribution to employment was of minor importance in 2003/2004. The main aim of disaggregating the flows into components is to relate the flows to career risks and develop measures according to the TLM theory. Thus, in Finland, the new unemployment period starts and ends more often in comparison to the stock of unemployment and this shift has been taking place since 1990. For example, the average stock of unemployed at the end of June 2007 was 84 900. Approximately, 75.5% of the unemployed left the stock within three months. 61.3% out of this number found themselves on a new job, whereas 14.1% - in the active policies. Twenty-five percent stayed on the stock for the next 3 months but the percentage of leaving the stock for other employment statuses was rather small -13.6%. Thirty-three percent of those leaving the stock within the next three months appeared to be in the labour market relationship again. Hence, the labour market transitions concentrate heavily on the short-term job separation.

Therefore, from the information above I can make a conclusion: shortening the unemployment duration is the instrument to lower the unemployment. Another important observation could be the following: the TLM approach can be exploited more than only through observing short-term labour market dynamics. Transitions are more effectively observed from the individual perspective. Moreover, ALMP measures should ensure that temporary jobs are the stepping-stones to long-lasting labour relations. In order to study the risks involved in the transitions from employment to unemployment in our further analysis, I will use a case of one Finnish enterprise-The Perlos Corporation. Usage of the collected micro level data will serve the goals to account for the social risks originating from a large-scale plant closure. One remark can be made here: the plant closure is a model of labour market relations and transitions within it.

The following passage is crucial in understanding the whole paper: I am not investigating the results of the plant closure as an object completely apart from the general labour market dynamics in the country. I believe that the empirical methodological approach of TLM can be applied both to the general labour trends and/or to the case of a particular plant closure as a peripheral issue (Briznsky-Fay, 2010). Nevertheless, I do not deny the fact that the one particular plant closing has its own properties impossible to be reproduced on a wider population of the

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workers in the country (be that Finland or any other state). Thus, one of the intentions of this thesis is to adopt what I will know from the Perlos' plant closure to what is probable to happen in the general labour market. It is clear that the transitions within the situation of mass dismissals and a regular job separation are of different specificities. However, they have common features such as the possibility of the precarious career and substantial income loss.

2.3.2 Structural unemployment in Finland

ALMPs in various ways of their existence boil down to the reduction of the structural unemployment. This particular type of unemployment along with frictional joblessness constitute what is known as natural rate of unemployment believed to be inevitable at 5% level (Orley, Layard, 1986). One may ask why it is worth studying structural unemployment and be concerned about the measures taken to combat it. The whole logic of ALMPs and the transitional labor market theory can be extrapolated to the logic of structural unemployment prevention[*]. ALMPs are ultimately structural unemployment coping and mitigating measures. Why does this hold true? Structural unemployment arises from the fact, that the workers are not perfect substitutes for each other. As described in Hughes&Perlman (1988), structural unemployment is a result of structural changes in labour demand. These changes can include production techniques, the location of industry and even consumer tastes. From the social policy point of view, the obsolete skills are the threat. The Swedish economists, Rehn and Meidner, saw the original goal of active labour market policy in Sweden as transfer of labour from stagnating low productivity sectors in expanding high productivity sectors through training programs and other mobility enhancing measures (Meidner, 1969). Another important feature of the structural unemployment is that it can not be simply reduced to the structure of unemployment. Structure of unemployment can stay stable in case different groups of workers (age, sex, industry etc) have the same unemployment level variance across the overall rate. However, there can be a difference in this variation since different groups are more sensitive to labour demand. This can be seen as an indicator of the structural unemployment. What makes the structural unemployment more

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[*] Ministry of Labour, Finland. Measuring effectiveness and operational efficiency of the Finnish PES. P.15
http://www.ams.or.at/_docs/BP_04_Measuring_effectiveness_and_operational_efficency_of_the_finisch_PES.pdf

complex phenomenon is the predisposition to be cyclically sensitive.

In Figure 1 (taken from Räisänen, 2008), it is evident that the longer the person is unemployed the fewer chances he/she has to re-enter the labor market again. In the figure, the thinner blue arrows are, the smaller the percentage of outflows from unemployment. Thus, particularly, after three months long unemployment spell (the first transition), there are fewer and fewer people re-entering the labor market. In addition, the longer the spell out of work is, the thinner becomes the arrow of ALMP measures participation. My aim here is to assess how the ALMP schemes are affecting the magnitude of labor market re-integration. The fact that some people are unable to venture to the labour market might indicate that there are some problems in their matching the needs of the market. Structural unemployment has it bad name for the "educational" component. Trainings needed to adjust a person to the modern working conditions require some time; hence, the labor market will lack some force. What is worse, even after the trainings the situation of an unemployed person is still unclear. Therefore, in the labor department of Finland some sorts of indicators were created, which would set a target for social partners and employment offices. In this hierarchy of targets, reducing structural unemployment is specified as reducing the number of hard to place unemployed. The level of target is the labour administration of the state. This means that employment strategies follow the aim of reducing the structural unemployment. Downsizing the structural unemployment includes as strategies: the early prevention of long-term unemployment, the youth guarantee (job offer, education or training before third month of unemployment); and as operative measures: the increment of activation rate and of decreasing rate of return to unemployment. The same idea underlies the ALMP measures approach.

In Finland, from 1997 to 2004, structural unemployment remarkably downsized. In 1997 there were 124000 unemployed over six months, 58 200 unemployed after participation in ALMPs. In 2004, however, these numbers decreased to 73000 and 39500, respectively. In relative terms, the numbers are: - 41.9% and - 37.1%, respectively.

There is a standpoint that social-democratic regime in the Nordic states is committed to activation. Starting from 1956, the First unemployment act in Finland aimed at employing an active approach to unemployment, for instance, through creating the subsidized jobs, rather than simple alleviating consequences of unemployment (Ervasti et al, 2008). However, in the 1980s

the ideology of unemployment protection was to expand the universalism of unemployment benefit coverage and, especially, increase the earnings related insurance. Obviously, in times of recession of the 1990s all these attempts were curtailed. Finland underwent the transition from almost full employment to one of the highest unemployment levels in the OECD. This recession left a long shadow of structural unemployment afterwards. In the 90s, there was a clear shift to the active approach from the passive maintenance of income for the unemployed. This has happened after the appointment of the government advisory group by the Finnish Ministry of Labour in 1996 (van Gerven, 2009). To illustrate, access to unemployment insurance benefits was restricted in 1996 by extending the past work requirement from six to ten months, by freezing the state universal benefit and cutting from 45% to 42% the earnings related benefit. Interestingly, in 1997 special new work search plans were introduced to people at risk of long-term unemployment, that is, those more than 500 days on unemployment benefit. However, some authors write that individual action plans (which obviously include the personal job search plan) tailored by Public Unemployment Service together with an unemployed, were not of a great effect[*]. Moreover, following the new European Employment Strategy (EES), every job seeker registered as unemployed had to be offered the activation plan.

In the Nordic context, activation policies have been closely linked to the social policy system since the early days of the system, but the property of the Finnish system has been the chronic long-term joblessness as the heritage of the 90s recession (Ervasti et al, 2008). The drastic measures in the mid 90s were targeted at certain social layers (young and long-term unemployed). This distinctive turn occurred in the late 90s along with the creation of the new programs of integration to the labour market, such as The Unemployment Benefits Act of 1997. The rising level of skills and knowledge requirement in the post recession economy has challenged the unemployed with outdated vocational skills.

2.3.3 Active labour market policies in Finland

Below I will describe the empirical evidence of how the structural unemployment can be

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[*] Ministry of Labour, Finland, Ibid, P. 20

handled. The most obvious way to tackle this hardship is to train the workforce. However, the efficiency of trainings varies dependent on the economic cycle as well as the demand/supply of the labour market.

The main result of the work done by Hämäläinen (2002) is that in the era of high unemployment the targeted measures on the individuals with weak employment prospective are effective. In times of low unemployment it is worthless to invest into the workers with low employment perspectives. During the times of mass unemployment, trainings will not help because the pool of high skilled workers is bigger. Thus, in order to make the economy work again there is no need for the trainings as the tool for overcoming the high unemployment. The better thing would be to make a sound macroeconomic adjustment. Moreover, the author suggests that the training can even increase the frustration among trainees in times of high unemployment. Just opposite is the era of booming economy and high employment. Trainings are considered as a sign of an interest to get new knowledge, learn new skills and, therefore, are advised for the prospective workers. In his paper, Hämäläinen (2002) starts from the premise that labour market training is the least effective when it is needed the most. As the Swedish authors put: the effectiveness of the training programs is negatively related to the overall unemployment (Calmfors, Forslund, Hemstöm, 2002). From 1990 to 1993, the government responded to the decrease in employment from 74% to 60% and increase in unemployment from 3.4% to 18% by expanding the active labour market policies. The number of trainees increased during these three years by 60%. In this situation, the author is trying to estimate the model of the economic optimum of the demand/supply sides of the labour market. In general, the conception looks as following: a jobseeker looks for the compensation at least at the level of his reservation wage, whereas, the employer seeks the productivity that exceeds the search costs. Thus, there are factors determining supply and demand. The jobseeker compares the price of search and the profit from that search. Increasing the reservation wage lowers the probability of a successful matching. Unemployment benefits, net wealth and the income of the spouse are forming the reservation wage; the reservation wage also varies due to the human capital, the attitude towards work and individual characteristics. (Devine&Kiefer, 1991). The demand side is important in terms of probability of re-employment too. Of course, the non-neglected factors are the regional unemployment rate and the level of urbanization (whether the trainee comes from Uusimaa or

the rural area is important).

The data for the analysis was drawn from the population census of 1990. The original data consisted of 180 000 cases and all the participants were 13-64 years old. Three sub-samples were constructed covering 1988, 1989 and 1994. The treatment group consisted of those who started and finished their labour market training during the sample year. Control groups were the stock sample with all those who were unemployed and did not take part in trainings in the sample year. The second control group was the flow group, which was formed from the inflow to unemployment. The flow sample is a part of the stock sample, however, excluding the long term unemployed, those who started their unemployment spell before the sample year and those who experienced the transition out of the labour force a year later (after the sample year).

The amount of the stock of unemployed had risen from 3157 to 7577 by 1993. The flow had increased by 1401 from 1755 (1988) to 3156 (1993). The amount of trainees increased from 277 to 559, implying that the first reaction of government was to expand ALMPs. The record one year after the collection of the sample (in the outcome year) for the trainees (treatment group) showed 6-12 per cent higher proportion of re-employment than the controls (both flow and stock). By 1994, the impact of the urbanized "Uusimaa region" origins had vanished to zero. The reason is that the recession affected almost everyone and everywhere. People occupied in construction suffered most of all from the beginning of 1992. Interesting fact is that when the recovery started in 1994 highly experienced workers mainly led it. In the paper, this is depicted by the coefficient, which shows the affect of obtaining full working experience on the probability of being re-employed.

2.4 Plant closure as the framework for the analysis of social risks-current state of research

2.4.1 Why the empirical framework is necessary?

The aim of this part of the work is quite clear - to show social risks in the context of collective dismissals. To make this task easier and somewhat more transparent the empirical evidence of the presence of social risks in the context of collective displacement and plant closure is reported. There is, however, the disadvantage in building the main argument of this paper on the empirical literature - the data is sometimes not comparable. There is a discrepancy between traditional interests of sociologists and economists (econometrists) in studying the collective lay-offs. This difference will reveal later. However, while searching for the relevant information, I realized that there was no other way to represent the empirical obviousness of social risks else than through comparing various sources. Mainly because the proper analysis of such social risks as earning losses and declining employability demands the data consisting of several annual observations as well as the time enough to fit the empirical model. Moreover, it can also occur that two different investigations in one country are hardly comparable, but two similar observations from different states are meaningful together. That is why the estimates and examples from Italy, Germany, Norway and Finland are provided here.

2.4.2 Influential sources of knowledge

Obviously, due to the restrictions of such a small research paper as the given one, only several examples out of the voluminous literature on the social risks due to the displacement are discussed. Simply to mention some other sources: Lengermann&Vilhuber (2002), Bowlus&Vilhuber(2002) as well as (especially) Hamermesh&Pfann (2001).

The first article examines the changes in the composition of the workforce prior to the mass

layoff event (closure and downsizing) using the quarterly earning records of workers in the state of Maryland. The quartile regression analysis reveals that there are significant changes in the distribution of skill in worker quality in separation flows prior to the plant shutdown. Compared with the job flows form the non distressed firms, the distribution of skills in the worker flows from dying plant and downsizing firms has much more variance. The latter is indicating that both the best and the worst employees leave the firm before the actual closure or mass layoff. The second paper investigates whether the workers, who leave before the actual mass lay-off event, have the higher accepted average wages than workers displaced during the lay-off (plant closing). The authors used the data from the US universal wage records and concluded that workers leaving a dying firm have the higher re-employment wages than workers who stay with the company until the mass lay-off. The third source utilizes the data from one big Dutch company (the Fokker Aircraft). The results imply that the firm learns which employees are likely to quit and alter its lay-off decisions accordingly. The data reveal that there is important selection process going on in the firm before the bankruptcy (occurred in 1996). Hence one knows that the laborers, who had been staying with the firm until the layoff occurred, were disproportionately male, married, technically educated, obtaining the longer tenure and attaining more internal training courses (preserving firm-specific capital).

In this part of the paper, I will be investigating what are the social risks in the context of dismissals. It is very important to make the clear distinction between different kinds of risks connected with large-scale dismissals. One should clearly understand that the job loss could be followed by the decrease in income, the prestige of occupation (downshift of the career) as well as the earning losses. The risks above do not have a similar nature. As a result, various scientific disciplines were studying the risks from different perspectives. For instance, it is clear that the earning losses have been of major interest for econometrics; meanwhile, economic sociology could be much more focused on occupational changes. I will shortly introduce the state of art now and then proceed to the special risks I want to investigate in the current research.

It has been demonstrated that each separation entails several risks for the employee: unemployment or less pay on the next job. Those are the major risks and, therefore, I will analyze them. There are the risks of the other kind apart from the mentioned. For example, from

the last 80s, the risks of health after the plant closing can be traced (Lee, 1982). It involves less spending on the medical care (in some extreme cases as in the USA the loss of the health insurance). Economists have been pointing out the importance of the change in the consumption behavior after the dismissal. The decreased income affects the consumption in terms of saving and, more importantly, the uncertainty of the income following the dismissal.

Obviously, if there is any evidence that the earning loss or the unemployment can have a negative influence on the country's performance, steps should be taken to eliminate these effects. Recently, the EU strategies for increasing the employment rate and the economic growth have attracted a lot of attention. However, the question is still here: are the states able to follow them?

It was agreed on the so-called flexicurity conception as the guideline for the institutional change, needed in order to achieve the aims of employment and growth (A report on Austrian severance pay reform, 2006). Nevertheless, the preconditions are different in all the countries (labour market and economy development). Therefore, the EU can only produce some guidelines on how to cope with the social risks involved in the process of displacement. In particular, this paper addresses the instruments to cope with the social risks. First, I need to see how the risks of the income loss are distributed within the population of the displaced people. Another problem is how to create a clear and distinctive conception of the risks prevention. Through the distribution of the earning losses, one can see if any of the ALMP measures (such as vocational training) can have an effect on those losses. However, when the researcher explores the risks of long-term unemployment there are none of the simple quantitative indicators such as gross income.

Kletzer, based on Displaced workers survey 1981-1995, (Kletzer, 1998) mentioned that a displaced worker with a college degree in the USA has had 16% more likelihood to be employed from 1981-1995. The re-employment advantage associated with a degree has been constant since the early 80s. Displaced women were in 1995 less likely to be employed at the time of survey than men.

The same author using the same data says that short-term earning losses (difference between pre and post displacement earnings) were around 13%. Nevertheless, the one should not be misled by this average, because at the same time there are people to earn even more after the

displacement. This is a central idea for the empirical research. I will try to find the most distinctive (unusual, striking, dissonant) features of the displacement pattern of earning losses and try to explain them using the statistic method, which automatically implies finding the genuine properties in the sample rather than the chancy ones.

Technically, in Kletzer (1998) the disseminated picture of the earning losses in the "Displaced sample" 1981-1995 is explained by the fact that some redundant employees were unable to find new employment. While his ideas are useful for such a social science oriented paper as this one, it would be insufficient if I stopped here. I must find a reason for the divergence in the earning losses across the several groups of the former employees, simply because I should always keep in mind the social selectivity in the displacement.

2.4.3 Longitudinal studies of income risks

Korkeämäki and Kyrrä (2008) studied the effect of the job displacement over the entire population of earnings in Finland. The authors took two samples: one from 1992 and another from 1997. They considered all the effects of the economy during the recession and recovery. The paper is not directly related to the issue of selectivity in the process of re-employment and layoffs. This study investigates the sample of employees, which were not displaced individually but collectively because of the impeding plant closure. From workers' standpoint, this was an exogenous layoff not based on the worker's skills and abilities. The sample of 1992 has been followed-up from 1989 to 1999 and the sample of 1997 has been followed from 1994 to 2004. The samples consisted of people, who have stayed with the same employer for at least three years and were from 21 to 52 years old. The main problem of the article was to track the evolution of the earning deciles, hence, the whole sample was split by ten deciles and each of them was followed-up. Authors conclude that the dispersion in earnings increases the uncertainty of earnings after the displacement. Moreover, the occurrence of a simple reduction of the expected earnings shifts distribution left and (most importantly) there is a presence of different effects in the tails of the distribution. In the paper, it is stated that for different groups of people the earnings will start to differ already some years before the displacement.

The results of the empirical analysis are following. Obviously, the relative share of the dismissed employees was 2% higher in 1992 than in 1997. All the workers had had a significant drop in their earnings in 1992 but the situation in 1997 was even worse. In 1993, the median earnings of the displaced group were half the median earnings of the control (non displaced) group. Two years past the displacement, the earnings of the redundant employees started to converge towards the earnings of the control group.

It is striking that the first decile shows no sign of recovery suggesting a notable risk of remaining outside of the paid job until the end of the follow-up period. In 1997, the displacement effect has had a significant impact only on the men at the lower edge of the distribution; however, high dispersion (the ratio of the first decile to the ninth decile) suggests increasing uncertainty for both sexes and for both time intervals. One interesting fact is worth bearing in mind for the further analysis. There was a group of early leavers included in the samples to check the robustness of the results for the displaced. That group consisted of the people, who had been laid-off one year before the plant closure occurred. The analysis shows that in case of being displaced in 1997 before the closure in 1998 the early leavers are the "losers", who could not adopt already since 1994 showing considerable discrepancies (the earnings below the control group). The study has two main implications: 1) there is a substantial risk of loosing the income after the displacement and this risk is bigger for the people, who have been earning more than for those who have been earning less; 2) it could be interesting to investigate the discrepancies between early leavers and displaced due to the shutdown in the empirical part.

At this point, I can productively describe other sources of empirical results, which found any diversity in the risks the displaced workers are taking. For example, one source from Italy is of particular benefit because it compares workers displaced due to the downsizing of the plant, those made redundant and those leaving the plant before the closure. The author is linking the earnings with the amount of working time after the displacement (Serti, 2006). The data from the Italian institute of social security provides the histories of the high tenure workers from 1985 to 1999. From the point of view of the firm specific capital, the author considers the high tenure employees because they have been attached to the company's motivation schemes, therefore,

their post-displacement earnings could be smaller than the pre-displacement ones. The author estimates differently the aggregated wages (per week from all the sources and weighted by the amount of week worked) and the income excluding everything from the left company. Further, it should be mentioned that the post-displacement wages do not need to include the severance payment.

Descriptively, the trend looks as follows. The majority of workers were displaced due to the mass layoff but not due to the redundancy. The redundant workers and the workers displaced due to the shutdown consisted of more women and blue collars. In general, early leavers, people moved from the job in the followed-up period for the reasons other than displacement and never displaced (the control group) were younger than displaced due to the shutdown and redundancy. The group of the early leavers looks (not only in this particular study) quite divergent from the others because it includes more men in their forties and white collars from the manufacturing sector. People, who are moving from the job due to the reasons other than displacement in the followed-up year, tend to have higher earnings and higher annual earnings.

From the general overview, the cyclical pattern in Italy is the same as in Finland: the growth in the real aggregate earnings for the control group depicts the macroeconomic situation in the 1990s, while only in 1997 the earnings converged to the growing pattern. This last idea brings the consideration about the macroeconomic conditions of the region where the shutdown company was located. From the scientific point of view, it rather important to note that the author distinguishes between the earning losses of the displaced due to the plant closure, the earning losses of those made redundant and leavers one year before the closure occurs. This thought is necessary because the author is able to estimate the losses of the dismissed due to closure relatively to those redundant and early leavers.

The author decided to estimate the parameters of the earning losses and reduction in working time through OLS regression; therefore, the coefficients provided in the paper are understood in terms of elasticity. For instance, it is striking that those displaced selectively (not due to the downsizing of the plant) have started to fare worse already 5-4 years before the displacement,

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whereas those ultimately displaced (due to the shutdown of the plant) only 2 years. In relative numbers, the earning losses of the redundant employees two years before the displacement are 10% lower than of those never displaced and the losses of the dismissed due to the shutdown are 5% lower than the control group. In terms of the further empirical analysis, it is worth mentioning that I can find the evidence of the diverse behavior in groups of employees displaced because of the shutdown (as in case of The Perlos Corp.) only through observing their re-employment or the earning losses. I have no control group simply because the Perlos workers were displaced ultimately within one year after the initial negotiations had taken place. However, since the data was collected some time after the closure, I have a chance to look on how the employees fare and, consequently, track the reasons from their characteristics (social and individual).

Estimated evidence suggests that the wages started to decline before the aggregate earnings. For such groups of employees as the ultimately displaced and the redundant, the wages started to decline before the aggregate earnings. This means that one must make a distinction between the salary itself and other payment (such as severance payment) (Serti, 2006). The latter suggests that the companies are trying to save on their personnel's wages once acknowledged about the impeding closure. Another observation is in line with the proposition of Goerke and Pannenberg (2010) stating that the amount of severance pay is increasing with tenure and age.

It happens simply because the payment enforced by the court (in case of sewing) will depend on the same factors but will be bigger. Therefore, in the Italian case, the author is consciously separating this income part from the real wage. It makes sense, especially, because the sample consists of high tenure workers. According to the author, the redundant workers are worse off starting from one year before the displacement, what is indicated by the change in the significant coefficient of OLS from -0.350 to around -0,260. Those who have left the factory beforehand, have not suffered any of the significant losses. To some extent, the losses in earnings can be explained through the reduction in working weeks. Since two years before the displacement, the coefficient changed from -0.034 year to -0.135 in the first year after the displacement. However, those who separated earlier have not suffered any of the reduction in working time.

I can take the characteristics of the workers into account in order to understand the behavior of

their income. In terms of magnitude, the highest effect on the worker's losses has his age. Workers between 30 and 40 had experienced the significant losses of earnings (approx. 20%) during the time of the research. However, if the worked weeks are taken under consideration we have another proof for the idea that companies are adjusting through wage cuts. For instance, those between 30 and 40 years old have no significant coefficients for either aggregated worked weeks or spent the main job. There is an evidence of the time reduction effect on wages in the period up to 3 years after the displacement. Further, employees older than 40 did not suffer from the working time reduction but suffered from the earning losses. Blue collars have experienced the reduction in worked weeks and corresponding reduction in earnings in aggregated terms. There is interesting evidence that the major changes occurred to those employees who altered their sector of employment but not the occupation. In terms of the real main job and aggregated earnings, workers, who changed the sector, suffered substantively. However, it happened mainly due to the reduced employability. Moreover, those who changed the sector fared better than those who did not manage to. The coefficients for the earnings' aggregate variable are negative (and highly significant) instead the coefficients for the main job variable are positive (and highly significant).

The results of introducing CIG (Italian national post-displacement coverage up to 80%) are surprising. The coefficients are not significant either for reduction in employability or for the reduction in earnings (Serti, 2006).

The next notable paper comes from Finland (Huttunen, 2005), but concerns Norway. The dataset for the study comes from administrative registers and is prepared for the research by Statistics Norway. It covers all 16-74 Norwegians in the years 1986-2000. Information contains starting and stopping time of the employment relationships, taxable income, education attainment, labour market status and demography (the main job and annual aggregated income, tenure, age, years of schooling and marital status).

Sample construction: 10% random sample drawn from the overall data on plants observed in 1995. The sample contains the information on those who have been in the register at least three years before the closure (1994, 1993 and 1992). The plant is a dying one if in year t it is present and in the year t+1, t+2, t+3 and t+4 it is absent. The whole sample consisted of 7621 plants with 120 453 workers in 1995. The number of exiting plants is 415 and the number of workers at those factories is 4226. This dataset is an employer-employee matched dataset. The author can

follow the information from both sources: the labour force and the company. In total, there were 795 094 observations from 1992 to 1998. These people are further divided by separation status: the exiting plant worker - a person working on the plant at the time t, consequently, separated between t and t+1; early – leavers had been separated between t-1 and t from the plant exited between t and t+1. Another important division is the worker's moving status: the job to job mover is a person separated from a plant between t and t+1 and experienced unemployment spell neither in t nor in t+1. These are considered voluntary leavers.

The short description of the research strategy of the author can be summarized as follows: first thing to be examined is whether there are significant changes in the distribution of worker quality before the plant closure and whether the workers, who leave a dying plant in different stages, differ by their observable characteristics. Second thing analyzed is whether this selection process implies that there are differences in the re-employment wages of the workers, who leave the firm in different periods. Perhaps, for this paper the fact that the worker under investigation belongs to one of the movers group (the job to job or not the job to job) is already interesting. Employability of the displaced workers has been seen from the Italian case as a meaningful predictor of the post-displacement wages. The investigation takes into account: whether the turnover in the plants before the closure changes the skill mix, while the closure approaches. The author links the skill mix in the dying plants to the closure because getting rid of the least productive employees as well as a stop of the recruitment can follow the closure. Another hypothesis is that the workers with some distinctive properties can leave earlier, and the author constructs a model to find out the probability of leaving a plant at the time between t-1 and t from a plant exited between t and t+1.

Descriptively, the situation with the Norwegian workers looks as follows. If one were to take the information from the employer's sources into account, he would know that compared with the non exiting plants the average age has increased on the dying plants by two years from 1992 to 1995 (from t-3 to t). The average tenure has increased, which indicates the curtailment of the recruitment. Moreover, the exiting plants employ less females and less married people. If matched with the employee's panel, these characteristics are not always coherent. However, Huttunen explains them to some extent by the different weighting. The logarithm of wages from

the employer's panel demonstrates growth from 1994 to 1995 somewhat more rapid in non exiting plants than exiting (12.11-12.13 vs. 12.16-12.16). The next bit of information in the article comes from comparing the exiting plant workers with their counterparts on the continuing plants controlling for the separation status. For instance, exiting plant workers are 2 year younger than non exiting plant workers, have less tenure, their growth of earnings is slower, they come from the bigger labour markets, they are more often males and less likely to be married than those of non exiting plants. The exiting plant workers have on average more rapid growth in wages. The earnings of the exiting plant labourers one year before the displacement (t-1) are 243 500 vs. 236 500 of early leaving personnel (employees, who have left in time t-1 the plant, which has shut down in time t+1. It may be stated that the exiting plant workers attain the larger share of the firm- specific capital and are the subject of some internal wage promotion schemes. Another indirect consequence is that the exiting plant workers, who are staying with the company until the shutdown, have less chances to return to their original labour market because the latter is simply smaller than the labour market of early leaving personnel (approx. by 6000). This can be a useful way to think about the shutdown of The Perlos Corporation since the closure of the plant has had rather a negative impact on the labour market capacity of eastern Finland. One drawback of the paper by Huttunen is that the severance pay was not taken into account. There was a favorable strategy for deducting the severance pay from the aggregated annual earnings used in the article by Serti (2006).

Further, the author provides the information related to the moving status. It seems that within the labour force of the dying plants the youngest (36 years old) are likely to move job to job. They are also more educated, they have more tenure (average years 3.63) than not the job to job movers. The article has the estimates for elasticity in addition. Those, who are slightly older, have more chances to be an exiting plant worker (coefficient for staying until the shutdown is 0.004); those who have less tenure have smaller chances (-0.002); those who are less educated have fewer chances (-0.002); those, who are less likely to be married, have lower chances (-0.004). Moreover, higher earnings in t-2 predispose to be the exiting plant worker (0.005). The coefficient of -0.132 says that higher unemployment rate gives less intention to work in the exiting plant. Workers, who are to leave the exiting plant, are younger, they obtain less seniority, they are unlikely to be married and they are more educated. The coefficient of -8 shows that the

higher unemployment rate the less are the workers likely to leave earlier.

Now the post-displacement earning should be observed. Perhaps, there are significant differences in the post and pre-displacement earnings of workers, who leave the dying plant in different stages. The displacement occurred between t and t+1 (1995 and 1996) is allowed to affect the earnings from t-3 to t+3 (from 1992 to 1998). The effect of "lemon" (Gibbons, Katz,1991) or the corresponding "hypothesis of selectivity" (some employees are displaced before the shutdown) (Serti, 2006) are suggested by the fact that the "early leavers" earn less than the laborers staying with the dying company. From t-3 to t+3, the leaving staff has negative OLS estimates, whereas the stayers have all the time positive.

Since the author has the valuable distinction between groups of job to job movers and not the job to job separators, the author needs to consider them before making conclusions regarding the earning losses. Nonetheless, the solution is found: from t-3 to t+3, the job to job movers (both stayers and leavers) have no losses neither before nor after the displacement. The coefficients come from 0.140 in t-3 (1992) to 0.102 in t+3 (1998). The opposite picture for not the job to job movers is drawn: the negative elasticity estimates all over the time (-0.275 for leavers in t+2 and -0.070 for stayers in t+2). The preliminary conclusion made by Huttunen (2005) is that the negative effect is stronger for the laid – off before the closure.

At the end of the article, there is one perspective concern: those, who leave the company before the closure represent more heterogeneous group than those, who stay until the shutdown. In terms of our following empirical analysis, this phrase is rather promising because it reveals the significance of both common individual properties (such as age, gender and others) and the specific ones (such as participation in the vocational training events after the dismissal, search coaching and the like).

2.4.5 The case study of mass dismissal in Germany

Another source of information on the workers' risks comes from Gelsenkirchen, Germany. The

spun iron foundries were closed in 2004 leading to the restructuring of 200 employees. The evaluation of the process of adjusting the personnel and the entire region to this structural change was presented in the paper of Muehge, Jeske, Kieselbach and Knuth (2005). This source provides an interesting comparison of how the German workers can fare after the shutdown. Both papers have been written in management case study style, which surely has its limitation to scientific use, nevertheless, serving a great deal of support to the researcher who wants to know the practical issues. In the papers presented above, the coefficients based on aggregated data were taken into account. In case of closures in Germany, I have more of the qualitative experience reported.

The region of Gelsenkirchen had been losing its employment attractiveness since the 1960s, when the foundries merged with Thyssen were being centralized in Duisburg. Therefore, just before the closure, by the spring 2004 only 235 employees had remained. In terms of characteristics interesting for me, there have been in total four groups of employees: the pipe and mould casting workers, the group of the close to retirement labourers, sales and marketing specialists and trainees. The first group of employees was directly and severely affected. In terms of age: 70% were above 40 years, 10% between 40 and 50 and 30% - about 50 years old. In the paper, the authors are mainly interested in what has happened to these workers' groups after the closure. In general, the qualified technicians were eventually left until the very last day of the closure and were placed on the new jobs through the internal placement office and the transfer company between 2004 and 2005. The elderly workers, whose contracts were expiring in 2006, were hired to dismantle the facilities in Gelsenkirchen or to establish the relocated foundries in Czech Republic. The trainees were left to the training courses in welding. From the standpoint of cooperation in the region, it was quite a useful strategy for establishing a placement office consisted of a personnel officer and a work council representative. These people could use their informal contacts in the metal industry in Gelsenkirchen to place at least some of the dismissed laborers immediately. In fact, 40 the most skilful employees were placed in companies belonging to the ThyssenKrupp Group. This strategy was also successful during the previous waves of relocation in 1999 (the furnaces belonged back than to the French "Saint Gobain" group).

At the point of immediate placement, one comes across selectivity. Regarding the literature

described above, I should say that there were none of the early leavers. Hence, those, who were placed right after the closure, could be seen as obtaining proper skills and qualifications (professional skills as well as the knowledge of the German language), which helped them not to lose the income or opportunities to work. In total, by the end of June 2005 (one year after the closure) 108 employees, who needed an active program, have left. The program included hiring a transfer company, the company, which would mediate the active labour market policies. The instruments used by the transfer company in Gelsenkirchen were similar to those used in Finland within the Change Security scheme. The only difference was that in case of Germany, the provider of transfer services is private. In Finland, tripartite social partners take the major responsibility.

Very important for our further research is the schemes used by the transfer company, namely the following:

•   The transfer company staff takes 30-60 minutes to talk to the employees about their career aspirations and to make a sketch of the active labour program

•   Following the 1st step, the employees had to attend the job searching and applying courses

•   Then, an employee had to take part into vocational courses. Based on the market of goods dynamics, welding was especially promising.

The biggest share (75) out of 108 left employees participated in the second instrument, the medium share (33) - in the third and the smallest (17) continued their internships via the contacts of the transfer company. The results of the transfer company were named successful as the authors of the paper put it (Muehge and others, 2005). By the beginning of July 2005 there were still 51 employee left to the second transfer campaign. It makes 57 out of 108 displaced workers be either unemployed (32) or resigning from the transfer company (18) or pursuing other options. Overall, both internal placement office and two transfer campaigns managed to place 67 out of 167 employees. The authors regard the result as successful.

3. Data, objectives and methods of analysis

3.1 Objectives

I have included two datasets in the thesis and this can make the understanding about the research problem more complicated. However, I can divide the main research problem into several parts. The main research problem is social risks. Therefore, I can study the prevention of social risks and suggest some ways to cope with them. In fact, only the empirical studying of the patterns of social risks embedded in the transitions within the labour market has occupied the whole part four of the thesis. Thus, I am not attempting to make political or administrative suggestions simply because the exploratory part of the job of studying social risks is a challenge on its own. Nonetheless, the theory of transitional labour markets and active labour market policy approach provided above give the opportunity to make conclusions based on empirical results in a more generalized way. In part 2.2, it was shown how the trainings could affect the employment. In part 2.3.2 of this paper, I have described the conception of obsolete skills in the context of structural unemployment. Therefore, using the dataset of European Working Conditions 2005, I can study the effect of training in Finland. This is the first narrow research question. In their article, Jolkkonen, Kurvinen and Koistinen (2009) have described that tenure contributes to the chances of being re-employed. Thus, I have divided the Finnish sample of EWCS 2005 by tenure and analyzed the subjective perception of job loss. The fact that subjective perception of the job loss can be used as the estimator of the future displacement is very well described in article of Stevens (2006). The second narrow research question could be stated as follows: what are the risks that the former employees of the Perlos Corporation can experience? To put it more practically, what variables or their interaction can explain the risks the former employees of the Perlos Corporation may face. I will anticipate saying that the method I have chosen to utilize the Perlos data is the so-called nondependent method, unlike the majority of displacement studies. Hence, I am not revealing crucial affect that independent variable such as gender has on the income. Instead, I simply try to explore all the possible interactions between the variables of interest. However, I can judge in rather original way about the direction of the interactions

between the variables and this is done with the help of the reference coding. For instance, I will be able to infer whether women, who work manually, are more likely to be concerned about their career advancement on the new job after The Perlos Corporation.

So far, I have been mainly describing the research questions separately. Now, the inquiry is the following: what is the link between them? It would be very convenient if the Perlos questionnaire had the indicator of subjective job loss perception. In this case, the EWCS 2005 as a representation of the Finnish population would be compared with the Perlos data in the context of job loss perception. One could see the difference between the perception nationwide and of the particular group of the former employees of The Perlos Corporation. Unfortunately, there is no direct comparison because the Perlos data has no indicator of the perception of job loss. However, I tried to make the comparison possible using the indicator of importance of career advancement for the former employees of The Perlos Corporation on a new job. One will see from the analysis performed on EWCS 2005 that training can affect the perception of the job loss. I would suppose that those former employees of The Perlos Corporation, who pointed out the importance of career advancement on the new job, would be predisposed to be actively participating in vocational trainings, if there were any. In part 2.2 and 2.3.2, I have explained that the risk of structural unemployment because of obsolete skills is mitigated by the introduction of the vocational education schemes. Since the EWCS 2005 was representative of the Finnish population, I would expect that the employees predisposed to take options for the vocational trainings are less afraid of the job loss in the nearest future (6 months to 1 year). Therefore, the inclusion of the indicator of the importance of career progress on the new job is useful.

3.2 Empirical study of the EWCS 2005 dataset

In this part, I would like to know if there is difference between groups of people who have taken part in trainings provided by their employer or by themselves. I would like to know if the group of those who have undergone some trainings disagrees more intensively with the statement that they will lose their job in the next six months (starting from the day of interview, of course)

compared with those who have not undergone any of the trainings. Therefore, our H0 (null hypothesis) is that two samples come from the same distribution and, consequently, their probability distributions are equal (the probability of obtaining one particular rank in n and m is equal) (H.B. Mann, D.R. Whitney, 1947, P.50). Thus, H1 (experimental hypothesis) is that those probability distributions are different (statistically saying, they are very unlikely to be equal). To test the hypothesis the U test statistics is undertaken. It is worth mentioning that U-statistics' distribution approaches the normal distribution, when sample size n of the first group and sample size m of the second group are large. Thus, U can be converted to Z. I can estimate the distributions to be unequal if the probability of observing the test statistics greater than the critical one is 0.95. Thus, I fix the α-level at 0.05.

First, I have already said that I created two conditions (two separate groups) based on their participation in trainings. These two groups have a total sample number (sometimes referred to as the total number of participants in a study) of n=1039 for Finland. Here, I would like to note that I weighted the data with post-stratification weight with the selection probability embedded[*].

The test I have chosen shows the assessment of the future possible lay off dependent on whether people participated in the trainings and or did not; and I need to get this distinction being not caused simply by chance.

The DV's scale is ordinal and I would be conservative about its empirical meaning that is why I use Mann-Whitney test for two independent samples (groups, condition etc). Proceeding with the Mann-Whitney non-parametric test one can see that: a) the result test statistic of Mann-Whitney is significant at less than 0,017 level (Table 3); b) the sum of ranks for those who participated in trainings is higher than those who did not. What does it mean? Firstly, that the test statistic measuring the differences between two conditions is likely to occur in its distribution else than just by chance. Therefore, there is significant difference between the experimental and control group. I did not use the Monte-Carlo simulation to test the significance because our sample size is not small, instead used exact or asymptotic significance both two tailed (because I was not sure about the direction of our prediction) (A.Field, 2009). Second, the difference in the ranks

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[*] The full descriptive report could be found from here:
http://www.eurofound.europa.eu/publications/htmlfiles/ef0698.htm

tells us something about the direction of the relationships. To look at the rank sum is the same as to look at the post-hoc measures in ANOVA to understand, which group is actually different from which. In this case, those who did not participated in trainings gained higher ranks in the test. If to recall, the higher the score on the DV the more intensive is agreement with the statement of job loss. Non-parametric tests addresses not the scores themselves but with the ranks of the scores. Hence, in the outcome that I got, higher sum belongs to the experimental group and it means that the effort to train the workers has brought success to their working life. I have tested the differences between people who participated in trainings and those who did not versus the agreement with the statement (DV) "I might lose my job in the next 6 months".

3.3 Empirical study of the dataset from The Perlos Corporation

3.3.1 Data and method

Firstly, the description of the variables used in the multi way frequency analysis should be provided. The first variable used was simply gender, encoded as 1-nainen and 2-mies. The second variable was a dummy indicator of the income change. Originally, the respondents were asked to point out if their income changed and how it changed after the employment at Perlos had finished. They had several options being allowed to answer if the income rose, fell, or stayed the same after the employment relationship at the Perlos Corporation had ended. The original Finnish version of the question was "Miten ansiotulosi (palkka/yrittäjätulot) ovat muuttuneet sen jälkeen kun työsyhteesi Perlokseen päätyi?" The standardized answers were "Nousseet euroa/kk", "Laskeneet euroa/kk", or "Pysyneet ennallaan". The respondents were also allowed to express the change numerically, but I am not necessarily interested in the interval measurement here because I exploit the log-linear technique. In order to have a dichotomous indicator of the income I have recoded the answers to 1-"Laskeneet" and 2-"Nousseet ja ennällään". The third variable was an indicator of the importance of the career advancement on the job following the Perlos' employment. Recall that I eliminated all the non-employed from the analysis because

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they had lived some time using social transfers as well as the severance pay. The respondents were provided with the properties of their present (new) job and they were asked to point out what the importance of those was. The original question sounded "Miten tärkeitä alla luetellut tekijät ovat olleet sinulle uudelleen työllistymisen kannalta?" One of the properties was "uralla etenemisen mahdolisuus", which is "the prospect of the career advancement". As usually, in sociological surveys I could find 5 categories of the agreement with the statement: the first being "erittäin tärkeä", the second being "melko vähäinen", the third being "ei merkityksetön ei tärkeäkään", the fourth being "melko tärkeä" and the fifth being "erittäin tärkeä". However, in the dataset, the dichotomous variable has already been prepared through aggregating 1, 2 and 3 categories under the code "1" meaning "not important" and aggregating the categories 4 and 5 under the code of "2" meaning "important". The fourth variable used in the model was assigned for status of the job separation – either voluntary or involuntary. The Finnish version of the indicator "Työsuhteen päättymisen syy" was provided with the following two variants encoded as 1- "irtisanotut ja määräaikaiset" or 2-"irtisanoutuneet". Finally, the last, the fifth, indicator was occupational status. I aggregated manual workers (työntekijä) with the lower management (ryhmä/vuorovastaava) and, respectively, the mid-managers (toimihenkilö) with the top-mangement (ylempi-toimihenkilö) simply to follow the admitted division between the blue and white collars. There could be some ambiguity in this division, however, the assumption is needed to reduce the amount of uncertainty in the results. The coding is: 1 for workers and 2 for managers.

In the sample, there were 508 respondents. However, after eliminating all of the non-employed after the closure only 187 cases left for the analysis. One of the assumptions of the multi way frequency analysis is that the number of cases is 5 times the number of cells in the analysis. Since in the present case all the variables had two categories I need to have a bare minimum of (2x2x2x2x2) x5=160 cases. Another assumption is that the tables are well populated. The latter means that in the cells of all possible 2-way cross tables none of the expected frequencies are zero and not more than 20% of them are less than five. Our sample looks even better with the smallest expected frequency equals 18.7. The analysis was performed using SPSS® v.16. In this software, two options for the log-linear method are offered: general log-linear and hierarchical log-linear models. In terms of the model interpretation, I am primarily interested in the parameter

estimates provided by the software. However, in terms of the model building itself more of the attention should be paid to the hierarchical structure of the model. This hierarchical nature of the model gives an opportunity to refine the model should the redundant effects be found. Therefore, the first test I am interested in is the test if the K-way effects are zero (Table 5). Here I can find a redundant effect, which could then be eliminated from the model, so that to create the better-populated multi way table and, thus, bring about more power to the significance tests. Then, the analysis proceeds to the partial association table. This table tells, precisely which of the associations were significant based on the simple chi-square criteria. I will not provide the whole table in the paper, because of its size, but the significant associations will be listed. Nevertheless, the one should be careful with this bit of information because it does not necessarily controls for confounders. For example, if the most parsimonious model is fitted, then, the partial associations are already included in the higher-order effects. Further explanation illustrated with the dataset from Perlos will be available later on.

The next bit is crucial because it accounts for the hierarchy in the model I have fitted. The method called "backward elimination" starts from the saturated model and keeps on deleting the effects, which do not significantly change the Chi-square statistic for the model. The next step is a converged model, which using only the parsimonious effects, reproduces the multi way cross tab and has the value of the residuals along with normalized residuals. The latter helps to assess the fit of the model for the particular cell (thus, the combination of effects). Tabachnik and Fidel (2006) suggest re-specifying the model should any of the redundant K-way effects be found. I will do the same eliminating the 5-way effect and building up the hierarchical model once again. The next step is to find out about the parameter estimates. Those are produced by the GENLOG procedure, which simply takes the best model fitted via HILOG and calculates all the lambdas for each of the design categories. The procedure uses indicator coding and the design matrix itself should be written in either Syntax or using the panel of instruments in SPSS® v.16. The last stage in model interpretation could be the risk estimation. I would take the parameter estimates and go beyond them in the 2-way cross tabs trying to understand what the estimates could mean in the real world. A. Field (2009) suggests this "follow-up" technique. In terms of the model evaluation, I must evaluate the normality of residuals, which is similar, in a sense, to check of the normality of residuals in linear regression analysis (Figure 2).

Having introduced some of the necessary information about the software possibilities, I can proceed to the description of the saturated model, which is used the first. It should be noted that the conception of descriptive statistics could not be applied to the log-linear analysis in the same vein as it is applied in regression type analysis. Because of the dichotomous measurement, I have no options for the meaningful range or central tendency depiction. Moreover, because of the backward elimination I am going back to the original numeric information but with the explanatory tools. It also makes sense to note that due to the strict necessity to interpret the risk estimates only in terms of 2X2 tables there is no use to start the description of possible two-way association without the estimates yet. The most succinct way to start the analysis would be to provide the frequencies of the variables used. Before splitting the cases, the dataset had 223 of those who replied to the question of the career. Out of 223, a number 106 thought that the career advancement was not important in their new working place. Whereas, 117 thought that the career advancement was, actually, important. Note that the respondents who did not know whether the career advancement was anything meaningful were aggregated with those who did not assign any significance to the perspectives of promotion. Out of total 242 separated workers, only 56 resigned voluntarily and the rest 186 were dismissed. Probably, this fact is worth bearing in mind because it seems that the main effect of the job separation status could contribute to our multi way contingency table. The next variables are the income indicator and it amounts to 227 reliable responses of which 85 represent the income loss and 142 represent either maintained income or even increased. In terms of gender, I had 112 women and 193 men in the dataset. Note that this amounts to top 305 respondents who were actually employed after the closure of the Perlos Corporation. Regarding the occupational status, I will have to concern 163 blue collar workers and 143 white collar workers.

4. Results of the empirical study of two datasets

4.1 Findings from EWCS 2005 dataset

I have created three conditions for the deeper comparison dependent on the respondent's tenure. I want to know if there are differences in the perception of job loss in case of various years spent with the employer. The tenure groups are the following: 0-2 years, 3-5 years and 5-20 years. To say the truth, the last group is not contributing much to our investigation. Usually, contract duration is divided in three groups where the third one is ten years or more. However, because I have very broad EWCS 2005 data, there are more respondents in the sample than normally in the investigations I base my theoretical premises on. Because the half of the sample is working up to seven years with the same employer (the cumulative percentage is 53.5), I will focus on concerning those three groups including the majority of people. This note is important in the context of establishing the appropriate α-level. One of the assumptions of the Mann-Whitney test is worth bearing in mind. That is: both groups should have approximately equal size, so that the ranks could vary from 1 to n. In other words, the method is sensitive to very diverse group size. The smallest sum of ranks from two groups is test statistic be tested for significance and the one is dependent upon the group size (Field, 2009), (Garson, 2010).

In their original paper, Mann and Whitney set the following U-value (Mann, Whitney, 1947, P.53):

$$U=mn+m(m+1)/2-T, (1),$$

where T is the sum of the ranked scores' of one of the groups.

Hence, even if the results of significance testing in case of different group size are significant, empirical findings are senseless. At this point, the necessary thing be made clear is the level of the significance testing I decide on. Since the conditions based on tenure are introduced, several simultaneous tests are processed. Therefore, the probability of making false results (Type1 error) is multiplied. The basic way to establish the proper α-level is to divide arbitrary 0.05 by the

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number of comparisons. In this case, I have three repeated independent Mann-Whitney tests; consequently, 0.05/3≈0,017 is the acceptable probability of making Type 1 error[*] .

At first, the group of the contract duration from 0 to 2 years has approximately equal units of trained and not trained people (123 and 160). This difference is not so large and, maybe, the sum of ranks is the meaningful number. The summary rank of the group of people who have participated in trainings is 15925; the rank of those who have not is 24261 (Table1).

Table 1 Ranking of the scores of the job-loss perception. Tenure between 0 and 2 years

The dependent variable	Training participation (IV)	N	Mean Rank	Sum of Ranks
I might lose my job in the next 6 months.	yes	123	129,47	15925,00
	no	160	151,63	24261,00
	Total	283		

This is an evidence of the more intensive agreement with the statement of the DV ("I will lose my job in the next six months"). If to compare this group with the second group (tenure form three to five years), it could happen that the intensiveness of the disagreement with the DV's statement is stable (Table 2).

Table 2 Ranking of the scores of the job-loss perception. Tenure from 2 to 5 years

The dependent variable	Training participation (IV)	N	Mean Rank	Sum of Ranks
I might lose my job in the next 6 months.	yes	96	76,89	7381,00
	no	80	102,44	8195,00
	Total	176		

For example, in the previous group (zero to two years) I had around 120 people strongly disagreeing with the statement. In this group (three to five years), the intensity of the disagreement stays but the moderate agreement and strong agreement fall down remarkably.

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[*] α[PT]=1-(1-α[PF])$^{1/C}$≥ α[PF])/C, C-quantity of tests in family, PF- per family, PT-per test. See: Abdi (2007, P. 105)

Combined with equal variety of people depending upon their participation in trainings, the fact above gives good interpretation to our test. With 96 trained people and 80 not trained, the rank sum is growing in the group of not trained in the sample. This indicates that their job loss perception is facing the realities of possible job separation. The results of the significance testing allow us to tell that the picture is relatively the same in the population (Table 3).

Table 3 Test results for tables 1 and 2

Results	Table 1	Table 2
Mann-Whitney U	2725,000	8299,000
Wilcoxon W	7381,000	15925,000
Z	-3.818	-2.376
Sig. 2-tailed	0,000	0.017

The H0's described on page 34 are rejected.

The next group's results (tenure from 5 to 20 years) are not significant with Z= -0,472 and p=0.642. The descriptive picture of the sample is the same as in the previous group: the larger amount of participants in training relates to stronger disagreement, however, unfortunately, the population might behave otherwise.

Summing up, the Finnish sample from EWCS 2005 has the real diversities, which can be extended to the population. With available trainings and assistance schemes for both in work and unemployed, the disagreement with the statement implying possible job separation intensifies in the group of not trained people. This is applicable to two major conditions of contract duration (from zero to two and from three to five years).

4.2. Analysis of the dataset from The Perlos Corporation

4.2.1 Model building

Essentially, the model I am fitting is the equation to calculate expected frequencies in the multi way table, which will be than assessed using maximum likelihood. Thus, I need a model with several predictors and their interaction, which will be the most economic in maximizing the sameness of the expected and observed frequencies. The equation, based on which the estimates are calculated, takes form:[*]

$$\text{Ln Fij} = \theta + \lambda_i^A + \lambda_j^B + \lambda_{ij}^{AB} \quad (2),$$

where θ b is the constant and λ denote the parameter being estimated. One thing worth noticing is that if I were to include four of the regressors in this linear equation (as it is the case, in fact, in the research), I would receive rather long right-hand side with four 1-way effects, six 2-way effects, three 3-way effects and one 4-way interaction. Further information about the statistical specification of such a model is available from G.J. Apton (1978) as well as from a great deal of Leo Goodman's works (just to mention, Goodman (1983)).

Further, the expected frequencies received under the model are compared against the observed frequencies using the log-likelihood estimation:

$$G^2 = 2\sum f_{observed} \ln (f_{observed}/F_{expected}) \quad (3)$$

The equation (2) implies comparing the observed with the expected frequencies for each cell and then summing over the results (Cramer, 2003). The saturated model consisted of 187 cases and exploited all of the possible effects. The output of the SPSS® suggests that removing the main and the subsequent higher order (i.e. first order) effects from the model will bring about the detrimental impact on the fit of the model. In other words, if one will remove simply everything

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[*] Saturated model (with no error term) including all the effects and there interactions: **Ln Fij**$=\theta + \lambda_i^A + \lambda_j^B +$
$\lambda_k^C + \lambda_m^D + \lambda_{ij}^{AB} \, \lambda_{ik}^{AC} + \lambda_{im}^{AD} + \lambda_{jk}^{BC} + \lambda_{jm}^{BD} + \lambda_{km}^{CD} + \lambda_{ijk}^{ABC} + \lambda_{ikm}^{ACD} + \lambda_{jkm}^{BCD} + \lambda_{ijkm}^{ABCD}$

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from the model it will reduce the ability of the model to predict the frequencies in the cells of the multi way contingency table. That is a good sign suggesting the researcher to scrutinize the model. Thus, the Pearson chi-square of the K-way and higher order effects when K=1 is 170 which is significant at 0.000 level. When K=2, the chi-square statistics is also significant (83) with p < 0.000. When K=3, the likelihood ratio value equals 29, which is significant at p<0.02 level, however, the chi-square disagrees amounting to 25 with p>0.05. Tabcahnik & Fidell suggest preferring the likelihood ratio statistic to the chi-square (Tabachnik& Fidell, 2006). Removing four and higher order effects will significantly affect the fit of the model since the likelihood ratio is 14 (p<0.028) and the Pearson chi-square is 13 (p<0.042). Five-way is the highest effect and removing it from the model will not affect the fit of the latter. The likelihood ratio is 1 (p>0.05) and the Pearson chi-square is neither significant 0.58. The next bit is a sequence of tests that K-way effects are zero. Here only the effects of one particular order are taken into account, however, not undermining the hierarchical nature of the model. Those tests are of interest for our research. The first row says that removing the main effects will have a significant impact on the model. The likelihood ratio equals 89 and is significant on p<0.000 level. The Pearson chi-square statistic is also the significant value of 83. Further on, 2-way interaction are statistically meaningful with p<0.000 for the likelihood ratio, which equals 51 and for the Pearson chi-square, which equals 57. Recall what have been said before about the difference in the probability of being voluntarily and involuntarily separated. This is the evidence of the main effect, which the occupational status has. For a respondent in this dataset, the probability of being involuntarily separated is much higher than of being voluntarily resigned. Nevertheless, that was just an example. There are the main effects produced by all the variables in the analysis and each of them can contribute to all of the higher order effects. This idea is the most evident from the two-way associations. If at least some of our 2-way association significantly contribute to the model fit, then those 2-way associations have already confounded all the subsidiary main effects.

The next is the test of the possibility that 3-way effect is zero. The SPSS® v.16 output suggests that this effect can be zero with the probability of 0.115 when the likelihood ratio is 15 and the probability of 0.267 when the Pearson chi-square is 12. This bit of information says that removing of three way effects from our model has no remarkable impact on the model. At this

point, I am not yet precisely concerned, which effect is not important. As suggested in Garson (2010): "Keep in mind ..., one must retain even non-significant lower-order terms if they are components of a significant higher-order term which is to be retained in the hierarchical model".

In the case, for the 4-way interaction both the likelihood ratio and the Pearson chi-square statistics are reporting the significant ($p < 0.22$ & $p < 0.29$) values of 13 and 12, respectively. Note that the degrees of freedom for the 3-way interaction are 10 and for the 4-way interaction are 5. Thus, knowing about significant 4-way interaction I can not simply throw away all the 3-way associations because I do not know which of them are useless. This requires considering the partial associations table. This partial association table will shed some light on the nature of the effects retained in the model, however, thanks to SPSS®v.16 all the partial associations are further included in the parsimonious model as subsidiary. Nonetheless, I will stop over to discuss the partial associations later. One should be aware of the 5-way interaction, which is reported as non-significantly contributing to the fit of the model. The likelihood ratio for the 5-way term is 1 and the Pearson chi-square is 0.58 both obtaining the large probability of Type1 error ($p > 0.05$). The attention should be paid to the lower order terms. Therefore, the table of partial associations suggests that 10 effects are significant. They are:

- The 4way interaction of gender, income, occupational status and the separation mode;

- The 3way interaction of gender, occupational status and career advancement importance;

- The 2way interaction of gender with income;

- The 2way interaction of income with occupational status;

- The 2way association of occupational status with separation condition;

- The 2way association of income with career advancement importance;

- The 2way interaction of occupational status with career advancement importance;

- The main effects of gender, income and the separation mode.

All of the partial association provided above have a significant ($p > 0.05$) partial chi-square value.

As I am approaching the backward elimination method in this description, I should mention that

the result of the backward elimination will list all the effect starting from the 4-order one, but not necessarily, those effect, which are confounded by the higher order terms. For instance, I could not find the main effects on the parsimonious model because they have been included in higher order interactions.

4.2.2 Backward elimination

I can refine the model scrutinized above using either syntax or the menu of the SPSS®v16 leaving out the 5-way effect. Thus, one has to understand all possible 4-way effects employing the technique of backward elimination. In fact, the idea of this method is rather simple: "Whatever model the researcher starts with, the backward elimination algorithm will drop the least useful term one step at a time. "Least useful" is operationalized as the term, whose removal has the least effect on lowering the likelihood ratio chi-square (recall, lower=more towards significance=bad fit)." (Garson, 2010).

After re-defining the model that was used in backward elimination, all the possible 4-way effects and the most parsimonious combination of factors converged as following: one 4-way association, one 3-way association and one 2-way association. The first effect included occupational status at the Perlos Corporation, separation condition, income indicator and gender. The second included occupational status at the Perlos Corporation, career advancement importance and gender. The third involved income indicator and career advancement importance. As one can see, all the significant partial associations depicted above are easily built-in here. Tabachnik and Fidel (2006) warn that the adequacy of fit of the model should be assessed as well as the terms building the model. Therefore, I ask the system to show the residuals in the multi way contingency table. I have been writing on the previous pages about the assessment of multi way contingency (cross) table, which has only parsimonious effects. Obviously, the size of the table is enormous, thus I will restrict the description by the explanation what important shows the table. The crucial issue is the standardized residuals demonstrating the fit of the model. In fact, I have none of the standardized residuals more than the critical value of +-1.96, which indicates the good fit of the model. The biggest standardized residual found in the

table was -1.726 for the dismissed women who worked as a manager, who were able to maintain the income and who were not particularly interested in the career advancement. Our model overestimated this cell assigning almost three cases to this group, whereas, the observed value was zero. Both the log-likelihood ratio chi-square and the Pearson chi-square are non-significant for the multi (four) way table because the model converged after the backward elimination reliably matched observed to the expected frequencies. The value for log-likelihood ratio chi-square was 6.928 under 11 degrees of freedom (p=0.805) and the Pearson chi-square was 5.406 under 11 degrees of freedom (p=0.910). Another important aspect of the model fit is the distribution of the standardized residuals. They should be normally distributed. This resembles the assumption used when evaluating the regression fit. There is no surprise here since the log-linear technique employs the regression type equation. In the Figure 2, the residuals are normally distributed across the line (the line represents the normal curve).

4.2.3 Parameter estimation using the general log-linear procedure

Having said about the hierarchical model and its limitations, I can proceed to the interpretation of the model. Thus, the table of parameter estimates produced by the SPSS® v.16 is provided as Table 4. The table contains the parameter estimates column for each of the cell of the multi way table. Then it has the standard error of the estimate. One of the important numbers in the Table 4 is the standardized value of the parameter estimate and its significance value. Therefore, it is very easy to compare the different parameter estimate in terms of their importance. Obviously, I need to evaluate if the parameter is significant.

In case of five variables, I had the parameter estimates, which looked as following: constant (the average of all the estimates across the table) is 2,351, its standard error is 0,257 and the standardized estimate value is 9,139, which is, of course, significant. The first parameter is -0.517 and it represents how likely it is to be a woman with decreased income who has been working at Perlos manually and has been separated involuntarily compared with the base (reference) category. The reference in this case is a man with increased income who has been working at Perlos as a mid-manager and has resigned himself. The parameter under the

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consideration is non-significant with the p>0.05 (p=0.241), which means that if I had another sample there could be no impact on the probability to be a woman with the characteristics depicted above. The second parameter is neither significant in comparison with the reference category. Thus, in our model there is no meaningful impact on the probability of being a woman with decreased income who has been working at Perlos manually and has left the factory voluntarily.

Respondents who were women with decreased income, who worked as managers and have been fired had not significantly higher or lower probability to appear in our sample. The fourth parameter comes with the p-value on edge. The p equals 0.055 and represents the group of women with decreased income, used to work as mid mangers at least and resigned themselves. Therefore, with the standard parameters estimate equalling – 1,921 the group described above has lesser chances to appear in our sample compared with the reference category of the men with increased income who have been working at Perlos as the mid-managers and have resigned themselves. One can see that those groups differ in terms of gender and the income indicator. However, one can not say anything about the lower order effects, but only about the 4-way effect. This is possible that the difference comes from the fact that in our multi way table the probability to be men and work at the factory was higher than to be women and work at the factory. If I need to know things as these in order to avoid ambiguity, I need to brake the 4-way table into 2X2 cross tabulation with the risk estimation. The latter is available in the SPSS® v.16. The fifth parameter is representing the probability of the group of former employees with another set of characteristics against the reference category. This parameter is non-significant with the p-value equals 0.087. The non-significant parameter included women with increased income who have been workers and were fired from the Perlos Corp. The next parameter estimate includes women with increased income who have been workers and resigned themselves. This estimate equals -2,476, the standardized estimate is -3,163 and the p-value is 0.002. Therefore, opposed to the reference category, this group of former employees has higher probability to appear in our sample. The next set of the parameter estimates showed no significantly higher chances for the categories they referred if being compared with the base group:

- Women with increased income who have been working as managers and were fired;

- Women with increased income who have been working as managers and resigned themselves;

- Men with decreased income who have been working manually and have been fired.

After the sequence of insignificant estimates, one comes across another parameter, which is significantly (p-value equals 0.002) different from what could be expected by chance. The estimate is about -1.650, which is -3.056 in standardized form. The parameter represents the effect, which has the combination of the following individual cases: men with decreased income who have been working manually and who resigned themselves. The following parameter showed significance on the p-level of 0.023 with the value of the estimate of – 0.987 and standardized value of -2.266. This parameter included men with decreased income who have been working as managers and were fired. The set of figures coming after is p-value of 0.001, estimate of -3.385, standardized estimate -3.229. The figures evaluated the men with decreased income who have been working as managers and resigned themselves. Moving further, one meets the parameter estimate of the group of men with decreased income, who have been workers and have been fired. That parameter estimate is non-significant. Just opposite is the estimate of men with increased income who have been working manually and resigned voluntarily. The p-value in this case was 0.004, the estimate was -1.883 and the standardized estimate was -2.919.

The last group, which was tested against the reference category included men with increased income who have been working as managers and were fired. The p-value showed significance at 0.055 level, the estimate equalled to 0.552 and the standardized estimate was 1.917. Proceeding with the description of the parameter estimates one comes across another set of the estimates. The reference group is women/workers who have pointed out the importance of career advancement on their "after-Perlos" job ("uralla etenemisen mahdolisuus"). Repeating what has already been said about the parameter estimates in log-linear analysis, I will stop over the fact that the parameter estimates reveal concentrated effects. The distribution of cases belonging to the sample is influenced by the category the case is assigned to. The probability of an individual to appear in a cell in our multi way table depends on what is the category he/she belongs. For the present sample, being a man can have the higher probability than being a woman. Moreover, the

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combination of being a man and being a worker can give the higher number in the cell than other combination of effects. Then these observed frequencies of the cells are tested against the hypothesis of the absence of difference between the observed frequencies and expected by chance. That is how I try to reproduce the saturated multi-way table but leave out the unnecessary (in the programme's opinion) effects. These observations are collected under the title of "parameter estimate" and produced by the SPSS® v.16 in the output.

If the reference group is women-workers who have pointed out the importance of career advancement, then the first estimate is given to the group of women-workers who have not pointed out the importance of their career advancement. This estimate is 0.236, which is, surely, non-significant. Another parameter estimate is given to the group of women-managers who have not pointed out the importance of career advancement. This estimate shows the probability of the above-described group to appear in the sample versus the reference group of women-managers thinking of career advancement as of nothing meaningful. The estimate is -1.923, significant at p<0.001 level. Then, I have the estimate for the group of men-workers who did not think of career advancement as of something reasonable against the reference group of men-workers who have pointed out the importance of their career advancement. The estimate is -0.130, not significant. The next number is controlled for occupation. The non-significant (-0.211) estimate for the group of men who have not mentioned the importance of career advancement versus the group of men who have done so. Under the controlled for occupation, I mean that those men were managers in both groups.

Table 4 Parameter estimates for the model

Parameter	Odds	Estimate	Std. Error	Z
Constant	10.5	2.351*	.257	9.139
Female*in.dec.*manual*separated	0.59	-.517	.440	-1.173
Female*in.dec.*manual*resigned	0	-21.131	3707.725	-.006
Female*in.dec.*manager*separated	0.5	-.688	.477	-1.443
Female*in.dec.*manager*resigned	0.36	-1.025*	.534	-1.921
Female*in.inc.*manual*separated	0.45	-.771	.451	-1.709

Female*in.inc.*manual*resigned	0.085	-2.476*	.783	-3.163
Female*in.inc.*manager*separated	0.40	-.090	.401	-.224
Female*in.inc.*manager*resigned	0.41	-.878	.519	-1.692
Male*in.dec.*manual*separated	0.61	-.494	.420	-1.176
Male*in.dec.*manual*resigned	0.19	-1.647*	.539	-3.056
Male*in.dec.*manager*separated	0.37	-.987*	.436	-2.266
Male*in.dec.*manager*resigned	0.03	-3.385*	1.048	-3.229
Male*in.inc.*manual*separated	1.52	.420	.341	1.232
Male*in.inc.*manual*resigned	0.15	-1.883*	.645	-2.919
Male*in.inc.*manager*separated	1.73	.552*	.288	1.917
Male*in.inc.*manager*resigned (base)		0	.	.
Female*manual*minor car. adv.	1.23	.236	.411	.573
Female*manual*major car. adv. (base)		0	.	.
Female*manager*minor car. adv.	0.14	-1.923*	.535	-3.596
Female*manager*major car. adv. (base)		0	.	.
Male*manual*minor car. adv.	0.87	-.130	.303	-.429
Male*manual*major car. adv. (base)		0	.	.
Male*manager*minor car. adv.	0.80	-.211	.260	-.811
Male*manager*major car. adv. (base)		0	.	.

(Table 4 continued)

The asterisks represent significance of the estimate on p<0.05 level. In. inc. =income increased; in. dec. =income decreased; separated=involuntary separation from The Perlo Corp.; resigned=voluntary separation from The Perlos Corp.; manual=manual worker; major car.adv. =career advancement on the new job is important; minor car.adv. =career advancement on the new job is not important; base=reference group.

4.2.4 Odds of an event

In equation (2), one can use the exponentiation of the right-hand side to obtain pure frequencies in the left-hand side. Thus, (2) becomes:

$$F_{ij} = \exp^{\theta + \lambda_i^A + \lambda_j^B + \lambda_{ij}^{AB}} \quad (4)$$

Now, the exponents of parameters (lambdas) become the odds (Hosmer&Lemeshow, 1991).

The estimates in Table 4 come in form of exponents. Odds are easier understood in terms of comparing different opportunities for groups of workers. Therefore, I can illustrate the odds for the significant 2- and 3-way effects. 1-way effects are not informative, 4-way effects' illustration requires more than this paper, therefore, will be considered without deeper breaking them down. Thus, I'll start with the first significant 4-way effect. For an individual case in our sample it is unlikely to be a woman, whose income decreased, who has been working as a manager and has left voluntarily. The chance for this event is 0.36 that of the event of being a man with an increased income, who has been working as manager and who has left the company voluntarily as well. In real life, it means that within the group of managers who have left the company there will be more men with increased income than women who became poorer after the termination of the contract in September 2007. The next situation is described by the significant odds to be a woman with an increased income, who has been working as a manual worker and has resigned herself. The odds are 0.085 that of the reference group (a man with an increased income who has been working as manager and who has left the company voluntarily). Leaving out the statistical language, I must say there were more men who maintained their income and it happened to their occupational position after the closure had occurred. Moving further, the significant odds to be a man, whose income decreased, who has been working as a manual worker and resigned himself, are 0.19 against being a man with an increased income, who has been working as manager and who has left the company voluntarily. Again, being manager regardless ones gender improves chances to maintain the income in case of voluntary termination. However, it may be that the manual workers (if to follow the literature discussed in previous part of the paper), should be better off in case they do not move from the factory. This can be evident from the other estimates. The next significant estimated odds are of a man with decreased income, who has

been working as a manager and was fired. Those odds are 0.37 versus the reference group. Thus, it is more likely for a case in the sample to be a man with an increased income, who has been working as manager and who has left the company voluntarily. The next parameter, which has almost no mistake across all of the possible samples one could have collected is the odds of 0.03. This shows virtually no chance to the men who have been working as managers and resigned voluntarily to lose their income. This parameter has only one difference from the reference category. The difference is in the income. Therefore, this is very likely that a man who has been working as manager and who has left the company voluntarily, will have his income increased on the new job after Perlos. Almost the same with the odds of 0.15 is applicable to the category of men who have increased income, who have resigned themselves and who have been working as manual workers. In the sample, one will rather meet managers who did not lose the income and left the company. The latter can happen simply because the manual workers tend to stay until the end of the operation and leave involuntary. I might suppose that there are the bigger shares of the manual employees who have maintained their income being the manual worker and who have resigned themselves versus the identical case but with voluntary termination. Thus, voluntary termination is not advised for the manual workers. My coding does not contain the direct comparison of every group to every other group. Rather, I have some reference category. This can be seen as a drawback.

Earlier I have already stated that out of total 242 separated workers only 56 resigned voluntarily and the rest 186 were dismissed. Obviously, if the model is correct I will expect the odds for the group of dismissed (all the other being equal) to be bigger against the odds of the group of voluntarily resigned. The odds are 1.73 to be a man whose income has increased, who has been working as manager and who has been dismissed. Therefore, I have more than half chances to meet this person in the sample than the one of the reference. The baseline person has resigned himself and it seems quite clear that the dismissed male managers did not suffer from the income loss more than those who left earlier.

Now, I would like to break down the odds estimated from the three-way effect of gender, the importance of career advancement and occupation in the Perlos Corporation. If one looks at the Table 6, one sees that within out of 34 women managers 7 thought of career advancement as

nothing important. At the same time, out of 40 women-managers 24 thought that career advancement was important. If the second group is the reference than the estimate suggests that, the odds are 0.14 towards being woman-manager, who is not interested in career advancement on their "after-Perlos" job. If I calculate these odds by hand, I will get: $(7/34)/(24/40)$= $0.205/0.6$=0.341 This somewhat higher than the program's calculation. However, the confidence limits for the estimate are from -2,971 to 0.875. In form of the odds, this is from 0.05 to 0.41. Hence, the figure for odds is well within the confidence limits and the figure could change across several samples within these and only limits. The estimate for the group described above was the only significant estimate for the 3-way effect. It can be noted that according to the career is an important factor for the women on their "after-Perlos job". The illustration provided in the Picture 1. The next illustration comes from the two- way effect of income and career advancement. As one can see from the list, there is the significant estimate (2.23). However, this refers does not refer to the odds but to the odds ratio. In order to understand the interdependence of the frequencies in the two-way table (in the appendix it is Table 7) I need to see the whole table and not only the estimates. The odds equal 2.23 show the overall fact that the income losers are prevailing in the sample over those who managed to maintain the income. However, I can track from the Table 4 that the odds to have the decreased income within the group of interested in career advancement are $(28/75)/(71(121)$ =$0.373/0.586$=0.636. This is rather a mall value showing a lot more chances to meet those who maintained their income in the groups of the career concerned. The illustration is in the chart in the Picture 2.

5. Conclusion

The main research problem of the paper was social risks. I have attempted to study them within the framework of the transitional labour market theory and active labour market policy approach. If I will try to discuss the results if the solution to this problem from the paper, I will need to mention the literature results once more, briefly.

For the most part, those workers, who are separated involuntarily from the job before the impeding closure, are worse off. However, the economic cycle matters much because, for instance, in case of Finland, the recession of 1992 even the employees, who discontinued the job voluntarily, became income-losers. Such a phenomenon holds true because the society becomes for the most part segregated during the very hard times, and only those, who have already obtained the biggest income share are better off during all the cycles (recession and recovery). Studies from Italy suggest the big difference between the displaced selectively (not due to the downsizing) and displaced due to the shutdown or downsizing. The former experience the income loss for 4-5 years prior to the closure of their company. The longitudinal studies from Norway suppose that the main aim of the displaced employee for whatever reason should be re-employment. The employees, who are younger and more educated, move from job to job and, thus, secure their income. Those who are older and have more tenure stay longer until the end of the company's operation. Other research shows that, in line, with the conception of the Swedish economists, the transfer should be organised from the declining sectors of the market of goods' and services to the increasing ones. This idea works regardless the economic cycle, because it has been created specially for hard times (see: 2.2).

The Perlos Corporation had very strong gender pattern, which reveals itself in the fact that women have twice more chances of receiving the lower salary than men. Occupation is a significant predictor of the income dynamics. The officials had far better chances to maintain their wage after the separation, than manual workers did. Tenure also played an important role. Those working in Perlos less than four years have more chances for the better income on the new

job than those with high seniority.

Thus, basically, the high probability of avoiding the risk of losing income was assigned to young, upper-level employees with short-term contracts. Within the results produced in this paper, we can distinguish between the following.

Firstly, there is quite an unclear pattern in the risks, which could be faced by women. For example, female officials, who left the company early, were not able to demonstrate higher or lower chances to maintain the income versus male ones. It means, that in some occasions some part of women in population could perform better, in others – could not and there is no trustful generalization from our sample. It can be stated that the behavior of men was easier to estimate and, therefore, there is some gender segregation involved in the selectivity and risk patterns during the corporation's death. Quite trustful are the estimates of the advantages of upper-level men voluntary leaving the plant over several other groups of men. For instance, income will be likely to decrease for manual workers. This is quite clear with the significant odds reported above and in line with the suggested preceding article. From the number of the literature sources used in this paper, the conception of firm specific human capital is evident. The basic argument verified in different studies states that those, who upper-level employees attain better education and, therefore, keep the income stable because the other players in the labour market can appreciate their skills. In the contrast, those who spent many years with the same employer (for the most part in the lower positions) have firm specific human capital and are relatively worthless to the open market. In the research by Jokkonen et al (2009), this is verified. In the given paper, the evidence of the same phenomenon could be suggested from the following observation: men-manual workers with increased, who have quit the job in the Perlos voluntarily income have virtually no odds to be in our sample versus the group of managers with the same features. From the parts 2.4.2 and 2.4.3 of this paper, I know that those, who have high expectations of income from the open labour market tend to quite earlier freely. Both our paper and the preceding research by Jolkkonen et al (2009) prove that only the upper-level employees will benefit from the earlier voluntary termination of the job. Therefore, it seems that social selectivity works in Finland in rather the same manner as everywhere else.

The further discussion I would suggest based on this data is how to take into account

(methodologically) macroeconomic balance between wage-settings and labour supply? The case of Perlos is unique in a sense that the shutdown led to a meaningful fall in the local employment rate. Released labour force tends to exert pressure on the wage's growth (see 2.2). What is the share of this effect in explanation of the income change apart from the predictors that we have used in this paper? Alternatively, probably, in the situation of the declining employment rate the released labour force can only partially put pressure on wages, but, for example, socially selected, high-qualified leavers will enter such the labour market where the wage setting is not very sensitive to fluctuation in the local employment rate.

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Appendix

Table 5 K-Way and Higher-Order Effects

|	K	df	Likelihood Ratio		Pearson	
			Chi-Square	Sig.	Chi-Square	Sig.
K-way and Higher Order Effects	1	31	170,687	,000	166,369	,000
	2	26	81,388	,000	83,206	,000
	3	16	29,631	,020	25,367	,064
	4	6	14,121	,028	13,087	,042
	5	1	1,024	,312	,585	,444
K-way Effects	1	5	89,299	,000	83,163	,000
	2	10	51,758	,000	57,839	,000
	3	10	15,510	,115	12,280	,267
	4	5	13,097	,022	12,502	,029
	5	1	1,024	,312	,585	,444

Table 6 Cross Tabulation of the three-way effect of occupation and importance of career advancement (significant only for women)

gender					Ammattiasema Perloksessa		
					työntekijät	toimihenkilöt	Total
nainen	Uralla etenemisen mahdollisuus ((var279x) career advancement as important	1,2,3 ei tärkeä	Count		27	7	34
			Expected Count		19,8	14,2	34,0
			% within Uralla etenemisen mahdollisuus ((var279x) career advancement as important		79,4%	20,6%	100,0%
			% within Ammattiasema Perloksessa		62,8%	22,6%	45,9%
		4,5tärkeä	Count		16	24	40
			Expected Count		23,2	16,8	40,0
			% within Uralla etenemisen mahdollisuus ((var279x) career advancement as important		40,0%	60,0%	100,0%
			% within Ammattiasema Perloksessa		37,2%	77,4%	54,1%
		Total	Count		43	31	74
			Expected Count		43,0	31,0	74,0
			% within Uralla etenemisen mahdollisuus ((var279x) career advancement as important		58,1%	41,9%	100,0%
			% within Ammattiasema Perloksessa		100,0%	100,0%	100,0%

Table 7 Cross-Tabulation of the two-way effect of income and importance of career advancement

			Uralla etenemisen mahdollisuus ((var279x) career advancement as important		
			1,2,3 ei tärkeä	4,5 tärkeä	Total
income	1,00	Count	47	28	75
		Expected Count	37,1	37,9	75,0
		% within palkkatarecod	62,7%	37,3%	100,0%
		% within Uralla etenemisen mahdollisuus ((var279x) career advancement as important	48,5%	28,3%	38,3%
	2,00	Count	50	71	121
		Expected Count	59,9	61,1	121,0
		% within palkkatarecod	41,3%	58,7%	100,0%
		% within Uralla etenemisen mahdollisuus ((var279x) career advancement as important	51,5%	71,7%	61,7%
	Total	Count	97	99	196
		Expected Count	97,0	99,0	196,0
		% within palkkatarecod	49,5%	50,5%	100,0%
		% within Uralla etenemisen mahdollisuus ((var279x) career advancement as important	100,0%	100,0%	100,0%

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Picture 1 Bar chart representing the three-way effect of occupation and importance of career advancement; significant for women
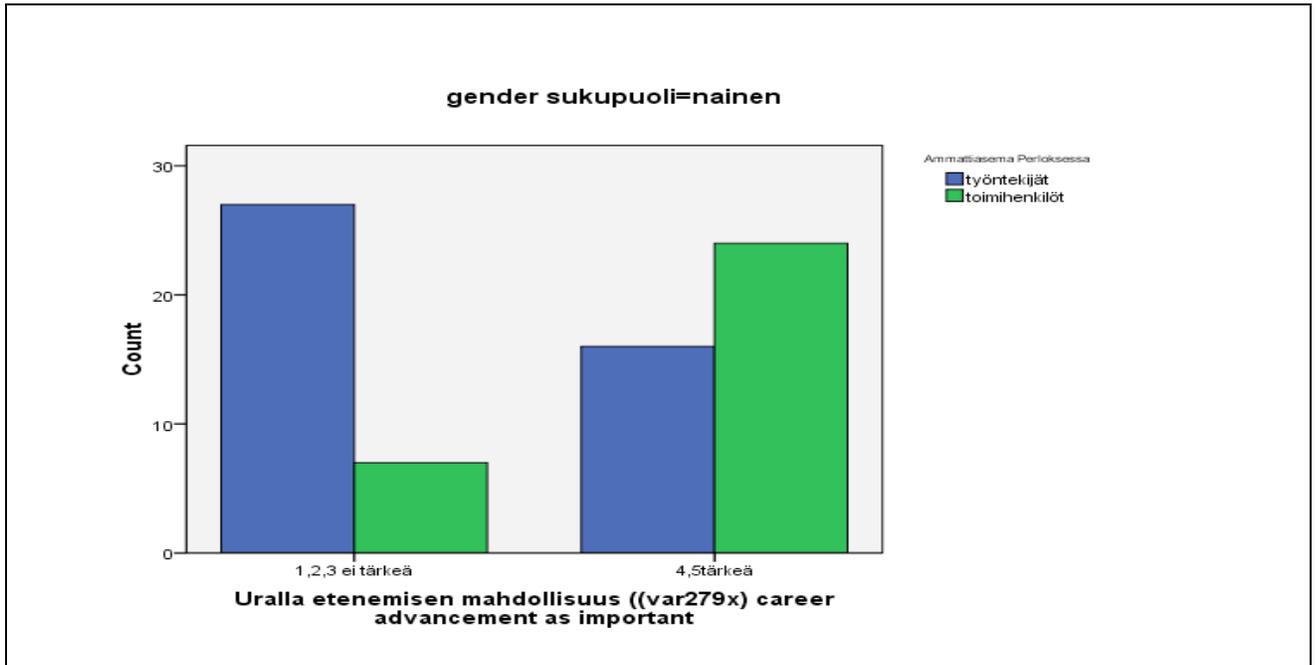
Picture 2 Bar chart representing the two-way effect of income and importance of career advancement
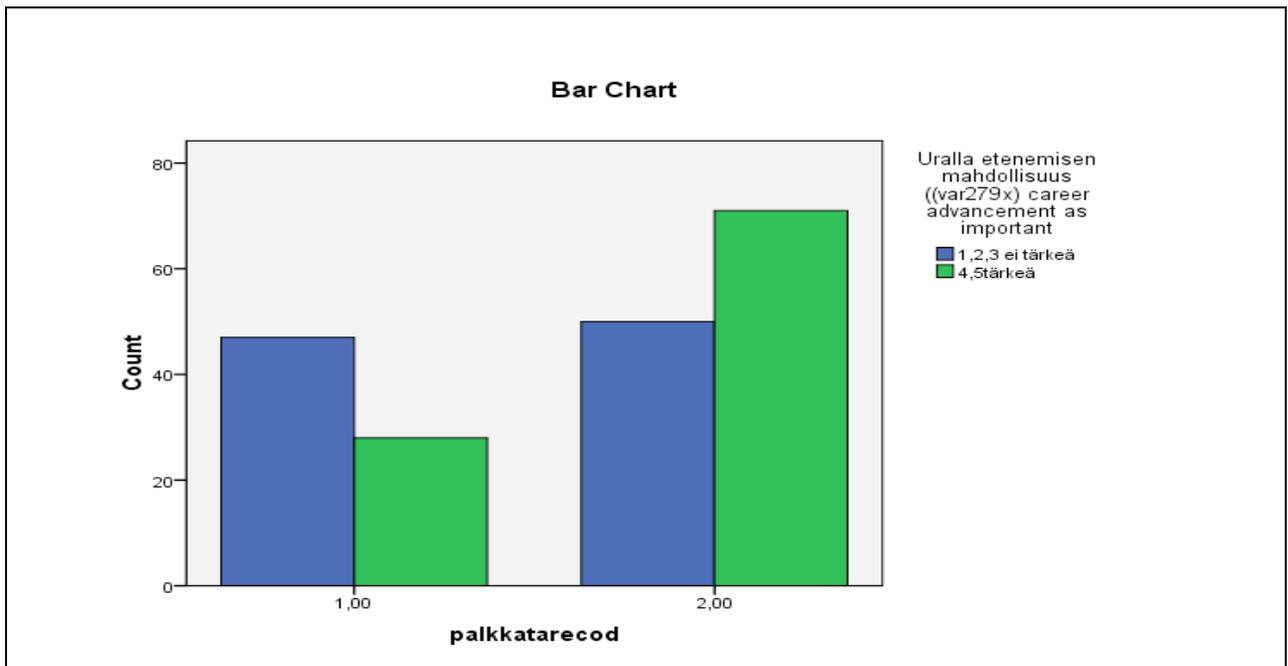
Figure 1 Flows of unemployed between 01/2004 and 12/2004. The Finnish labour market
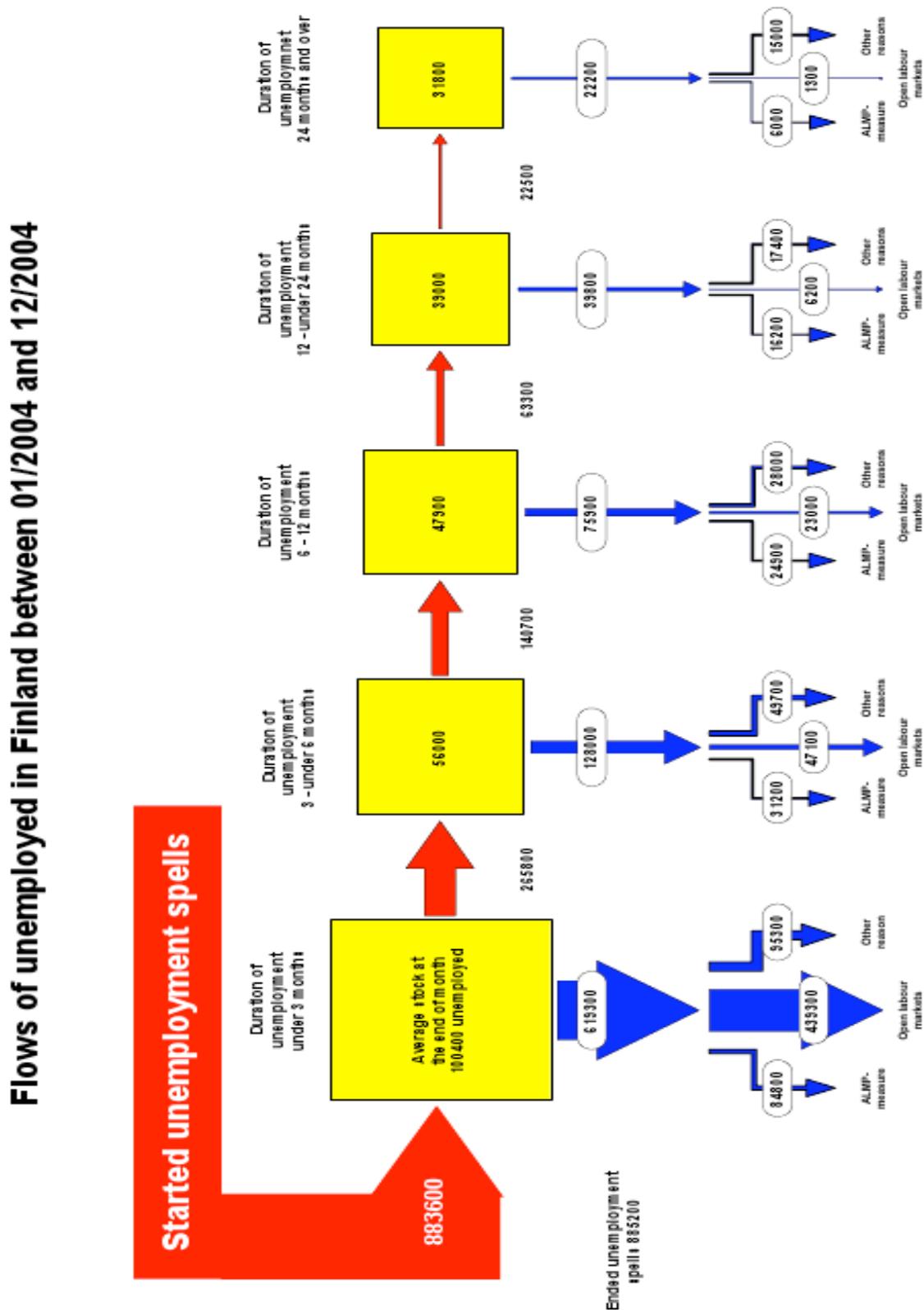

Flows of unemployed in Finland between 01/2004 and 12/2004

Figure 2 Evaluation of the fit of log-linear model

Normal Q-Q Plot of Adjusted Residuals