Occupational Mobility and Market Transition: The Capital, Autonomy, Power, and Education (CAPE) Model in Hungary

Zoltán Lippényi, Utrecht University
Theodore P. Gerber, University of Wisconsin-Madison

FIRST VERSION, CONCLUSIONS AND DISCUSSION NEEDED TO BE INCLUDED

THE PAPER WILL BE PRESENTED AT THE RC28 MEETING IN BRISBANE, JULY 2013

Introduction

There is large interest in sociology towards social stratification processes in countries which experience transition from a socialist to a capitalist economic system. The promise of this research is that market transition could unravel the mechanisms through which economic and social institutions shape social inequality. The fall of Central and Eastern European socialist regimes, arguably the most important large-scale institutional change the last decades provides a great opportunity to study stratification processes under institutional change.

In this paper we focus on a central thread of social stratification and inequality research, occupational mobility. We propose a model of occupational mobility based on theoretically derived dimensions of occupational resources, Capital, Autonomy, Power, and Education, estimate its parameters using data from surveys conducted in a former socialist country Hungary in the late period of communism, early in transition from state socialism to a market-based economy, and in a later period of this transition.

In this paper we address two broad issues concerning social mobility. First, was there a distinctive social mobility regime under state socialism? Although numerous comparative mobility analyses have analyzed current and former state socialist countries (e.g. Grusky and Hauser 1984; Erikson and Goldthorpe 1992; Breen 2004) and others have analyzed individual socialist countries (Kolosi 1988; Ganzeboom, de Graaf, and Robert 1990; Wong and Hauser 1992; Gerber and Hout 2004; Robert and Bukodi 2004; Bukodi and Goldthorpe 2009), these studies have focused on whether and how state socialist societies depart from capitalist societies in their pattern of occupational mobility rather than explicitly modeling one or more distinctive

dimensions of mobility that directly reflect the unique institutional features of state socialist society. We argue that a better test of whether state socialist societies exhibited particular mobility patterns incorporates test for at least one such dimension. We propose that the signature institutional feature of state socialist societies is the domination of political and economic life by the Communist Party and that the power associated with Party membership represents a discrete resource which parents in state socialist regimes would seek to pass on to their children. Occupation was not the only basis for party membership, but it was an important one, since Communist Parties typically sought to recruit members from occupations deemed most important. Accordingly, the extent to which occupations were saturated by the party—easily measured as the percentage of incumbents in an occupation who were party members during the socialist era—provides a simple way to measure the power dimension of occupations under a socialist regime. Whether or not an individual was a member of the party, if his/her occupation was more heavily saturated by party members than other occupations it suggests that that occupation was endowed with disproportionate power in the state socialist institutional context, providing incumbents with corresponding resources to be passed on to children. Although researchers have studied the earnings returns to Communist Party membership in societies undergoing market transition (Nee 1989; Rona-Tas 1994; Bian and Logan 1996; Gerber 2000a; Gerber and Mayorova 2010), they have not examined whether political power –manifested in Communist Party membership– represented a separate and significant dimension of occupational mobility prior to, during, and after transition. Note that our approach, which conceives of CP membership rates as a characteristic of occupations, differs from the analysis of CP membership as a direct path to elite status under socialism (e.g. Walder 1995; Walder, Li, and Treiman 2000).

The second issue we raise is whether market transition affects the patterns of inter-generational occupational mobility? The study of whether and how market transition affects social stratification has focused largely on earnings and other intra-generational processes such as labor market transitions (Nee 1989, 1991, 1996; Xie and Hannum 1996; Gerber and Hout 1998; Zhou 2000; Gerber 2002; Walder 2002; Wu and Xie 2003; Domanski 2005). However, it is possible that the institutional changes associated with market transition affect inter-generational occupational mobility as well (Walder and Hu 2009). Gerber and Hout (2004) argue that market transition increases the positive and negative earnings returns to occupations, effectively raising the stakes associated with occupational attainment and therefore producing tighter associations

between occupational origins and destinations. Other research finds growing effects of parental background on educational attainment in post-Soviet Russia (Gerber 2000b, 2007). We argue that the institutional changes associated with market transition should not only affect the overall association between occupational origins and destinations, but also change the relative importance of different occupation-based resources. In particular, we expect occupational earnings (C in our CAPE model) and occupational autonomy (A) to become more prominent components of occupational inheritance as a result of market transition. The anticipated changes in the education dimension €, are theoretically ambiguous: on the one hand education appears to have become a more important determinant of earnings in post-transition societies; however, on the other hand, under socialism education represented an especially important measure of status due to the more equal distribution of earnings across occupations relative to market contexts.

Scholars are divided on how political power (P) –our fourth dimension of occupational resources– shapes individual outcomes during market transition. Proponents of the market transition model (Nee, 1989) expect that the influence of political power as determinant of different forms of social inequalities will decrease and eventually, disappear due to market forces. Others, however, argue that political connections before transition remain an important aspect of stratification even after the communist party loses its institutional control on economic redistribution (Walder 1995). The larger question, of possible interest to sociologists from various research fields studying post-communist societies, is whether newly formed market economies successfully established a market-based distribution of economic and social outcomes and effectively rule out political favoritism, or that political power remains an important aspect of social inequalities in former communist societies.

To research these two questions empirically, we propose a model of social mobility with separate dimensions of occupational inheritance - Capital Autonomy Power Education (CAPE) - and test changes in their magnitudes in the course of Hungary's path from socialism to capitalism. Jonsson et al (2009) represents a mobility model for modeling the processes of social reproduction within occupations or micro-classes. They apply a model which extensively documents the sources of occupational immobility attributable to occupational-level rigidities, and those to larger classes. We propose an alternative approach to modeling mobility in disaggregated tables. Our model identifies the different theoretical dimensions of mobility, by scaling occupations with multiple scaled dimensions (Hout, 1984). The model further

incorporates horizontal movement across occupations which are in the same occupational 'situs', and mechanisms which lead to affinity and disaffinity between certain occupations.

The paper is structured into 7 parts. We first lie out the general rationale behind the CAPE model. Second, we specify the four vertical dimensions of this model –capital, autonomy, power, and education - and lay out hypotheses on their influence on social mobility under state socialism in Hungary. Third, we specify hypotheses on how these dimensions of the mobility regime change during market transition. Fourth, we describe the data, the measurements and the statistical model we used. Fifth, we test the CAPE model against other frequently used log-linear and log-multiplicative models on a 67x67 mobility table constructed from Hungarian mobility surveys, concluding that the CAPE model outperforms all other models. Sixth, we estimate CAPE models with components changing across gender, cohort and period. We find uniform differences in the vertical components between male and female respondents, and find that changes we observe across periods reflect institutional changes associated with the transition out of state socialism and not result from the demography of cohort replacement. Finally, we present the estimated parameters from the CAPE model and test our hypotheses.

The CAPE model of micro-class mobility: vertical effects, occupational situs, and specific channels and barriers

Occupational mobility researchers have proposed a range of models for the study of how occupational origins and destinations are related. Two broad types of models have their adherents: association models which empirically scale row and column occupational categories and represent the association between these categories using a single parameter (Goodman, 1978), and topological models that theoretically specify regions in the mobility table with distinctively high and low rates of mobility between them (Erikson and Goldthorpe, 1992). Needless to say, hybrid approaches combining elements of both these strategies abound (see Wong 1992; Hout and Hauser 1999).

Jonsson et al. presents a new model for the analyses of microclass mobility, combining elements from both association and topological models of mobility. The main focus of their approach is to represent intergenerational reproduction within micro-classes which they achieve by modeling unique diagonal effects for each origin-destination micro-class in the detailed 82 x 82 occupational mobility tables. Their model also allows excess mobility between micro-classes that

fall in the same bigger class, and a scaled (socio-economic) term to model vertical mobility between micro-classes of similar socioeconomic status.

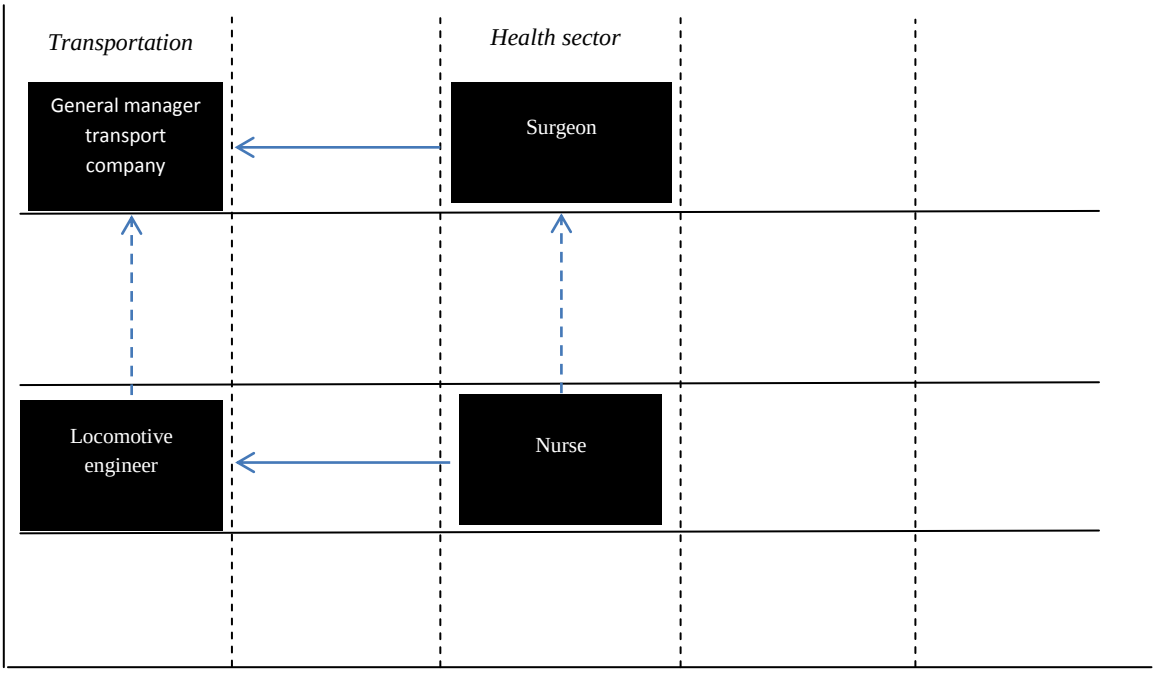
The specific aim of Jonsson et al. – in line with the more general efforts of micro-class approach to capture inequalities on the occupational level (Weeden et al. 2002, Grusky and Weeden, 2002, Weeden and Grusky, 2012) – is to illustrate that there are occupational-specific rigidities in social reproduction which large-class analyses do not capture. Owing to the admitted focus of their paper on immobility, the representation of vertical patterns of mobility between micro classes remains rather simplistic. Jonsson et al. suggest themselves that their model can be extended by scaling occupations by the kinds of skills or cultural capital or social networks that are distinctively associated with them, with the expectation that mobility between these occupations would then be greater, the closer they were according to such scaling (p 991).

An additional drawback of the approach of Jonsson et al, stemming from their focus on immobility, is the excessive number of parameters in their model used to represent the diagonal association. While their modeling strategy is successful in pointing out microclass rigidities above big-class rigidities, it is difficult to apply their model to describe the patterns of mobility and immobility in a parsimonious and interpretable way.

Jonsson et al´s modeling attempt is the only up to now that takes up the task of modeling association in disaggregate mobility tables. This paper extends mobility research with a new model. We apply the modeling principle of Hout's SAT model (1984) to the micro-class table. Hout's model conceives of occupational mobility (and immobility) in terms of movement (and fixation) across scaled vertical dimensions, identified as Status, Autonomy, and Training from theory. The CAPE model similarly examines multiple vertical dimensions that determine the pattern of movement and immobility in the microclass mobility table. The model improves on Jonsson et al's work because (1) we are able to model more dimensions of occupational stratification than the one driven by socioeconomic status differences (Coleman, 1988; Wong, 1992; Goldthorpe and Chan, 2006), and (2) we present immobility using much less and theoretically more informed parameters than Jonsson et al.

We extend Hout's SAT model as well. By adding a "power" dimension of occupations we modify Hout's original model in a manner that applies to state socialist societies but may also be relevant to market societies. By explicitly specifying the earnings and autonomy dimensions of occupations (our "capital" and "autonomy" indexes) we isolate the characteristic of occupations

Figure 1 Illustration of horizontal and vertical mobility form Origins to Destinations in the CAPE model



Horizontal differentiation:
OCCUPATIONAL SITUS

Mining
Machine industry
Chemical industry
Light industry
Food industry
Construction
Agriculture
Forestry
Transportation
Trade
Personal service
Health services
Educational services
Cultural services
Administration & government
Law & police
Public service

Vertical dimensions: CAPITAL – AUTONOMY – POWER – EDUCATION

Note: origin-destination movement across situses: ⟶ origin-destination movement across one or more vertical dimensions: -->

that is probably most salient in market contexts. Our "education" dimension is equivalent to Hout's "training" but it is broader because it captures the different ways that education can serve as a resource (which include, but are not limited to, training).

Our model further extends previous work on microclass mobility by adding horizontal channels of mobility between occupations. Jonsson et al finds that there are excess intergenerational mobility between occupations which might be related to the fact that these occupations cluster together in certain sectors of the economy–e.g. high intergenerational exchange between carpenters and painters, suggesting a construction branch effect. Erikson et al (2011), and Goldthorpe and Chan (2006) view this form of horizontal differentiation as return to the concept of occupational 'situs'. Occupational situses, originally developed by Morris and Murphy (1959) are industries, branches or sectors in the labor market which have common values, norms, and attitudes, and can incorporate occupations even with widely differing socioeconomic resources. An example of a situs we use transportation. Transportation which a wide range of occupations such as the general manager of a transport company, aircraft pilots, but also occupations such as

mail career and truck driver. Occupational situses can be seen as intermediary groups that provide group membership, common interests, goals, tastes, and sources of information. Returning to our example, transport workers in most industrialized countries have their own formal organizations (such as trade unions), informal meeting opportunities (yearly balls, sport clubs, charities) which bond occupations and shapes the opportunity structures of people to meet, influence and exchange information. These situs effects can be influential on intergenerational social mobility. A daughter of son of a locomotive engineer is expected to accumulate substantial knowledge about and a general interest in transportation, have a number of people in her or his network that have origins in transportation. Even if this daughter or sons achieves high educational qualifications and thus chooses a different educational path than that of a locomotive engineer, the chance that this daughter or son of the locomotive engineer becomes a skilled professional in the transportation sector (e.g. manager at a transport company) is higher than that for daughters and sons from socio-economically similar origins but not within the transportation sector. We therefore propose that there is an intergenerational situs effects in occupational mobility which we model with scaling occupations with the extent to which they are embedded in different situses. Figure 1 illustrates our model with vertical and horizontal components.

Capital and education

The most important dimension of intergenerational occupational mobility is the socioeconomic dimension. The two components of the socioeconomic dimension, capital and education, influence the transmission of intergenerational resources through a number of mechanisms which produce a strong intergenerational association between occupations endowed with similar socioeconomic resources. Capital, which we operationalize as income earnings, can play a part in intergenerational mobility through investments in education. Parents with high capital can invest in the education of their children who can study longer, get admitted to more prestigious schools, acquire more credentials, can participate in extra-curricular tutoring to achieve higher grades, and thus get access to better and higher-paid jobs. Income can also influence occupational reproduction through preferences for consumption patterns and lifestyle acquired in the family environment. Children from high consuming and affluent families prefer jobs that give them similar economic resources to be able to reproduce the lifestyle of their families. The importance of education in intergenerational inequality is well known from the literature on social

reproduction (Bernstein 1975; Bourdieu 1977; Bourdieu and Passeron 1977; Collins 1979; DiMaggio 1982; DiMaggio and Mohr 1985). Families with high educational background transmit more cultural resources to their children than lower educated families, which positively influences the educational careers of their offspring, direct them towards occupations which require educational credentials.

Capital and education produce different theoretical mechanisms, but they are empirically so strongly related in determining social mobility that they are usually merged in a single measure in applied mobility research. The correspondence between the mechanisms of education and income, however, is one shaped by economic institutions. In market economies, we find strong correspondence between capital and education because general market mechanisms reward human capital with higher wage and differentiate between educational trajectories and credentials based on price, competition, admission requirements, partially reflecting occupational earnings capacities. We expect however, that in the context of command economies, such as Hungary until 1989, income and education have differing strength in determining occupational mobility. We therefore separated these two dimensions in our CAPE model.

The mechanisms related to capital are expected to be particularly weak, if not absent in most state socialist countries, as well as in communist Hungary. The most important reason is that income differentials between occupations are low compared to market economies (Atkinson and Micklewright, 1992). In command economies, wage bargaining on the labor market is largely absent as the price of labor is determined by central wage-setting policies. As the general aim of wage policies is to keep income inequalities low, manual labor is usually rewarded with relatively high salaries opposed to managerial, supervisory, and professional professions. In addition, a large range of consumption goods are absent on the market due to economic shortages (Kornai, 1992) and central price-setting kept price differences of products. *We do not expect that capital differences explain the pattern of intergenerational occupational mobility under communism in Hungary.*

Was the communists' "grand experiment of destratification" as successful in ruling out the influence of social origins in educational inequality as it was in equalizing income differences? State socialist governments of Hungary took policy measures in education as well, such as quota's to promote the access of individuals with working class and agrarian origins to education (Simkus and Andorka, 1982). At the same time, the aim of state socialism was to establish an

educational meritocracy in occupational allocations (Luijkx et al, 2002). Investigation in the temporal differences in the origin-education association in Hungary show that both aims have failed. With respect to origin-education association, an initial decline in educational inequalities halted by the period of reform communism of the 1980s (Hanley and McKeever, 1997; Bukodi and Goldthorpe, 2010). The education-destination association was high in early socialism, but decreased in later periods (Bukodi and Goldthorpe,2010; Luijkx et al,2002). Comparisons between Hungary and market economies show that the general patterns with which occupational class origin determines education and conversely, education determines occupational class destination are basically the same (Ishida, Müller, Ridge, 1995). The foregoing considerations point out that, in any case, we cannot expect that educational as a vehicle for social reproduction was ruled out under communism in Hungary, and so, *we expect that educational mechanisms partially explain the pattern of intergenerational mobility under communism.*

Autonomy

There is ample evidence that autonomy of an occupation has strong intergenerational transmissibility (Hout and Rosen, 1999; Hundley, 2006; Sorensen, 2007) and it is also conceived as an independent dimension of intergenerational occupational mobility (Hout, 1984). Autonomy, usually equated with self-employment, is transmitted between generations through mechanisms of role modeling, internalization of certain dispositions which are characteristic of entrepreneurship (i.e. self-sufficiency) during socialization, property inheritance, and in small-scale businesses early career involvement in business operations (Hout, 1984, Hout and Rose, 1999). The mechanisms of autonomy are contingent upon institutions, just as in case of capital and education. In communist economies self-employment and private property ownership is restricted, or in many cases even criminalized. In socialist Hungary, the proportion of self-employed did not exceed 3 percent of the labor force in Hungary (Róbert and Bukodi, 2006). In the 1980s, entrepreneurial work activity, labeled as the second economy (Gábor, 1989), began to grow in the form of non-registered side jobs, occasional part time work, or as a "second informal shift" at the workplace where one had a full-time job. The second economy became first widespread in the agricultural sector (Szelenyi, 1988). In fact, according to estimates, the large majority of family farms –approximately 1.7 million - engaged in "secondary" agricultural production of various size – ranging from self-sufficient farms to farms with large-scale

marketing (Gábor and Galasi, 1981). The emergence of the second economy can influence intragenerational mobility during the communist period (see Szelenyi and Manchini, DATE). However, because occupational origins were to a large extent not self-employed, we do not expect that *autonomy explains the pattern of intergenerational mobility under communism in Hungary*.

Power

In market societies, distribution of economic resources is driven by market forces, and political power is expected to be less influential on life chances (Parkin, 1971). In communist command economies the single political authority, the Communist Party (CP) controls the distribution of the means of production between different production sites (Kornai, 1992), as well as the allocation of jobs (Walder, 1995), social rewards, quality housing; and other privileges (Szelenyi, 1983; Matthews, 1978). In systems where the party and the state are intertwined, a number of economic and social privileges are only accessible through political connections, and therefore, political power in the form of political information and network capital can be an important determinant of life chances. Wong's study on intergenerational educational attainment has already shown that CP membership of parents increased educational chances of their children (1992). We extend Wong's work by suggesting that political power is likely to emerge as an independent dimension of intergenerational social mobility.

Political capital was deeply embedded in certain occupational fields and that political saturation shaped the pattern of intergenerational reproduction and mobility across occupations. Specifically, the following processes may have operated in conjunction with each other that lead to the political saturation of occupation fields.

1, As the CP control of state bureaucracies, party officials take the most important bureaucratic positions. As the locus of political decision-making is the CP, the government has a merely executing task. The organization of the party is likely to mirror the organization of the government and state bureaucracies with the same functionaries in similar position in the party, government, and state. This way, certain occupations, mainly in governmental positions, are filled with party members [Djilas, 1949].

2, Rank-and-file CP members can be assigned to supervisory or controlling positions in various sites of production, factories, schools, farm collectives, with the intent of providing information

to party officials on the production, sending "morale reports" (literary translated from the Hungarian expression *hangulatjelentés*, meaning reports on the political morale of workers) or investigate the political reliability of individual workers. The inverse process also occurs, when the CP approaches individual workers to be the hand of the party, promising promotion at work or other benefits. This leads to the expectation that party saturation was great among middle-managers and supervisors.

3, Certain professional occupations, especially those that have connection to political authorities (e.g. legal professions) or protect national security (e.g. members of armed forces) may had more rigorous and careful selection processes in which political loyalty was monitored and documented. These occupations, due to selection based on political loyalty, are expected to show higher party saturation.

4, The CP will exert more effort to promote membership in some occupations than in others. These occupations are those which are ideologically and policy-wise favored by the CP, such as industrial working class occupations, or those occupations which are deemed to be important by the party to transmit the ideology, such as creative and educational professions. Such political mobilization campaigns took many forms and were often organized on the job floor: working collectives participated together in official party events, such as Labor Day, party officials paid regular official visits to production sites, work action campaigns were held and workers who produced more than the production norms were rewarded, lectures on the communist ideology were given to workers or reading clubs were organized for workers to get acquainted with the CP literature. The occupations which are in this way politically mobilized are likely to trigger greater number of membership in the CP.

Occupations determine life chances, shape experiences, preferences, expectations, as well as personal networks, the kind of people one meets and activities do during leisure. Based on these general mechanisms, *we expect that political power contributes to a stronger intergenerational association between occupations saturated by the communist party during the state socialist period*. This occurs through the following specific processes:

1, The more the party saturates a given occupation, the more likely that political considerations shape the hiring, promotion and the evaluation criteria, the way how professional ties are formed, through which channels information is gathered, and which strategies are applied to get ahead (see Stark and Vedres 2012 on the role of political party connections as an example from the

post-communist context). These "know-hows" are forms of specialized occupational knowledge that are passed through in the families of occupational origins which can be advantage for destinations in getting to occupations which are also saturated by the party.

2, People with occupations which are heavily saturated by the party are likely to have people in their personal and professional network with political power. These formal and informal connections can be mobilized to ensure their children's admissions to preferred schools and educational tracks, and to specific jobs, given the CP apparatus's presence in all major educational and work institutions (Szelényi and Aschaffenberg, 1993; Mateju, 1993; Walder and Hu, 2009).

3, Socialist plan economy creates acute shortages in everyday consumption goods (cars, telephones, building materials, housing and sometimes even clothes and food items), resulting in long waiting lists for consumer goods (Kornai, 1981). Needless to say, institutions governed by the CP were responsible for the distribution of consumer goods and for the managing of waiting lists. The distribution was often organized through the workplace, that is, employees received certain goods and services via their employer who received that from central distribution. The redistribution system, coupled with shortage, made place for bargaining and influencing in which political networks and capital were important. Individuals in occupations heavily saturated by the party might benefitted from the political connections of their supervisors by getting notified earlier when one consumption item arrives, or get goods and services that cannot be purchased on the market for others (see Szelenyi, 1983; Matthews, 1978). In this way, consumption and lifestyle differences have risen, not through differences in earnings as in market economies, but through structural advantages in political networks, themselves embedded in occupational fields. As a consequence, children from occupational origins who are privileged by their political connections could develop lifestyle and consumption preferences which they can best reproduce by choosing occupations that have similarly high political capital.

4, Party saturation can have further influence on political preferences, friendship formation from a very young age. Individuals in occupational origins with high party saturation might also involve their family in party activities as expression of their loyalty (out of genuine belief or fear of surveillance and reprisal), for instance by promoting membership in the communist youth movement in their children. Early experiences with the CP, connections with peers from similar, politically saturated origins can shape schooling and occupational choices, strengthening the

influence of political capital, and directing individuals towards occupational destinations saturated by the party.

Market transition in Hungary and intra- and intergenerational mechanisms in capital, education, and autonomy

The market transition literature debates the nature of changes in inequalities after the transition and how this is contingent upon institutional changes. In any case, there is agreement that changes in stratification are likely to occur during transition, and that these processes involve processes related to economic, human, and entrepreneurial capital. The state's withdrawal from the labor market, the privatization of certain sectors of the economy and shift from redistributive to market principles result in an increase in power of direct producers relative to redistributors (Nee 1989, 1996; Nee and Cao, 2004) leading to growing benefits of the private sector employees and entrepreneurs. Market transition theory also predicts that as rewards for market-based activities and performance increase, returns to human capital increase. Those with higher human capital will be better able to respond to the challenges of the market economy, learn new skills, and negotiate on the price of their labor. Demand for human capital on the labor market also increases. Finally, the emergence of markets alters the nature of opportunities available to actors. Opportunities to become entrepreneur and its rewards increased as the redistributive economy gave way to markets.

Following the collapse of communism, the Hungarian government relinquished central control over wages and retreated from regulating markets. The government's withdrawal from the labor market, the rapid privatization of certain sectors of the economy and the change from redistributive principles to market principles have resulted in an increase in occupational differences in income (Nee 1989, 1996; Nee and Cao 2004) as well as a simultaneous increase in overall earnings inequality. Even sectors which remained in the hand of the state, such as education and health, partial marketization occurred which increased the earnings possibilities of professionals. We suspect that a wage hierarchy typical of market economies emerged in Hungary as market institutions have gained prominence in the Hungarian society.

With respect to a few exceptions (Gerber and Hout, 2004 and Walder and Hu, 2009) the market transition literature focuses on intra-generational mobility, i.e. who were the winners and losers in terms of occupational outcomes after the transition. Gerber and Hout (2004) hypothesize that

the strengthening of market principles increases the overall earnings inequality of occupational origins and destinations. Growing earnings inequalities intensify the competition for higher-paying occupations and the negative consequences of having a low-paying occupation. These developments propel intra-generational job mobility involving *regression towards origins*: those who were downward mobile with respect of their origins because the socialist redistribution system disadvantaged them, but have substantial human and entrepreneurial capital in their family (e.g. children of pre-communist intelligentsia, managers, and large proprietors), are likely to enjoy a advantages in the competition and return to the social origins. Those who were upwardly mobile during communism, but do not possess family resources, are likely to be downwardly mobile during market transition. In Gerber and Hout's definition, these intragenerational processes would likely lead to a strengthening of the origin-destination association[1]. The question is the following: is the argument of *regression towards origins* applicable to the effects of capital, education, and autonomy on intergenerational mobility in transitioning Hungary.

The *regression towards origins* argument to the Hungarian case is applicable insofar as children of pre-communist elites in Hungary were displaced with respect to the capital, education, and autonomy of their origins. If there was no or little status displacement under communism, return to origins are expected to have a minor or no effect on intergenerational mobility. With respect to capital advantages, sons of former managerial, supervisory, professional, and entrepreneurial elites were clearly disadvantaged in the early communist period (Szelenyi, 1998). We suppose replacement on the capital and autonomy dimensions after transition, and therefore, expect the strengthening of the association between origins and destinations endowed with high capital and autonomy during transition. Former research has extensively investigated whether former elites in Hungary were disadvantaged in education (see Szelenyi, 1998, Andorka and Simkus, 1982), but apart from the increasing odds of lower educated origins to enter higher education during communism, pre-communist professional elites and intelligentsia were able to reproduce their educational capital. As we do not expect displacement and return to origins in education, the association between origins and destinations endowed with high capital and autonomy during transition is not likely to change through regression towards origins mechanisms.

[1] Szelenyi's theory on interrupted embourgeoisment (Szelenyi 1978, 1988) is based on somewhat similar processes.

Next to *regression towards origins*, there could be intergenerational mechanisms at play during transition, leading to a changing influence of capital, autonomy, and education. The economic resource-differentials of occupational origins are expected to increase due to the steeper career earnings profile of occupations under market circumstances (Gerber, 2002). As competition for better paying jobs increases, higher-income Hungarian families are expected to rely on their income-based resources to safeguard a good-paying occupation of their children. At the same time, price-differentials across products and availability of consumption goods increased and consumption patterns have diversified in Hungary [Bukodi,] which can intensify the effect of parental occupational earnings on occupational choice. We thus expect the *strengthening of the association between origins and destinations endowed with high capital during transition*.

Similar intergenerational processes would be expected on self-employment as entrepreneurship resurged in Hungary in the 1990s. However, earlier researched did not show strong intergenerational transmission of self-employment in the early 1990s (Róbert and Bukodi, 2004). Rather, self-employment formed a life-stage in the period of transition from school to work (Róbert and Bukodi, 2005), or, as self-employment was subsidized by the government, it was a strategy to escape unemployment (Róbert and Bukodi, 2004).

The character of entrepreneurship has changed during transition. The high unemployment figures of the early years of market transition (13.9 percent according to Kőllő (1995) in 1993) dropped to 7-8 percent by the end of the decade. High-unemployment, the driving mechanism behind forced self-employment, is also specific to the early phases of transition. The number of self-employed, who were forced into self-employment to avoid being unemployed, reduced and a new bourgeoisie class emerged in Hungary; a group of large entrepreneurs who gathered entrepreneurial experiences in the second economy during communism and can be considered as winners of the market transition (Kolosi and Sági, 1998). Among these "real entrepreneurs" greater intergenerational inheritance of entrepreneurship can be expected. Based on these considerations, we expect *stronger association between origins and destinations endowed with autonomy during the later periods of transition.*

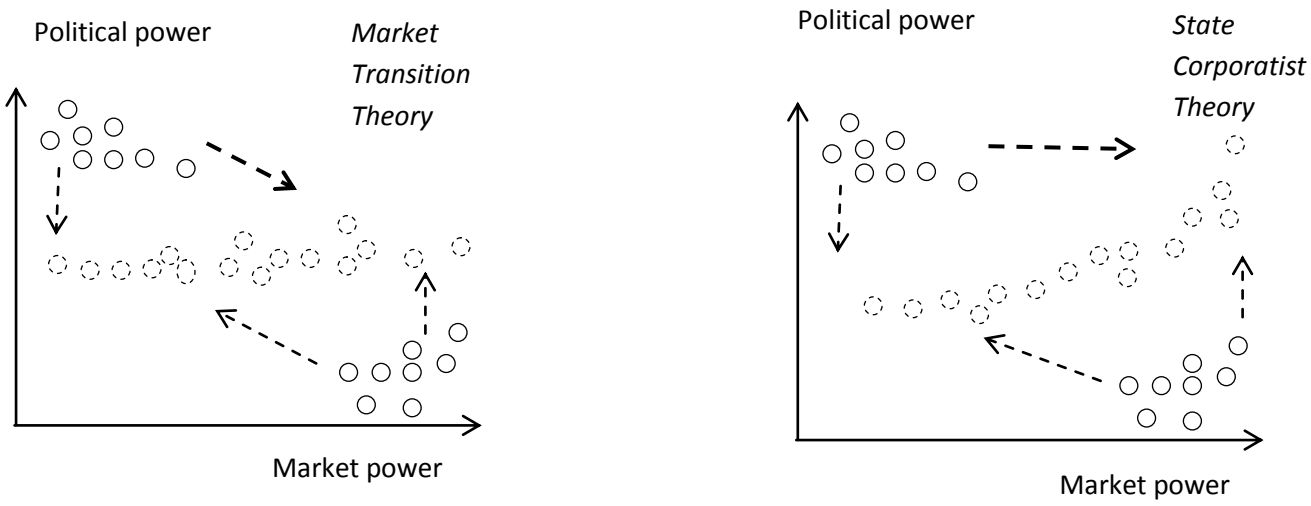
As education becomes a more important asset on the labor market following transition, one might expect increasing competition for educational resources, strengthening the association between origins and destinations endowed with high educational resources (cf. Collins, 1979; Grusky, 1984). However, earlier research shows that association between occupational class

origins and education only slightly increased following the market transition in Hungary, and– contrary to the expectation of market transition theory- the education- occupational class destination association even weakened during transition in the 1990s (Bukodi and Goldthorpe, 2010). Bukodi and Goldthorpe explain the weakening education-destination association by the loosening constraints of the command economy on employment selection, giving employers more freedom to select from candidates. The smaller-than-expected increase in the origin-education association can be attributed to the simultaneous expansion of tertiary education and professional and clerical jobs. As job opportunities were available to the growing number of graduates the competition for resources did not increase. We thus expect *constant association between origins and destinations endowed with high education during transition.*

Market transition in Hungary: market transition theory vs. state corporatist theories

The market transition literature is divided on the issue whether the power of political cadres and political capital declines under market transition. Proponents of *market transition theory* suggest that political capital will be important as long as the state continues to own and control important assets and political elites will have advantages, but as markets become more competitive, the power of political institutions will diminish (Nee and Cao, 2004). *State corporatist theory* state that the market transition theory places too much weight on the markets and neglects the role the capital, networks and skills of the political elite play under market circumstances and to the extent to which political elites from the earlier period could rescue and convert their power to advantages under market economy (Rona-Tas, 1994; Walder, 1995; Walder and Hu, 2009) Their suggestion is that marketization does not necessarily lead to a declining influence of the political elites of the ancien regime: even in the absence of redistributive institutions, cadre elites can use their political connections by becoming (or remaining) involved in enterprises in *specific occupations*, such as managers, middlemen, as consultants, or otherwise capitalize their skills and connections they created under socialism. The dense social networks that were created and maintained during socialism, through which bargaining with the central control occurred, might serve as an important asset following transition. Figure 2 provides a schematic description of occupational movements in the two-dimensional space spanned by political power and market power based on the two theories. The market transition theory proposes that differences among occupations in political power decline and structuration occurs in terms of market power. The

Figure 2 Positioning of occupations along political power and market power and changes following transition



state corporatist theory also expects structuration on market power, but that political power persists, and it usually aligns with economic power.

Given these two theoretical schemes, our expectations on the change of the influence of political capital on intergenerational mobility are the following.

1, Under the model of market transition theory, as political power declines in influence, the *association between* origins *and destinations endowed with high political power prior to the transition diminishes and eventually disappears during transition.*

2, Under the model of state corporatist theory, the mechanisms which we sketched on political power will still operate long after the abolishment of state socialism. Therefore, we expect that *association between origins and destinations endowed with high political power prior to the transition diminishes, but does not disappear completely*.

Table 1 Summary of the hypotheses

	before transition	*early transition*	*late transition*
Capital	0	+	++
Education	+	+	+
Autonomy	0	+/0	++
Power – MTT	++	+/0	0
Power - SCT	++	+	+

Notes: MTT – Market transition Theory, SCT – State corporatist theory
++ | + declining association by dimension, +/0 increasing association or no change

Data and Measures, and Model

Our data come from six different surveys conducted in Hungary from 1983 to 2005 (see Table 2), including two from each of three periods: the pre-transition era (pre-1989), the transition era (1989-1998), and the post-transition era (post 1998). We restrict our analyses to non-retired members of the labor population who are employed, self-employed, or temporarily out of the labor force (e.g. maternity leave). Consistent with recent trends toward disaggregated analyses of occupations, we analyze the 67-class mobility table. Some of the occupational micro-classes in the original 82-class scheme advocated by Jonsson et al (2009) were too small or empty and therefore we chose to merge similar small classes. Our core measures consist of four vertical CAPE dimensions of occupations, specified as follows: Capital (C) is the percentage of incumbents in an occupation with above-median earnings, Autonomy (A) is the percentage of self-employed, Power (P) is the percentage who were CP party members during the socialist era, and Education (E) is the percentage who completed tertiary schooling.

We apply period-specific scores for C, A, to capture effects of growing income inequalities across occupational groups and privatization of economic sectors. As the transition period saw educational expansion in the tertiary sector, we used period- and cohort-specific scores for E.

Scores for A and E were estimated separately for origins and for destinations. Origin scores of C are equal to the C scores estimated for the pre-transition era as income of father's were not measured in the mobility surveys. However, as the measurement of occupational origins relates to the period when the respondent was 14, the late communist period of income measurement of origins corresponds to the majority of the survey. Origin and destination scores of P were estimated by pooling the answers from surveys of 1986, 1992, and 1993.

Table 2 Data sources

Survey	*Year*	*Investigator(s)*	*N*
Social mobility and life history survey	1983	Kulcsár Harcsa	15832
General Social Survey	1986	Kolosi	3039
Social mobility and life history survey	1992	Andorka	10919
Social stratification in Eastern Europe after 1989	1993	Treiman and Szelényi	1850
Way of life and time use survey	2000	Falussy	4231
EU-SILC Hungary	2005		5850
Total			*41721*

Note: a small constant (0.01) was added to all cells, sample size in the analyses can slightly differ

The horizontal components of the CAPE model were measured by the percentage of incumbents of an occupation in each of the occupational situses (see Figure 1 for the complete list of situses). The situs scores were estimated from the 1992 dataset which included a detailed battery of occupational situs divisions. The situses broadly correspond with the situses Morris and Murphy (1959) suggest, but some modifications were necessary to be applicable to the industrial-agrarian features of the Hungarian labor market. We distinguished different branches in Manufacturing, and separated Mining and Agricultural and Forestry within the original Extraction situs of Morris and Murhpy. We elaborated the non-manual situs dimensions further than Morris and Murphy did: we distinguish between Health services, and Public Services which were in the Health and Welfare situs, and created a Government situs, different from Law & Police situs, which were in Legal Authority in the original situs scheme. The full list of origin and destination-specific scores per period can be found in Appendix A.

We estimate the following log-linear model:

$$\ln(F_{ij}) = \alpha_i + \beta_j + b_1 C_i C_j + b_2 A_i A_j + b_3 P_i P_j + b_4 E_i E_j + b_5 D_i C_i C_j + b_6 D_i A_i A_j + \boldsymbol{c S_i S_j} + \boldsymbol{d C_i B_j}$$

the natural logarithm of the cell frequencies $\ln(F_{ij})$ are modeled by the fixed origin-destination marginal effects α_i and β_j. C, A, P, E are Capital, Autonomy, Power and Education in occupations i and j, and D=1 if i=j and 0 otherwise. Similarly to Hout (1984), we explain immobility by scaling the diagonal with one or more dimensions. The independent variables which we designate to explain mobility are Autonomy and Capital. The two scaled diagonal

parameters b_5 and b_6 indicate that for entering certain occupations, property, specific entrepreneurial experience, or high amount of financial capital is needed, which are likely to be provided by the same occupational origins, leading to higher reproduction in these occupations. While Hout also uses the "training" dimension as a predictor of immobility, our education dimension captures more general effects of human capital than his "training" dimension, and therefore do not use as predictor of immobility.

The **S** scores indicate the occupational situs. The mobility literature identified specific channels and barriers of mobility that vertical or horizontal dimensions do not adequately capture. Erikson and Goldthorpe present a solution by merging class affinities and disaffinities among the occupations into two effect matrices, a positive and a negative affinities matrix. While this is a parsimonious solution, research practice shows that the patterns of affinities and disaffinities are different across countries (cf. Breen 2004) which leads to adjustments to these matrices and comparability problems. Our solution is to measure such channels and barriers explicitly with scaled interactions, which is somewhat less parsimonious, but allows testing whether specific channels and barriers exist. In our model , **CB** stands for the specific channels and barriers. The class specific barriers and channels are the following:

- *Agriculture → Education*: this parameter reflects known rural-urban inequalities in access to educational provisions in Hungary (cf. Simkus and Andorka, 1982) Agrarian origins, predominantly located in rural areas, have smaller odds to enter occupations requiring higher education than non-agrarian origins, ceteris paribus.
- *Agriculture → Autonomy*: the parameter reflects a barrier between agrarian origins and destinations with high autonomy, producing lower mobility than what we would expect based only on the autonomy dimension alone. This is due to the effect of agrarian collectivization in the 1960s which turned agrarian workers, whose father's were self-employed, into employees.
- *Agriculture → Educational sector*: this parameter reflects a specific channel –thus positive association- between agrarian origins and teaching occupations.
- *Education → Educational sector*: this parameter models a barrier between high-educated origins and destinations in the educational sector producing lower mobility than what we would expect based only on the education dimension.

- *Agriculture → Construction* and *Construction → Agriculture*: these channels between agrarian and construction occupations reflect the prominence of both situses on rural labor markets, their complimentary character due to on the one hand seasonality, and on the other hand, their involvement in the second economy during socialism.
- *Machine industry → Agriculture*: this parameter models a barrier between origins in machine industry and agrarian destinations

Table 3 Descriptive statistics and correlations

Destinations				
	Mean	Std	Min	Max
education pre-transition	0.23	0.31	0	1
education transition	0.34	0.32	0	1
education late-transition	0.44	0.34	0.05	1
power	0.12	0.10	0	0.52
autonomy pre-transition	0.03	0.06	0	0.28
autonomy transition	0.09	0.12	0	0.61
autonomy late-transition	0.13	0.13	0	0.75
capital pre-transition	0.55	0.28	0	1
capital transition	0.46	0.28	0	1
capital late-transition	0.52	0.24	0	1
Origins				
	Mean	Std	Min	Max
education pre-transition	0.17	0.29	0	1
education transition	0.29	0.36	0	1
education late-transition	0.35	0.35	0	1
power	0.12	0.10	0	0.52
autonomy pre-transition	0.08	0.14	0	0.90
autonomy transition	0.09	0.13	0	0.73
autonomy late-transition	0.05	0.09	0	0.50
capital	0.55	0.28	0	1

Note: descriptive statistics represent occupational aggregates

Pre-transition	education	power	autonomy
education			
power	0.50		
autonomy	-0.16	-0.20	
capital	0.51	0.62	-0.02

Transition	education	power	autonomy
education			
power	0.55		
autonomy	0.00	-0.07	
capital	0.58	0.58	0.18

Late-transition	education	power	autonomy
education			
power	0.55		
autonomy	0.11	-0.04	
capital	0.82	0.66	-0.04

Results

We compare the fit of the CAPE model with that of other frequently used models of mobility in order to assess whether our model gives a better representation of Hungarian mobility patterns (Table 4). Data were pooled across periods and weights were applied to equalize the effective sample size for each period. We rely on the BIC which is standardly applied for non-nested model comparisons as an index of fit. The BIC prefers model with both fit and theoretical parsimony. We first compared the vertical components of the CAPE model (9) with SES-scaled linear-by-linear models and different diagonal specifications (4-6) to assess whether a multidimensional specification of the vertical dimension improves the one-dimensional specification. The CAPE vertical model outperforms all linear-by-linear alternatives. The vertical components model performs even better than the micro-class-reproduction model proposed by Jonsson et al. (2009) (6) which includes micro-class immobility parameters, overlaid above EGP-class immobility and gradual SES effects. The vertical components model is nevertheless less preferable than the Core Social Fluidity (7), and the quasi row-and-column effect models (2-3). After including the horizontal components to the model (10), the BIC prefers the CAPE model above the Core Social Fluidity model. The model now also performs better than the equal row-and-column association model with EG diagonals in terms of BIC (2). Only the row-and-column association model with micro-class diagonals (3) produces a better fit. The full CATP

model (11) which includes specific mobility channels and barriers outperforms even this model in terms of BIC.

Table 4 Model comparisons

	Model specification	*-2ll*	*df*	*BIC*	*p*	*D*
1	Null	27984	4356	29399	0	43
2	Equal-Quasi RCII EGP diagonal	19305	4278	21550	0	27
3	Equal-Quasi RCII micro-class diagonal	17940	4223	20770	0	24
4	Linear-by-linear SES EGP diagonal	22918	4343	24472	0	36
5	Linear-by-linear SES micro-class diagonal	21628	4288	23767	0	32
6	Linear-by-linear SES micro-class + EGP diagonal	21398	4280	23622	0	32
7	Core Social Fluidity model	21309	4348	22809	0	31
8	SAT model	21647	4351	23115	0	33
9	CAPE vertical	21639	4350	23118	0	34
10	CAPE vertical + horizontal	19704	4333	21364	0	30
11	CAPE vertical + horizontal + channels/barriers	18966	4326	20701	0	28

Gender and cohort differences

We assess gender differences in the association represented by the CAPE model following the strategy of Jonsson et al. They suggest that association in the father-daughter microclass table are weaker than in the father-son table because the resources of fathers convert less efficiently to occupational outcomes in case of daughters as in case of sons due to gendered occupational socialization[2]. Wong and Hauser's (1992) analyses in Hungary, however, suggest a more complex pattern of father-daughter association: they document for the 1980's a that women are less likely than men to inherit their father's occupational class, while the extent of movements into other occupational classes are more strongly determined by origins. We assess whether gender differences can be described with a simple downward shift in the strength of the parameters of the model, implying that the association patterns are essentially the same in the father-daughter table as in the father-son table, only less strong due to "imperfect" conversion of resources from father to daughter, or the patterns are more complex. We test the following

[2] An more informative solution, which controls for differential sex role socialization to occupations, is to analyze a mother-father-offspring three-way table. This is however not viable for microclass mobility, as it would result in a table with 67^3 cells, rendering the overwhelming majority of cells empty even in datasets within extremely large number of cases. We therefore restrict our analyses to the less satisfactory, albeit still informative solution, to analyze gender differences in the father-offspring tables.

hypotheses: (A) no gender differences in the vertical parameters of the CAPE model, (B), uniform gender differences (suggesting a simple downward shift in the strength of the parameters), (C), different uniform gender differences in immobility (measured by the scaled diagonal parameters) and in vertical mobility (measured by the vertical association parameters) and (D), uniform association only on the scaled diagonal association parameters, implying gendered patterns of occupational reproduction but no gender differences in the scaled off-diagonal association, and (E), different parameters by gender. Uniform and heterogeneous gender differences in horizontal components (F and G), and in specific channels-barriers (H and I) were also tested.

With respect to the vertical components, the uniform difference on the scaled diagonal effects (D) shows the lowest BIC, although not considerably different from uniform difference on all parameters (B). However, the inferior fit of the model which includes a different unidiff-parameter for the scaled diagonal and off-diagonal association (C) indicates that the gender differences in association are more associated with barriers to father-daughter occupational inheritance. The BIC further indicates that there are no gender differences in the horizontal parameters. Channels and barriers were however found to be gender specific (I).

Before testing our hypotheses, we assess whether there are also cohort changes in the association pattern. [Table 5, TO BE WRITTEN, main conclusion: there are no cohort differences in vertical parameters above period effects]

Table 5 Gender, period, and cohort effects

	Model specification	*-2ll*	*df*	*BIC*	*p*	*contrast*	*cont p*	*D*
A	V + H + CB	27744	8748	30191	0			33.2
B	U(V) + H + CB	27721	8747	30179	0			33.1
C	U(V-D) + U(V-OD) + H + CB	27713	8746	30181	0			32.9
D	U(V-D) +V-OD + H + CB	27720	8747	30178	0			33.1
E	NG(V) + H + CB	27681	8742	30192	0			32.9
F	U(V-D) + V-OD + U(H) + CB	27719	8746	30187	0			33.1
G	U(V-D) + V-OD + NG(H) + CB	27638	8730	30276	0			32.9
H	U(V-D) + V-OD + H + U(CB)	27717	8746	30186	0			33.1
I	U(V-D) + V-OD + H + NG(CB)	27620	8740	30152	0			32.8
CP1	P(V) + H + CB	45762	26094	54704	1			39.6
CP2	CP(V) + H + CB	45743	26076	54876	1	*CP2 vs CP1*	*0.38*	39.5

Notes: [a]D scaled diagonal, OD scaled off-diagonal, P period, CP cohort+period, U uniform difference, NG non-uniform gender differences, V CAPE vertical components, H CAPE horizontal components, CB CAPE channels-barriers
[b]Models A-I include gender-specific destination marginal effects and origin effects, origin marginal effects were tested but did not differ by gender
[c]ModelsCP1 and CP2 include cohort and period specific origin and destination marginals
[d]In the cohort-period specific models, the satisfactory model fit is due to the large number of almost empty cells deflating the log-likelihood. However, as we compare nested models, the LR test statistics and BIC values are not biased (Clogg, 1987)

Period changes

Our first set of hypotheses concerned the role of capital in intergenerational mobility during communism, and its change over time (Table 6). Our findings do not corroborate the hypothesis that income did not play a role in intergenerational mobility during communism. Income did play a role in the reproduction of occupations, but not in getting access to occupations different from the occupational origin. Our second expectation concerned the growing role of capital during transition. This hypothesis is confirmed for the off-diagonal association between occupations high in capital. The role of capital in reproduction did not change. The results imply that capital became more important for those who are mobile to get access to occupations with high earning power. With respect to education, our results corroborate both hypotheses: education was an important dimension of intergenerational mobility during socialism and it did not change following transition. With respect to the autonomy dimension, we expected no effect before transition and an increase in the late period of the transition. The association parameters of autonomy are indeed not significant before transition, and there is no significant increase in the

association between occupational origins and destinations with high autonomy during early transition either. However, the autonomy association parameter for those who are mobile is positive and significant in early transition, but in late transition, only the reproduction parameter of autonomy is positive and significant. These results might be driven by the rapid privatization which changed the structure of ownership within occupations during early transition, but later more stabilize occupational ownership patterns emerged. The coefficient of the power dimension is positive and significant during socialism, providing evidence that political power played a role in intergenerational occupational mobility during socialism. The effect of political power declined significantly from pre-transition to early transition, becoming non-significant. In the late transition period, it even became negative and significant; indicating that political capital from the pre-transition era might have had a negative effect on intergenerational chances. This negative effect remains even if we exclude income from the model, with which it has the highest bivariate correlation. From the alternative models we sketched –market transition model and state corporatist model- our results support the market transition hypothesis, but adds an interesting new element: pre-transition political power might became negative capital for intergenerational mobility as the transition progressed.

Conclusions

[TO BE WRITTEN]

Discussion

- Implications on stratification and mobility: political power in the Hungarian case proved to be a constituent element of intergenerational occupational mobility. The initial promise of socialism that it would rule out social inequalities did succeed when it came to income as determinant of social mobility, but inequalities were reproduced through mechanisms of political power.
- Implications on market transition: Hungary argued as an economic and democratic success story among transitioning countries, the disappearance of political capital as a dimension of occupational mobility underlines this interpretation. But how general is the Hungarian experience? Could it be that in more authoritarian communist party membership has a longer lasting effect than in Hungary which had more economic liberties in the 1980s?

- Implication on modeling: multidimensional stratification models can reveal important aspects of the mechanisms of reproduction of inequality. Disaggregated tables have the advantage of large degrees of freedom and thus allow the incorporation of several dimensions. The model with vertical and horizontal dimensions seem to balance parsimony and fit and provide a good alternative between the microclass reproduction model of Jonsson et al (2009) and the large-class models of mobility.
- Slightly unexpected finding is the negative effect of political capital in the latest period. Still have to investigate more thoroughly that this is indeed not an artifact of high correlation between the different dimensions. The results so far suggest that this effect is indeed negative, and thus suggests that intergenerational elite change occurred: the reproduction of occupations which had high party saturation occurred from occupations that were politically lowly involved during transition.

References

[TO BE INCLUDED]

Table 6 Parameter estimates from the CAPE model

		Pre-transiton			Transition			Late transition		
		Est		S.E.	Est		S.E.	Est		S.E.
	Female uniform difference diagonal	0.4	**	0.14	idem.			idem.		
VERTICAL	Education	4.36	***	0.21	4.18	***	0.20	3.97	***	0.16
	Power	9.15	***	1.46	-0.09		1.97	-2.71	*	1.14
	Autonomy	0.04		0.311	1.58	**	0.51	0.00		1.57
	Capital	-0.17		0.13	0.47	*	0.18	0.51	*	0.22
	Capital diagonal	0.55	***	0.05	0.50	***	0.07	0.52	***	0.06
	Autonomy diagonal	-0.10		0.36	-0.06		0.25	3.93	***	1.04
HORIZONTAL (SITUS)	Mining	1.55	***	0.40	1.45	**	0.54	1.18		1.00
	Machine industry	3.51	***	0.55	3.32	***	0.68	1.75	**	0.61
	Chemical industry	8.70	***	2.00	10.93	***	2.12	4.53		4.84
	Light industry	0.42		0.22	0.46		0.28	0.76	**	0.29
	Food industry	2.26	**	0.74	0.04		1.10	1.92	*	0.75
	Construction	2.01	***	0.38	1.99	***	0.47	3.22	***	0.52
	Agriculture	2.53	***	0.11	1.78	***	0.15	1.78	***	0.24
	Forestry	5.39	***	0.77	5.41	***	0.72	3.38		1.95
	Transport	0.98	***	0.27	0.93	**	0.32	1.14	***	0.34
	Trade	0.54		0.39	1.45	***	0.40	0.79		0.38
	Personal service	2.40	***	0.56	1.85	*	0.76	0.75		0.93
	Health services	1.48	**	0.51	2.83	***	0.59	1.67	***	0.37
	Educational services	-0.08		0.28	0.13		0.25	0.57	*	0.21
	Cultural services	7.30	***	2.11	7.45	***	1.76	6.14	***	1.79
	Administration & government	-2.21	*	1.11	0.78		0.91	0.28		1.31
	Law & police	1.33		1.99	3.09		2.14	4.32	*	1.69
	Public service	2.31	**	0.84	4.74	***	0.64	2.90	**	1.10
CHANNELS/BARRIERS	Male: Agriculture - Education	-1.34	***	0.16	-1.28	***	0.20	-0.76	**	0.21
	Female: Agriculture - Education	-2.57	***	0.19	-1.07	***	0.15	-0.92	***	0.18
	Male: Agriculture - Autonomy	-1.70	*	0.71	-1.92	***	0.39	-2.65	***	0.51
	Female: Agriculture - Autonomy	0.65		0.72	-0.31		0.37	0.14		0.41
	Male: Agriculture - Education sector	0.78	**	0.26	0.55		0.34	0.39		0.43
	Female: Agriculture - Education sector	1.51	***	0.17	0.43	*	0.18	0.56	**	0.24
	Male: Education - Education sector	-0.91	*	0.38	-0.21		0.29	0.39		0.28
	Female: Education - Education sector	-0.83	**	0.26	-0.71	*	0.20	-0.60		0.17
	Male: Agriculture - Construction	1.28	***	0.20	0.92	***	0.26	1.21	**	0.40
	Female: Agriculture - Construction	-0.47		0.64	0.41		0.98	-0.49		1.68
	Male: Construction - Agriculture	1.73	***	0.29	-0.12		0.40	-0.59		0.53
	Female: Construction - Agriculture	1.74	***	0.30	1.37	**	0.43	0.75		0.78
	Male: Machine industry - Agriculture	-1.21	*	0.56	-1.65	*	0.65	-1.09		0.58
	Female: Machine industry - Agriculture	-0.48		0.57	-0.27		0.77	-1.06		0.94

Note: N Pre = 18961, N trans = 12859, N late = 10171

Microclass destinations	*Pre-transition N*	*Transition N*	*Late-transition N*	*education pre-transition*	*education transition*	*education late transition*
Jurists	22	29	49	1.00	0.97	1.00
Health professionals	125	79	69	0.98	0.94	0.96
Professors and instructors	47	38	44	1.00	0.95	1.00
Natural scientists	79	43	12	0.80	0.80	1.00
Statistical and social scientists	130	43	67	0.62	0.61	0.97
Architects	37	16	21	0.92	1.00	1.00
Accountants	95	73	41	0.26	0.64	0.98
Journalists, authors, and related writers	20	17	37	0.71	0.95	0.90
Engineers	320	145	137	0.74	0.83	0.98
Officials, government and non-profit organizations	146	80	54	0.53	0.66	0.91
Managers	501	353	464	0.41	0.56	0.79
Commercial Managers	600	418	253	0.16	0.36	0.70
Systems analysts and programmers	34	30	61	0.65	0.84	0.94
Personnel and labor relations workers	15	12	172	0.53	0.93	0.85
Elementary and secondary school teachers	639	619	527	0.79	0.88	0.99
Creative artists	49	26	50	0.57	0.47	0.77
Professional, technical, and related workers, n.e.c.	649	532	318	0.32	0.53	0.64
Workers in religion	11	12	14	0.91	0.92	1.00
Nonmedical technicians	316	359	264	0.22	0.47	0.74
Health semiprofessionals	242	94	301	0.14	0.55	0.54
Hospital attendants	78	107	104	0.18	0.43	0.74
Nursery school teachers and aides	44	38	32	0.43	0.53	0.72
Other agents	114	134	267	0.29	0.56	0.64
Sales workers and shop assistants	456	488	688	0.03	0.23	0.29
Telephone operators	36	25	8	0.02	0.28	0.28
Bookkeepers and related workers	529	408	322	0.09	0.43	0.62
Office and clerical workers	892	644	405	0.08	0.38	0.49
Postal and mail distribution clerks	76	59	48	0.01	0.08	0.31
Craftsmen and kindred workers, n.e.c.	38	43	152	0.18	0.23	0.25
Production foremen	155	75	137	0.26	0.38	0.61
Electronics service and repair workers	157	135	78	0.04	0.22	0.47
Printers and related workers	45	30	73	0.02	0.28	0.29
Locomotive operators	134	77	14	0.02	0.05	0.52
Electricians	259	204	152	0.04	0.11	0.27
Tailors and related workers	595	350	256	0.02	0.07	0.09
Vehicle mechanics	637	514	227	0.02	0.08	0.21
Blacksmiths and machinists	634	378	352	0.05	0.06	0.11

Microclass destinations	*Pre-transition N*	*Transition N*	*Late-transition N*	*education pre-transition*	*education transition*	*education late transition*
Jewelers, opticians, and precious metal workers	175	144	80	0.02	0.23	0.30
Plumbers and pipe-fitters	125	122	75	0.00	0.05	0.11
Cabinetmakers	59	52	80	0.12	0.15	0.15
Bakers	69	73	54	0.00	0.07	0.12
Welders and related metal workers	170	118	79	0.00	0.08	0.11
Painters	159	96	90	0.01	0.07	0.05
Butchers	53	52	52	0.04	0.02	0.05
Stationary engine operators	86	88	30	0.03	0.12	0.30
Bricklayers, carpenters, and related construction workers	722	398	253	0.01	0.02	0.08
Heavy machine operators	500	279	161	0.00	0.00	0.07
Truck drivers	579	452	200	0.02	0.06	0.10
Chemical processors	190	111	49	0.04	0.08	0.13
Miners and related workers	208	93	28	0.03	0.07	0.24
Longshoremen and freight handlers	639	314	36	0.02	0.09	0.13
Textile workers	567	391	108	0.01	0.03	0.07
Sawyers and lumber inspectors	176	88	18	0.00	0.01	0.11
Metal processors	297	112	140	0.03	0.10	0.15
Operatives and kindred workers, n.e.c.	889	502	308	0.02	0.05	0.12
Forestry workers	51	51	20	0.00	0.02	0.31
Policeman, firefighters, and members of the armed forces	37	25	156	0.48	0.65	0.67
Transport conductors	23	20	16	0.00	0.20	0.18
Guards and watchmen	47	135	109	0.13	0.31	0.18
Food service workers	397	290	238	0.04	0.09	0.22
Mass transportation operators	200	166	163	0.04	0.09	0.18
Service workers, n.e.c.	612	280	368	0.02	0.11	0.17
Hairdressers	83	77	74	0.07	0.19	0.42
Housekeeping workers	381	277	260	0.00	0.03	0.20
Janitors and cleaners	524	470	211	0.00	0.02	0.05
Farmers and farm managers	179	187	322	0.16	0.17	0.19
Farm laborers	1718	579	33	0.01	0.03	0.06

Microclass destinations	*capital pre-transition*	*capital transition*	*capital late transition*	*autonomy pre-transition*	*autonomy transition*	*autonomy late-transition*	*power*
Jurists	1.00	1.00	0.96	0.04	0.35	0.26	0.18
Health professionals	0.71	1.00	0.88	0.00	0.02	0.30	0.06

Microclass destinations	*capital pre-transition*	*capital transition*	*capital late transition*	*autonomy pre-transition*	*autonomy transition*	*autonomy late-transition*	*power*
Professors and instructors	0.91	1.00	0.89	0.00	0.00	0.02	0.28
Natural scientists	0.82	1.00	0.83	0.01	0.02	0.07	0.19
Statistical and social scientists	0.89	0.33	0.90	0.02	0.07	0.11	0.20
Architects	0.87	0.25	0.77	0.00	0.00	0.22	0.30
Accountants	1.00	0.78	0.79	0.00	0.04	0.22	0.21
Journalists, authors, and related writers	1.00	1.00	0.65	0.00	0.28	0.44	0.17
Engineers	0.92	0.92	0.79	0.00	0.03	0.13	0.32
Officials, government and non-profit organizations	0.90	0.80	1.00	0.00	0.00	0.00	0.39
Managers	0.77	0.91	0.83	0.03	0.22	0.30	0.30
Commercial Managers	0.67	0.70	0.67	0.12	0.31	0.28	0.14
Systems analysts and programmers	0.60	0.60	0.71	0.00	0.03	0.06	0.06
Personnel and labor relations workers	0.89	0.91	0.78	0.00	0.15	0.10	0.32
Elementary and secondary school teachers	0.73	0.48	0.81	0.00	0.01	0.02	0.18
Creative artists	0.57	0.60	0.54	0.20	0.30	0.40	0.07
Professional, technical, and related workers, n.e.c.	0.85	0.54	0.65	0.01	0.02	0.05	0.21
Workers in religion	0.50	0.25	0.73	0.00	0.08	0.00	0.00
Nonmedical technicians	0.35	0.59	0.74	0.00	0.01	0.09	0.15
Health semiprofessionals	0.29	0.21	0.58	0.00	0.01	0.02	0.08
Hospital attendants	0.39	0.36	0.57	0.00	0.00	0.03	0.02
Nursery school teachers and aides	0.00	0.00	0.36	0.00	0.03	0.21	0.13
Other agents	1.00	0.69	0.68	0.00	0.08	0.18	0.14
Sales workers and shop assistants	0.18	0.34	0.19	0.02	0.14	0.25	0.05
Telephone operators	0.22	0.20	0.25	0.00	0.04	0.09	0.03
Bookkeepers and related workers	0.45	0.48	0.62	0.00	0.01	0.06	0.08
Office and clerical workers	0.39	0.36	0.47	0.00	0.01	0.03	0.14
Postal and mail distribution clerks	0.00	0.13	0.23	0.00	0.00	0.00	0.03
Craftsmen and kindred workers, n.e.c.	0.34	0.26	0.47	0.03	0.02	0.01	0.12
Production foremen	0.88	0.67	0.78	0.00	0.05	0.10	0.34
Electronics service and repair workers	0.65	0.38	0.67	0.01	0.10	0.13	0.12
Printers and related workers	0.71	0.00	0.55	0.00	0.06	0.13	0.08
Locomotive operators	0.65	0.67	1.00	0.00	0.00	0.00	0.11
Electricians	0.57	0.48	0.51	0.02	0.05	0.18	0.14
Tailors and related workers	0.22	0.20	0.16	0.11	0.15	0.13	0.06
Vehicle mechanics	0.54	0.40	0.53	0.02	0.04	0.14	0.12
Blacksmiths and machinists	0.61	0.47	0.47	0.03	0.07	0.07	0.12
Jewelers, opticians, and precious metal workers	0.67	0.45	0.51	0.05	0.08	0.13	0.10
Plumbers and pipe-fitters	0.63	0.73	0.40	0.09	0.10	0.25	0.07
Cabinetmakers	0.61	0.43	0.28	0.08	0.23	0.30	0.07

Microclass destinations	*capital pre-transition*	*capital transition*	*capital late transition*	*autonomy pre-transition*	*autonomy transition*	*autonomy late-transition*	*power*
Bakers	1.00	0.10	0.41	0.07	0.10	0.05	0.02
Welders and related metal workers	0.61	0.25	0.49	0.01	0.04	0.02	0.10
Painters	0.62	0.42	0.33	0.14	0.22	0.32	0.05
Butchers	0.40	0.18	0.30	0.02	0.02	0.08	0.09
Stationary engine operators	0.59	0.50	0.58	0.01	0.03	0.00	0.09
Bricklayers, carpenters, and related construction workers	0.47	0.45	0.33	0.07	0.13	0.20	0.06
Heavy machine operators	0.47	0.26	0.33	0.00	0.01	0.05	0.12
Truck drivers	0.59	0.52	0.52	0.02	0.15	0.16	0.10
Chemical processors	0.34	0.33	0.47	0.03	0.03	0.02	0.11
Miners and related workers	1.00	0.93	0.64	0.03	0.05	0.09	0.15
Longshoremen and freight handlers	0.32	0.18	0.14	0.00	0.01	0.08	0.09
Textile workers	0.20	0.19	0.26	0.02	0.01	0.03	0.05
Sawyers and lumber inspectors	0.36	0.36	0.00	0.05	0.06	0.05	0.04
Metal processors	0.66	0.20	0.34	0.00	0.05	0.02	0.11
Operatives and kindred workers, n.e.c.	0.22	0.26	0.22	0.01	0.02	0.03	0.06
Forestry workers	0.43	0.25	0.42	0.04	0.11	0.17	0.07
Policeman, firefighters, and members of the armed forces	0.82	0.79	0.86	0.00	0.04	0.01	0.52
Transport conductors	0.50	0.60	0.33	0.00	0.10	0.00	0.05
Guards and watchmen	0.27	0.40	0.42	0.00	0.03	0.14	0.03
Food service workers	0.17	0.18	0.30	0.03	0.05	0.12	0.05
Mass transportation operators	0.61	0.53	0.56	0.04	0.18	0.11	0.09
Service workers, n.e.c.	0.25	0.29	0.31	0.05	0.07	0.05	0.07
Hairdressers	0.20	0.31	0.31	0.25	0.61	0.75	0.04
Housekeeping workers	0.03	0.08	0.21	0.01	0.00	0.02	0.01
Janitors and cleaners	0.00	0.07	0.13	0.00	0.01	0.05	0.02
Farmers and farm managers	0.80	0.45	0.23	0.28	0.51	0.44	0.13
Farm laborers	0.26	0.00	0.14	0.03	0.09	0.05	0.06

Microclass origins	*Pre-transition N*	*Transition N*	*Late-transition N*	*education pre-transition*	*education transition*	*education late transition*
Jurists	44	30	45	0.95	0.97	1.00
Health professionals	69	38	102	0.99	0.97	1.00
Professors and instructors	17	19	31	1.00	1.00	1.00
Natural scientists	65	43	11	0.58	0.86	0.91
Statistical and social scientists	22	16	52	0.59	1.00	0.94
Architects	29	19	57	0.91	1.00	0.93

Microclass origins	*Pre-transition N*	*Transition N*	*Late-transition N*	*education pre-transition*	*education transition*	*education late transition*
Accountants	54	40	20	0.30	0.72	0.71
Journalists, authors, and related writers	5	12	8	0.80	0.83	1.00
Engineers	103	100	220	0.65	0.91	0.97
Officials, government and non-profit organizations	98	90	52	0.25	0.64	0.68
Managers	302	229	217	0.22	0.52	0.72
Commercial Managers	294	158	133	0.09	0.28	0.64
Systems analysts and programmers	1	3	2	0.00	1.00	1.00
Personnel and labor relations workers	9	7	42	0.41	0.11	0.66
Elementary and secondary school teachers	174	167	233	0.66	0.88	0.97
Creative artists	77	41	33	0.11	0.20	0.55
Professional, technical, and related workers, n.e.c.	292	254	122	0.33	0.69	0.52
Workers in religion	14	15	8	0.93	1.00	0.88
Nonmedical technicians	66	115	227	0.27	0.65	0.54
Health semiprofessionals	17	3	40	0.00	0.00	0.49
Hospital attendants	7	7	17	0.00	0.29	0.50
Nursery school teachers and aides	6	9	14	0.33	0.89	0.60
Other agents	32	41	65	0.13	0.66	0.58
Sales workers and shop assistants	146	151	226	0.01	0.14	0.19
Telephone operators	6	4	4	0.00	0.00	0.42
Bookkeepers and related workers	86	84	95	0.09	0.55	0.63
Office and clerical workers	251	167	101	0.08	0.41	0.39
Postal and mail distribution clerks	82	48	42	0.00	0.08	0.11
Craftsmen and kindred workers, n.e.c.	13	36	257	0.00	0.00	0.09
Production foremen	99	89	157	0.05	0.32	0.47
Electronics service and repair workers	45	33	68	0.00	0.10	0.24
Printers and related workers	19	9	35	0.00	0.11	0.20
Locomotive operators	434	279	66	0.00	0.02	0.10
Electricians	134	155	214	0.01	0.07	0.08
Tailors and related workers	677	433	216	0.00	0.02	0.06
Vehicle mechanics	410	413	277	0.00	0.03	0.07
Blacksmiths and machinists	600	440	752	0.00	0.02	0.05
Jewelers, opticians, and precious metal workers	113	61	85	0.02	0.12	0.23
Plumbers and pipe-fitters	58	77	91	0.00	0.00	0.06
Cabinetmakers	193	115	167	0.00	0.01	0.05
Bakers	74	63	66	0.00	0.02	0.04
Welders and related metal workers	105	106	173	0.02	0.00	0.05
Painters	76	59	100	0.01	0.00	0.00
Butchers	92	76	48	0.00	0.03	0.02

Microclass origins	*Pre-transition N*	*Transition N*	*Late-transition N*	*education pre-transition*	*education transition*	*education late transition*
Stationary engine operators	53	52	35	0.00	0.10	0.15
Bricklayers, carpenters, and related construction workers	1408	985	598	0.00	0.01	0.02
Heavy machine operators	331	402	377	0.00	0.00	0.02
Truck drivers	234	340	349	0.00	0.03	0.05
Chemical processors	71	54	39	0.00	0.06	0.03
Miners and related workers	693	528	297	0.00	0.02	0.05
Longshoremen and freight handlers	580	453	130	0.00	0.04	0.01
Textile workers	123	93	77	0.00	0.03	0.05
Sawyers and lumber inspectors	73	62	29	0.01	0.00	0.07
Metal processors	270	138	121	0.00	0.04	0.01
Operatives and kindred workers, n.e.c.	869	664	429	0.00	0.04	0.04
Forestry workers	166	151	59	0.01	0.02	0.17
Policeman, firefighters, and members of the armed forces	71	41	252	0.25	0.36	0.64
Transport conductors	55	74	98	0.00	0.01	0.04
Guards and watchmen	18	20	26	0.00	0.23	0.08
Food service workers	177	143	109	0.01	0.04	0.08
Mass transportation operators	121	115	218	0.01	0.04	0.09
Service workers, n.e.c.	879	515	374	0.00	0.02	0.05
Hairdressers	70	34	23	0.00	0.00	0.09
Housekeeping workers	52	29	35	0.02	0.00	0.06
Janitors and cleaners	83	70	55	0.00	0.01	0.00
Farmers and farm managers	2879	1218	1190	0.00	0.02	0.05
Farm laborers	4085	2234	170	0.00	0.00	0.01

Microclass origins	*autonomy pre-transition*	*autonomy transition*	*autonomy late transition*
Jurists	0.05	0.20	0.07
Health professionals	0.00	0.03	0.04
Professors and instructors	0.00	0.05	0.00
Natural scientists	0.00	0.02	0.09
Statistical and social scientists	0.00	0.06	0.02
Architects	0.03	0.00	0.03
Accountants	0.00	0.00	0.00
Journalists, authors, and related writers	0.00	0.00	0.13
Engineers	0.00	0.04	0.01
Officials, government and non-profit organizations	0.00	0.00	0.00

Microclass origins	*autonomy pre-transition*	*autonomy transition*	*autonomy late transition*
Managers	0.05	0.04	0.08
Commercial Managers	0.29	0.21	0.02
Systems analysts and programmers	0.00	0.00	0.50
Personnel and labor relations workers	0.00	0.38	0.02
Elementary and secondary school teachers	0.00	0.01	0.00
Creative artists	0.32	0.34	0.09
Professional, technical, and related workers, n.e.c.	0.00	0.00	0.01
Workers in religion	0.00	0.00	0.13
Nonmedical technicians	0.00	0.02	0.02
Health semiprofessionals	0.00	0.33	0.02
Hospital attendants	0.00	0.00	0.00
Nursery school teachers and aides	0.00	0.00	0.00
Other agents	0.00	0.02	0.06
Sales workers and shop assistants	0.12	0.07	0.25
Telephone operators	0.00	0.00	0.00
Bookkeepers and related workers	0.00	0.00	0.00
Office and clerical workers	0.00	0.01	0.00
Postal and mail distribution clerks	0.00	0.00	0.00
Craftsmen and kindred workers, n.e.c.	0.08	0.05	0.00
Production foremen	0.00	0.04	0.00
Electronics service and repair workers	0.07	0.11	0.07
Printers and related workers	0.11	0.11	0.03
Locomotive operators	0.00	0.00	0.00
Electricians	0.06	0.04	0.05
Tailors and related workers	0.37	0.38	0.19
Vehicle mechanics	0.04	0.04	0.03
Blacksmiths and machinists	0.11	0.12	0.03
Jewelers, opticians, and precious metal workers	0.17	0.18	0.11
Plumbers and pipe-fitters	0.07	0.05	0.07
Cabinetmakers	0.29	0.38	0.10
Bakers	0.23	0.21	0.06
Welders and related metal workers	0.06	0.03	0.00
Painters	0.17	0.17	0.12
Butchers	0.25	0.20	0.06
Stationary engine operators	0.02	0.02	0.00
Bricklayers, carpenters, and related construction workers	0.10	0.09	0.08
Heavy machine operators	0.02	0.00	0.00
Truck drivers	0.01	0.03	0.03

Microclass origins	*autonomy pre-transition*	*autonomy transition*	*autonomy late transition*
Chemical processors	0.03	0.04	0.03
Miners and related workers	0.01	0.03	0.02
Longshoremen and freight handlers	0.01	0.01	0.00
Textile workers	0.06	0.07	0.04
Sawyers and lumber inspectors	0.11	0.11	0.03
Metal processors	0.03	0.01	0.02
Operatives and kindred workers, n.e.c.	0.02	0.02	0.01
Forestry workers	0.04	0.05	0.02
Policeman, firefighters, and members of the armed forces	0.00	0.00	0.00
Transport conductors	0.00	0.03	0.00
Guards and watchmen	0.00	0.00	0.00
Food service workers	0.09	0.10	0.09
Mass transportation operators	0.01	0.05	0.03
Service workers, n.e.c.	0.11	0.11	0.04
Hairdressers	0.51	0.46	0.39
Housekeeping workers	0.11	0.04	0.00
Janitors and cleaners	0.00	0.01	0.00
Farmers and farm managers	0.90	0.73	0.13
Farm laborers	0.16	0.04	0.02