

How Socio-Economic Change Shapes Income Inequality in Postsocialist Central and Eastern Europe

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Abstract

Although income inequality in Central and Eastern Europe was considerably lower during socialism than in other countries at comparable levels of development, it increased significantly in all Central and East European states after the fall of communist regimes. However, some of these countries managed to maintain comparatively low inequality levels ten years into the transition period while inequalities have sky-rocketed in others. What explains this variation? The paper presents one of the first longitudinal cross-national analyses of the factors that determine changes in income inequality in ten Central and East European countries during the first decade after 1989. Results suggest that rising income inequality is principally related to 1) the expansion of the private sector, 2) retrenchment of the redistributive state, 3) the social exclusion of ethno-national minorities, and 4) penetration of foreign capital. Moreover, the analyses suggest that privatization strategies promoting foreign investment created more inequality than those promoting domestic investment. These findings reveal the social, political and cultural foundations of the income inequality dynamic during postsocialist transition in Central and Eastern Europe.

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Introduction

The official ideology of socialism portrayed it as a system that ensures social justice and equality. The Party-state would secure full employment and take care of the population's basic needs by providing universal education, health care, subsidized housing and cultural goods (Kornai 1992). While actual socialist systems did not erase inequalities (Szelényi 1978), scholars overwhelmingly agree that income inequality was substantially *lower* during socialism than inequality in other systems at comparable levels of industrial development (Boswell and Chase-Dunn 2000, Heyns 2005).(1)

With the collapse of communist regimes, state-level efforts to reduce inequality were largely abandoned. After 1989, Central and East European states quickly embraced market exchange as the governing economic principle and capitalism as the preferred system of economic organization. They also began to integrate into the global economy by opening their borders to foreign direct investment, which was restricted during the socialist period.

Since the onset of these overarching transformations, social inequalities in Central and Eastern Europe have, without exception, increased throughout the region (for review see Heyns 2005). The rising trends are depicted in Figure 1, which shows levels of income inequality from 1989 to 2001 for ten Central and East European countries. In 1989, the average Gini index was 22 across these countries, but increased to 34 only a dozen years later. The magnitude of this change becomes evident when we consider that the Gini index increased about 3 points in the United States, and slightly declined in a few West European countries during this same period (Alderson and Nielsen 2002).

[Figure 1 about here]

Despite this general rising trend, differences across postsocialist countries are quite substantial. As displayed in Figure 2, a dozen years into the transition, some postsocialist states managed to maintain comparatively low income inequality levels while inequalities have sky-rocketed in other peer states. For example, Gini indices for Romania, Estonia and Lithuania in 2001 are close to the high levels we find in Anglo-Saxon countries. On the other hand, inequality levels in the Czech Republic and Slovenia after ten years of market reform resemble those of Scandinavian countries, known for their relatively equitable income distribution. How can we explain this cross-country variation? Which aspects of the postsocialist transformations help account for these differences? To answer these questions, this paper undertakes one of the first longitudinal cross-national analyses of income inequality in ten Central and East European countries in the first decade since 1989.

[Figure 2 about here]

Studying income inequality trends in Central and Eastern Europe can enhance our understanding of the postsocialist transformations. In addition, examining the determinants of income inequality since the collapse of communist regimes is also a strategic research site to address how specific structural, political and cultural contexts shape social stratification. Low levels of inequality during socialism were largely due to the communist ideology that supported a socialist redistributive command economy. Likewise, political choices about privatization at the onset of market reform in postsocialist Europe, and societal changes that weakened the redistributive role of the state and legitimated the exercise of self interest in the market, have influenced income inequalities in postsocialism. Highlighting the role of social forces is in line with research in economic sociology (for review see Smelser and Swedberg 2005). Research in this field has made an important contribution by showing that economic action at the level of individuals and organizations is shaped by social forces. Nevertheless, there is an increasingly salient call for economic sociologists to more systematically uncover the social, political and cultural foundations of *macroeconomic* outcomes (Ingham 1996, Granovetter and Swedberg 2001) and pay more attention to stratification and inequality (Swedberg 2003). Studying changes in macro-level income inequality during large-scale transformations in Central and Eastern Europe, therefore, provides an ideal opportunity to advance these lines of economic sociology.

Socio-Economic Change and Income Inequality in Postsocialism

Changes in Central and Eastern Europe are marked by the *simultaneity* of economic, political and social transformations brought about by the revolutions of 1989. Thus, income inequality trends in this region should be viewed within the context of macro-level societal transformations involving the transition from a socialist command economy to a market-based economy. This brought a fundamental change to the institutional structure of society in which collective interests guarded by the redistributive state take backstage to private interests and individual self-reliance. Economic transformations were accompanied by declarations of political sovereignty from the Soviet Union and, in many cases, also national sovereignty and dissolution of multinational federations. This all amplified nationalist sentiments in postsocialist states to the detriment of ethno-national minorities. Further, postsocialist changes happened during a time of intensified global capital flows worldwide and into the Central and Eastern Europe. Therefore, we want to highlight four social processes that are central to postsocialist transformations and, we argue, also encourage differentiations in income-inequality in post-1989 Central and Eastern Europe: a) privatization, b) redistributive state retrenchment, c) ethno-nationalist discrimination, and d) foreign investment penetration.

Privatization

After the revolutionary events in 1989, Central and East European states were set on building capitalism. Stabilization, liberalization and privatization were three key pillars adopted to accomplish the daunting task of market reform. Privatization – the conversion of a system where private ownership was absent to one where economic actors have property rights – was universally recognized as necessary for market transition. Indeed, if free economic agents, buyers and sellers, are to exchange property stakes on the market, then private property needs to be allowed and property rights clearly defined and protected.

Nevertheless, privatization was not a uniform and straightforward by-product of economic transformations. Rather, it was a social and political process that was contested and played out differently in individual postsocialist states (Stark 1992, Stark and Bruszt 1998, Verdery 2004, Bandelj 2008). Countries implemented a variety of privatization strategies, including selling assets as in auctions to the highest bidder, encouraging management-employee buyouts of formerly state-owned firms, or distributing vouchers to citizens which they could invest, like in the stock-market, into privatizing firms or managed funds that invested on their behalf (Megginson and Netter 2001). Not only did privatization strategies differ across postsocialist countries, there have also been significant differences in the pace of private sector expansion in individual countries, characterized as a shock therapy approach versus gradualist privatization (Spicer, McDermott and Kogut 2000). For instance, in Bulgaria and Slovenia the private sector share in GDP by 1996 was only around 50%, while for Estonia and Hungary this figure stood at 80%.

Has the size of the private sector influenced the differences in income inequality across postsocialist countries and over time? We argue, yes. Privatization is principally related to capital accumulation, and the more extensive the privatization, the greater the opportunities for differentiation among households based on their private sector activities. In general, individuals can garner higher incomes from jobs in the private sector than in the public sector, which creates greater differentiation at the top of the income distribution. On the other hand, those in the private sector can also lose jobs more easily (and end up among the unemployed poor), which adds to differentiation at the bottom of the income distribution (see Milanovic [1999] for a similar argument based on individual-level data). We argue that in the aggregate, *the greater the size of the private sector, the greater the opportunities for individual differentiation, and the higher the overall income inequality.*

Redistributive State Retrenchment

A major factor explaining cross-national differences in inequality is variation in the institutions that mediate the labor market outcomes. The institutions that encourage an equitable distribution of income in the West include the presence of unions (Western 1997, Streeck 2005),

corporatist arrangements (Hicks 1999, Swank 2002, Wilensky 2002), social-democratic parties and other facets of what has generally been termed the welfare state (Esping-Andersen 1990). For example, Alderson and Nielsen (2002) find that income inequality is significantly higher in countries where wage setting coordination is absent and labor de-commodification (2) is low (cf. Korpi and Palme 1998).

Recently, decreases in the welfare state provisions associated with the rise of neoliberalism, i.e. *welfare* state retrenchment, has been shown to contribute to income inequality increases in the *Western* nations (e.g. Alderson and Nielsen 2002). Similarly, we argue that the shrinking redistributive role of the formerly socialist states, or *redistributive* state retrenchment, has consequences for income inequality in Central and Eastern Europe. The socialist system put equality as a top political priority, and the provision of universal healthcare and education along with full employment were integral to state redistribution efforts (Kornai 1992).

The neoliberal market transition reforms more or less widely embraced by postcommunist governments posed great challenges to the legitimacy of a redistributive socialist state (Standing 1996). Despite these general trends of a declining redistributive state, cross-national differences in the equalizing activities of the state within the postsocialist region do exist because some states preserved a greater redistributive capacity than others (Haggard and Kaufman 2008). For example, Garner and Terrell (1998) report that since the early 1990s, the Czech Republic put several “safety net” and welfare state programs in place, including the establishment of unemployment benefits and retirement pensions. The authors conclude that the social insurance programs—particularly retirement pensions—played a large role in mitigating the unequal effects of the transition to a market economy on the poor in the Czech Republic (cf. Zaidi 2009). In contrast, unemployment benefits and pensions have been quite low in Romania and the real value of allocations to government-run social welfare programs decreased steadily after 1989 (Rotariu and Popescu 1999). Romania is also one of the CEE countries with the highest income inequality.

In short, the extent to which the state retrenches from its historically active role in redistribution, or maintains social protections, should have a significant impact on patterns of income inequality during postsocialist transition. *We would expect that the greater the state expenditures in a country, the lower the overall income inequality.*(3)

Social Exclusion of Ethno-National Minorities

The collapse of communism also brought politico-cultural transformations that heightened social differentiation between people. Increasing marketization and democratization privileged assertion of individual rights and responsibilities over collective interests emphasized in socialism. One key aspect of differentiation became ethno-national identities, distinguishing those who belong to the core-national populations, on one hand, and ethno-national minorities, such as the Roma (Gypsies) who live throughout CEE, Russians in the Baltic States, Slovaks in the Czech Republic, and Turks in Bulgaria, on the other.

Discrimination of ethnic minorities can be linked to the amplification of nationalist sentiments that gained wide-spread popularity after the collapse of communism and were “widely available and resonant as a category of social vision and division” (Brubaker 1996: 21). The world witnessed a proliferation of national movements and national sentiments in postsocialist Europe after the end of Communist Party rule and assertion of national sovereignty of several newly-established postsocialist states (Calhoun 1993, Cohen 1999). Competing parties used nationalism as a tool of political mobilization and support so that in a number of countries, “the rhetoric and symbols with the greatest electoral appeal were national(ist) ones” (Verdery 1998: 294). Overall, nation-oriented idioms had a prominent place in the cultural repertoires of people experiencing and making sense of budding democratization and marketization, which by definition would make social differences more apparent than the professed equalizing force of socialist collective interests.

However, any differentiation can easily serve as a basis for social exclusion and thereby lead to inequality. Consequences can be particularly stark when ethno-national exclusion becomes institutionalized and “postcommunist governments take the view that they do not represent citizens but the [core] nation” (Schopflin 1996: 153), a situation faced by ethnic Russians in the Baltic States of Estonia and Latvia; countries which have the largest minority populations in Central and Eastern Europe. Ethnic Russians, who were encouraged to migrate to the Baltic States when these were

annexed to the USSR, were denied automatic citizenship in Estonia and Latvia upon the break-up of the Soviet Union, including their descendants born after 1940. As Kirch (1997) reports, ethnic Russians in Estonia could acquire citizenship through naturalization, which required the knowledge of the local language and history. This represented an obstacle for Russians who grew up in Estonia because they are only proficient in Russian, which was the *de facto* official language in the USSR. As national language proficiency is a requirement for employment, Russian speakers are more vulnerable to economic disadvantage than ethnic Estonians (Budryte 2005).

Moreover, as Smooha (2001: 6-7) asserts, “there is a strong tendency for indigenous minorities to be non-assimilating [and] for majorities to be intolerant of cultural diversity” in many postsocialist states. One key example of social exclusion in Central and Eastern Europe is the case of Roma, who, unlike other minorities, are often treated as belonging to both different ethnic and racial categories (Emigh, Fodor, and Szelényi 2001: 6), and therefore face both nationalist and racialized discrimination. Roma, experienced a relatively high degree of social inclusion under communism when “full employment, industrialization, socialist urbanization, the housing policy, ‘free’ health care, and mass education all worked to incorporate the Roma more fully in society” (Magyari et al. 2001: 136). However, this ethnic group has been among the worst impacted by the transition. As Magyari et al. (2001: 135) note, “in the years after 1989, ethnic segregation has become rather common... [and the Roma] have been the most negatively affected by it. The ‘newly created segregation’ of the Romanian Roma is forced, built on Roma marginalization, experiences of discrimination, and their rejection from the majority society” (cf. Szalai 1999 on Roma in Hungary). Similarly, ethnic Turks in Bulgaria have been reported to experience rampant poverty (Todorova 1999).

In short, the collapse of the communist system in CEE countries promoted an atmosphere of social differentiation that put ethnic minority groups at risk of reactionary policies, discriminatory employment practices and other problems. This dynamic has been particularly pronounced among the ethnic Russians in the Baltic States, and the Roma in other CEE countries. We argue that countries with substantial ethno-national minority populations, i.e. those of ethnicities other than nominal nationals, will have larger segments of their populations subject to some form of social exclusion. As a consequence, this will lead to impoverishment of ethno-national minorities and *greater levels of income inequality in countries with more sizable ethno-national minorities population.*

Foreign Investment

Postsocialist transformations have been influenced not only by domestic processes but also by the changing character of the world-system. In fact, postsocialist transformations and the intensification of globalization have significantly influenced each other (Bandelj 2008). The rise in foreign direct investment (FDI) after the 1980s, one of the key indicators of the intensity of economic globalization (Guillén 2001) has been spectacular. The collapse of communist regimes, and liberalization of Central and Eastern Europe provided ample opportunity for foreign investors. To emphasize the importance of the simultaneity of the two processes of market transition and globalization, some observers go as far as to consider the penetration of foreign capital after the collapse of state socialism as “the most momentous structural force in the transformation process” (Böröcz 2001: 1163).

The coincidence of rising inequality and foreign capital inflows suggests some type of relationship between them. Analysts overwhelmingly agree that national-level outcomes are affected by the integration of individual countries into the network of global connections (e.g. Mahutga 2006), and there is a significant amount of evidence supporting the inequality increasing effects of FDI. However, the purported mechanisms behind the inequality increasing effects of FDI are quite disparate. Early foreign capital dependency school researchers suggested that foreign capital penetration distorts the evolution of the labor force structure by increasing the tertiary sector, where “income distribution is extremely polarized” (Evans and Timberlake 1980: 534). Moreover, they believed that governments in less developed countries implement policies that lower the bargaining power of labor and eliminate provisions that encourage full employment and wage enhancement in order to attract foreign investment in the first place (Beer and Boswell 2002; Bornschier and Ballmer-Cao 1979; DeMartino 1998; McMichael 1996; Ranney 1998).

A major aspect of early dependency thinking on the relationship between FDI and underdevelopment was that short term “flows” tended to spur development, while the long term accumulation of “stock” tended to harm it, but this distinction was not made with respect to the relationship between FDI and income inequality (e.g. Bornschier et al. 1978: 664-665; Bornschier and Chase-Dunn 1985). Moreover, we propose that several unique characteristics of postsocialist CEE states set them apart from the prototypical underdeveloped country. First, inflows of FDI were practically non-existent prior to the fall of communism (Bandelj 2008), so there was little opportunity for the sort of long term accumulation of FDI capital stock consistent with the FDI penetration literature.(4) Second, postsocialist CEE countries had a very high degree of industrialization prior to the fall of socialism compared to the prototypical underdeveloped country (Kornai 1992). Finally, postsocialist countries had comparatively low levels of income inequality prior to the fall of socialism (Heyns 2005). Taking these specific features into account, we suggest that FDI increases inequality in CEE in the *short term* via three potential causal pathways.

First, FDI in postsocialist Europe primarily entered the sectors of trade, business activities and financial services (UNCTAD 2006), and therefore contributed to a growing cadre of high wage managerial employment. Indeed, in his study of firm restructuring in several postsocialist countries, King (2001) finds that the wealth and prestige that go along with being a manager in a foreign multinational are quite substantial. Thus, irrespective of the issue of whether or not FDI depresses labor wages, it could increase overall inequality by increasing the wage premium to management *within* the foreign sector (Milanovic 1999).

Second, FDI inflows to CEE countries might increase inequality by raising the wage premium to workers in the foreign sector. Indeed, there is some evidence for this dynamic at work in countries outside of the CEE (Aitken, Harrison and Lipsey 1996; ILO 1998; Moran 2002), where the foreign sector is shown to be more productive than the domestic sector for various reasons, including a tendency for higher capital and scale intensity among foreign firms *vis-à-vis* domestic ones (Aitken, Harrison and Lipsey 1996; c.f. Lipsey and Sjöholm 2001), which increases the demand for skilled labor in the foreign sector relative to unskilled labor in the domestic sector, inducing divergence between the two (Feenstra and Hanson 1997). Indeed, the little evidence that we have from organizational level studies in CEE show that companies who privatized with foreign capital are, on average, more productive than those privatized by domestic capital (Megginson and Netter 2001). Complimentarily, this dynamic could also lower productivity in the domestic sector if the foreign sector absorbed the majority of the skilled labor, in turn lowering wages in the domestic sector *vis-à-vis* those in the foreign sector. This wage dynamic resonates with the finding that FDI penetration lowers the productivity of total capital investment through its reduction in the returns to the domestic investment rate (Dixon and Boswell 1996b: 580-582).

In short, FDI may increase the wages of management *vis-à-vis* labor within the foreign sector, and / or operate through a sector dualism between the foreign and domestic sectors that either emerges through higher productivity linked wage rates in the foreign sector, and / or when FDI reduces the returns to domestic investment by absorbing a large proportion of the skilled labor force.. Any or all of these mechanisms lead us to *expect a positive association between FDI inflows and income inequality* over the short term in CEE countries.

Data and Methods

Sample

We assembled a dataset that includes ten postsocialist countries, Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia, for the period from 1989 to 2001. These countries represent a set of most comparable postsocialist cases because of their common membership in the European Union and the similar political and economic changes that acquiring such membership implies. Because of data limitations, panels are unbalanced, with varying numbers of observations over time for different countries. (See appendix A for the list of country/year observations.) This is a commonly used strategy in inequality studies and necessitates the estimation of models with fixed-effects or random-effects, rather than ordinary least squares (OLS) to correct for unmeasured country specific heterogeneity. (See Alderson and Nielsen [1999, 2002] for a detailed discussion on these methods for analyzing unbalanced panel data.) To present

models that allow for comparison across different specifications, we estimate all models on a sample of 75 observations for which data on all variables are available.

Dependent Variable

The dependent variable in this analysis is the Gini index for each country/year observation. The details of its operationalization are provided in Table 1. The data come from the TRANSMONEE dataset on Central and Eastern Europe, which is the largest East European dataset with Gini indices across our countries of interest and over time. Researchers have noted that there are differences in measurement across datasets (for review, see Heyns 2005), so using a single source is most appropriate. A limitation to these data is that they refer to the formal sector of the economy and do not capture inequality arising from informal employment.⁽⁵⁾ Despite this limitation, the inequality data we analyze are the best data available and are comparable to the data analyzed in other contexts (e.g. Alderson and Nielsen 1999; Lee 2005).

In order to establish causal priority of predictors to the outcome, we lag the independent variables one year so that all right hand covariates are measured at time t and the dependent variable is measured at time $t+1$. We opt for a one-year time lag for several reasons. First, *a priori* rationales for how long a lag *should* be do not exist, and studies of income inequality commonly use a one-year time lag (Alderson and Nielsen 1999; 2002; Lee 2005; Nielsen 1994; Nielsen and Alderson 1995), or a *variety* of longer time lags (i.e. Kentor 1998; Dixon and Boswell 1996a). Second, and following from above, we base our decision about the length of the lag on both substantive and methodological considerations. Substantively, we are interested in estimating the effect of our independent variables on income inequality over the short term because the primary causal processes we identify began after the fall of Communism in 1989, so a short time lag is more appropriate. Methodologically, the issue of sample size is very relevant as each additional year lagged reduces the sample size by 10 percent. In our case, even a modestly longer 5 year lag would cut our sample size by over one half, bringing it to 33 observations and making it impossible for us to assess the robustness of our main variables of interest to alternative explanations of the differential increases of income inequality in CEE. Unreported analyses show that the coefficients that result from longer lags are substantively identical to those reported, except for the substantial decreases in statistical power. These are available upon request.

Independent Variables

The key independent variables of interest capture social processes of privatization, redistributive state retrenchment, social differentiation, and global integration, in their impact on postsocialist income inequality, as indicated by the size of private sector, government expenditures, ethno-national minorities size and FDI inflow, respectively.

We also include a set of controls based on previous research on income inequality that follows Kuznets' (1953, 1955) theory of an inverted U-shape relationship between development and inequality. Hence, we control for GDP/capita and its square term. Nielsen (1994) extended Kuznets and specified the mechanisms underlying the inequality transition over the course of development: the size of the agricultural sector, sector dualism, the demographic transition, and the spread of education (see also Alderson and Nielsen 1999; 2002). We control for the influence of all these factors, as well as the level of unemployment, domestic investment (Alderson and Nielsen 1999) and changes in the share of employment in the service sector (Evans and Timberlake 1980). In addition, we include a variable that captures inequality levels in 1990, to control for initial country differences. We also fit a time trend.

The list of all the independent variables used in the analysis with operationalizations and descriptive statistics is included in Table 1. Zero-order Pearson's correlation coefficients appear in Appendix B.

[Table 1 about here]

Pooled Cross Sectional Time Series Analysis

Our data set consists of a pooled cross section of time series. Pooling requires us to control for unmeasured heterogeneity across cases by estimating either random effects (REM) or a fixed effects (FEM) regression models (Amemiya 1985, Halaby 2004; for applications see Alderson and

Nielsen 1999, 2002; Gustafsson and Johansson 1999). For methodological and substantive reasons, we report REM models. First, while FEM are the most conservative approach because they control for any unmeasured time invariant variation across cases by removing all between-country variation, Tuma and Hannan (1984) showed that REM are asymptotically more efficient relative to FEM, which is especially helpful in the context of our small sample. Moreover, the FEM approach precludes the identification of parameters for time invariant covariates, such as the ethno-nationalism variable that we include. In addition, we are primarily interested in whether or not the social processes we discuss explain the cross-case variation in inequality change over time. Thus, we want to include the initial value of inequality because it generalizes to a dynamic interpretation in which right hand side variables predict change in income inequality from time 1 to time T (e.g. Jackman 1980: 605 f.n. 2).

While the REM approach is more efficient and flexible to various types of specifications, it is valid only if the assumption that the unmeasured unit effects are uncorrelated with regressors is met (Halaby 2004). The Hausman test (1978)—the textbook procedure to determine which approach is appropriate—is a test of the hypothesis that $\beta_{fe} - \beta_{re} = 0$, for all β . Differences across the two approaches raise concern that the unit effects are correlated with the regressors, and therefore that the RE estimates of β are plagued with heterogeneity bias. Should the FEM and REM specifications reveal no substantive differences in β , there is little reason to worry about such bias. We estimated Hausman tests across all the specifications we report below, and in no cases were we able to reject the hypothesis about insignificant difference in β across the two estimating procedures. Thus, in order to make sure our results are robust to a dynamic interpretation, we estimate random effects models that control for the initial level of inequality on the right-hand side.

Finally, an additional requirement of pooled cross section of time series models is that there be no serial correlation in the idiosyncratic errors. To the extent that this serial correlation does exist, it must be accounted for. We test the hypothesis that the idiosyncratic errors do not follow a first order autoregressive process, and these tests uniformly led to the conclusion that serial correlation in the idiosyncratic errors was not present (Drucker 2003; Woodridge 2002). Still, we re-estimated the full models after estimating and adjusting for a first order auto-regressive process in the idiosyncratic errors, which were substantively identical. We also estimated a series of models to make sure that the linear time trend we include is preferable to T-1 dummy variables, the results of which suggested that the cost of the latter approach in terms of degrees of freedom was not justified (Green 2000: 565). These analyses are available upon request.

We analyzed the data using Stata 9.2. In addition, we tested for potential outliers and influential cases. None of the individual cases was unduly influential so we did not exclude any observations and ran all the models with a sample of 75 observations.

Results

The list of potentially relevant variables is long compared to the degrees of freedom. Hence, we conduct the analyses in two stages. In the first stage (Table 2), we fit a baseline model by examining the relevance of development indicators. Then (Table 3), we incorporate the statistically significant baseline model indicators into the analysis of the key variables of interest: privatization, redistributive state retrenchment, exclusion of minorities and foreign investment.

[Table 2 about here]

The findings reported in Table 2 show that economic development is not related to income inequality trends in postsocialist Europe. We tried various specifications of this relationship, including a linear term (model 1) and a quadratic term (model 2) but neither was significant. Model 3 shows that most of the other covariates for the baseline development model do not significantly predict inequality changes in these postsocialist countries. The only factor from the baseline model that has a robust relationship to the income inequality upswing and explains a significant amount of variance is sector dualism. Sector captures the wage gap between high industrial sector wages and low agricultural sector wages. Our results indicate that the greater this share, the greater the subsequent inequality. However, none of our countries experienced major shifts in the agricultural sector during the transition period (in most countries this share remains relatively stable over time). Thus, it seems

that a more plausible explanation for the dualism effect is the contraction of the contribution of the agricultural sector to overall GDP, which reduces the denominator in the dualism ratio and contributes to higher values on the dualism score. This can happen on account of the absolute decline in the agricultural sector as well as because of the relative decreased productivity of the agricultural sector compared to the non-agricultural sector. We propose that in postsocialist Europe the effect is due to both of these mechanisms. Some other studies provide evidence of struggling agricultural sectors, in absolute terms. For instance, Greif (1998) reports that the Eastern European agriculture faces a “subsistence crisis” and Maddock (1993) and Hristova and Maddock (1995) provide evidence of this for Lithuania and Bulgaria. The robust effect of the sector dualism variable leads us to include it in subsequent models reported in Table 3.

[Table 3 about here]

Table 3 presents the results of our key variables of interest. The significant positive association between the size of the private sector and inequality reported in model 1 suggests that the amount of privatization in Central and Eastern Europe is associated with larger increases in income inequality.⁽⁶⁾ Only certain segments of the population benefited from the possibilities for income accumulation associated with market transition.

In order to assess the effect of redistributive state retrenchment, we include a variable for overall government expenditures. Its effect is consistently negative in Table 3, as hypothesized, and in line with much literature that argues for the importance of institutions on social outcomes (e.g. Esping-Andersen 1990, Western 1997, Korpi and Palme 1998). We find evidence that income inequality is lower in cases where government expenditures, including social transfers and provision of public goods, are higher.

In addition to these state-institutional factors, we also highlighted the role of socio-cultural factors as predictors of income inequality by arguing that ethno-national minorities were especially vulnerable during postsocialist transition. We argued that inequality should be higher in societies with larger share of minority population, such as sizable Russian minorities in Estonia, Latvia and Lithuania, Roma in Hungary and Romania, and Roma and Turks in Bulgaria. This is reflected in the significantly positive effect of our covariate that captures the relative size of ethno-national minorities reported in Model 2 of Table 3. In short, the larger the ethno-national minorities in the population, the higher the income inequality in that country. It is important to note that especially the Roma minority may be subject to indirect effects of ethno-nationalism that works through lower educational attainment and higher fertility rates among them, perpetuating their economic disadvantage (Emigh, Fodor, and Szelényi 2001).

Model 3 introduces foreign investment penetration as an explanation for income inequality in postsocialism. FDI was restricted in Central and Eastern Europe during socialism, but the region opened up to FDI during market transition to varying degrees across individual countries. Does variation in FDI inflow explain variation in income inequality across these Central and East European states? The positive and statistically significant coefficient for the per capita inflow of FDI in Model 3 suggests that foreign capital penetration is indeed associated with greater subsequent income inequality levels and increases in the initial ten years of market transition.

Moreover, FDI seems to intervene in the relationship between privatization and income inequality. This is not surprising when we consider that the size of private sector is strongly correlated with FDI inflow. In fact, available research suggests that the size of the private sector is a significant determinant of the amount of incoming FDI, reflecting the extent to which postsocialist transition presented opportunities for foreign investors to come and acquire privatizing or newly-privatized firms in CEE (Bandelj 2008). Indeed, as Model 4 shows a specification that includes FDI *in place of* privatization produces a higher R^2 than when privatization is included, prompting us to exclude it from Model 5. In short, the fact that the significant effect of privatization disappears once the FDI variable is added to the model suggests that it is the volume of FDI, not the size of the private sector per se, that is more consequential for increasing income inequality.

Finally, Model 5 introduces domestic investment and changes in tertiary employment as a final pair of control variables. With respect to tertiary employment, changes in the share of employment in the service sector has been shown to intervene in the relationship between FDI and income inequality (Evans and Timberlake 1980), so we want to control for this potential cause of rising income inequality in CEE. It is important to include domestic investment (Alderson and Nielsen 1999) because it is possible that FDI is acting as a proxy for domestic capital formation, in which case the inequality upswing would be related to processes of domestic rather than foreign capital formation. As Model 5 shows, neither change in the share of employment in the service sector nor domestic investment are significant predictors of income inequality, and the effects of our four primary variables of interest remain robust to their inclusion. We also estimated a series of models in order to assuage concern over spurious “denominator effects” (e.g. Alderson and Nielsen 1999; de Soya and Oneal 1999; Dixon and Boswell 1996; Firebaugh 1992; Kentor 1998), which suggested that our estimates of the effect of FDI inflows per capita are robust to that potentiality.(7)

Discussion and Conclusion

Socialist Central and East European states represented relatively egalitarian and industrially developed societies. The collapse of communist regimes exposed them to the pressures of marketization and globalization rather suddenly. Since 1989, income inequality in postsocialism rose significantly but not uniformly across all Central and East European states. As an explanation for these cross-national differences, we focused on the role of social, political and cultural factors as determinants of cross-national variation in economic inequality trends.

Our findings from random-effects regression models suggest that income inequality changes in postsocialist Europe during the first decade after 1989 were influenced by 1) the expansion of the private sector, 2) the retrenchment of the redistributive capacity of the state, 3) the social exclusion of ethno-national minorities, and 4) the rapid penetration of foreign capital. That is, income inequality rose faster in countries that reduced the redistributive role of the state and privatized more substantially. Moreover, in light of amplified nationalist sentiments and institutionalized forms of ethnic discrimination, postsocialist countries with sizable ethno-national minorities have greater social inequality, pushing ethno-national minorities to the bottom of postsocialist class structures. Finally, postsocialist states that received more foreign investment per capita also registered more income inequality. In fact, the similarity between the privatization and foreign capital penetration effects, coupled with the marginal inequality *reducing* effect of domestic investment, suggest that privatization strategies favoring foreign capital created more inequality than those favoring domestic capital.

Overall, these findings provide strong evidence for social foundations of income inequality trends. The inequality increasing effect of ethno-national minority exclusion seems to be the most obvious of these social factors. But privatization and globalization related outcomes also have social bases. Researchers have argued that privatization is a neoliberal policy idea (Brune, Garrett, and Kogut 2001), and that its adoption is heavily influenced by institutional factors (Henisz, Zelner, and Guillen 2005). Scholars of postsocialist transition point to the role of politics and socialist legacies in decisions about the speed and forms of privatization (Stark and Bruszt 1998) and decisions to institutionalize and legitimize FDI as a desirable development strategy (Bandelj 2008).

Ultimately, then, the key implication of our findings is that major upsurges in inequality are not an inevitable feature of the transition from socialism to capitalism. Postsocialist states that made political choices to preserve a larger state sector, limit FDI penetration and keep individualist orientations in check with institutional provisions for social protection experienced less income inequality after the collapse of communism than did their counterparts.

Finally, we want to summarize the contributions that our research makes to three strands of scholarship. First, our results have implications for the market transition thesis about positive externalities that would (at least initially) accompany the spread of markets, which commands a great deal of attention among scholars of postsocialist transformations (e.g. Nee 1989, Róna-Tas 1994, Szelényi and Kostello 1996, Gerber and Hout 1998, Gerber 2002). We complement existing individual-level studies with a macro cross-national analysis and find that income inequality increases

across and within Central and Eastern European countries in the first decade after the fall of communist regimes. The effect of sector dualism suggests that farmers and agricultural laborers, who, on average, accumulated little political and social capital during socialism (Hanley 2003; Titma, Tooding, and Tuma 2004), have been particularly left behind in the market transition and are a segment of the population particularly prone to poverty in many CEE countries (Szalai 1999, Todorova 1999). In addition, our findings suggest that ethno-national minorities have been economically disadvantaged, likely due to various formal institutional and informal prejudice-based obstacles to fair social inclusion (Emigh and Szelenyi 2001). Moreover, declines in the redistributive role of postsocialist states further disadvantage those on the societies' brinks.

Second, our research adds to the literature on income inequality and globalization, finding that inflow of FDI is significantly related to higher income inequality in the first decade of postsocialist market transition. Available qualitative evidence and sectoral distribution of FDI leads us to conjecture that FDI increases inequality by increasing the wage premium to management within the foreign sector and by increasing the wage gap between the foreign and domestic sectors. In the latter case, the gap may increase if foreign firms provide higher wages or if large flows of FDI tend to decrease the productivity of the domestic sector through "brain drain." Indeed, our analysis suggests that these FDI effects manifest themselves already in the short/medium term. What the long-term consequences of this dependency on Western capital will be for Eastern Europe is yet in the making, and a subject for future research.

Third, this research advances the economic sociology perspective on macroeconomic phenomena, a line of inquiry deserving more attention by economic sociologists (Granovetter and Swedberg 2001). Our findings prompt us to reconsider general explanations that assume income inequality is a direct by-product of economic development. The case of postsocialist transition, concurrent with intensification of globalization, shows that socio-economic processes that generate income inequality in Central and Eastern Europe – privatization, foreign capital penetration and ethno-national minority exclusion – and institutional factors that deter rising differentiation – the preservation of the redistribute capacity of the state – constitute the social-structural, political and cultural context of postsocialist stratification. When data become available, researchers should test these arguments on a larger set of cases, over a longer time span, and with more refined measures of these processes. Such research may further explicate the social foundations of economic inequality trends.

Endnotes

1 In one of the very few studies that include socialist countries in their analyses of inequality, Alderson and Nielsen (1999) find that the presence of a Marxist/Leninist regime reduces the Gini coefficient by somewhere between 5.3 and 10.1 points.

2 Decommodification refers to the differing degrees to which individuals in different societies are able, given the same level of total social welfare expenditure, to opt out of the market while maintaining a socially acceptable standard of living (Esping-Andersen 1990, Alderson 1997). While previous work finds a fairly robust negative association between income inequality and decommodification, it is also possible that some workers could use the time afforded them through decommodification to engage in entrepreneurial or other types of activity, which could generate rising inequality within working classes.

3 Unfortunately, overtime data for more nuanced aspects of state redistribution, including proportion of social transfers and health and education spending, are not yet available for Central and Eastern Europe, so we can test only the influence of a most general indicator, i.e. government expenditures on income inequality.

4 Some intra-regional investment activities occurred between COMECON countries, i.e. the Soviet Union and its satellite states (McMillan 1987: 4). However, such efforts did not involve direct equity investment of one COMECON state into another, and thus would not qualify as foreign direct investment according to contemporary international organizations that collect information on FDI, including the United Nations Conference on Trade and Development, International Monetary Fund, and the Organization for Economic Cooperation and Development.

5 Most inequality datasets based on official reports and surveys have this limitation. In order to address it we estimated fixed effects models to capture differential country propensities for informal employment and the results for our independent variables of interest remained robust.

6 In unreported analyses, we also estimated fixed effects models to control for any differentiation due to privatization strategies across countries that we may not be able to measure directly, which were substantively identical with the ones reported here, consistent with the non-significant Hausman tests.

7 We estimated a series of models that included both FDI stock and FDI flow separately, finding that they produce substantively identical effects owing to their high correlation (.940 in these data). We estimated a series that included flow and stock simultaneously, which revealed no evidence of spurious denominator effects—while both coefficients were positively signed, neither effect was significant, lending further support to the interpretation that they have substantively identical effects. Finally, we estimated models that controlled for the *rate* of FDI inflow (flow/stock), which was neither significant nor altered the effect of FDI on income inequality. These tables are available upon request.

Figure 1. Rising Income Inequality in Ten Postsocialist European Countries, 1990 - 2001 (N = 75)

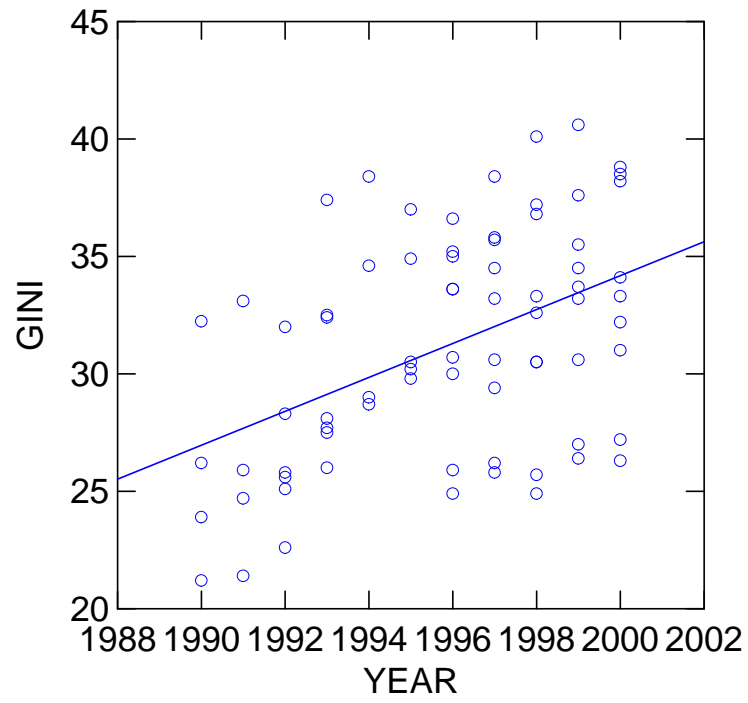
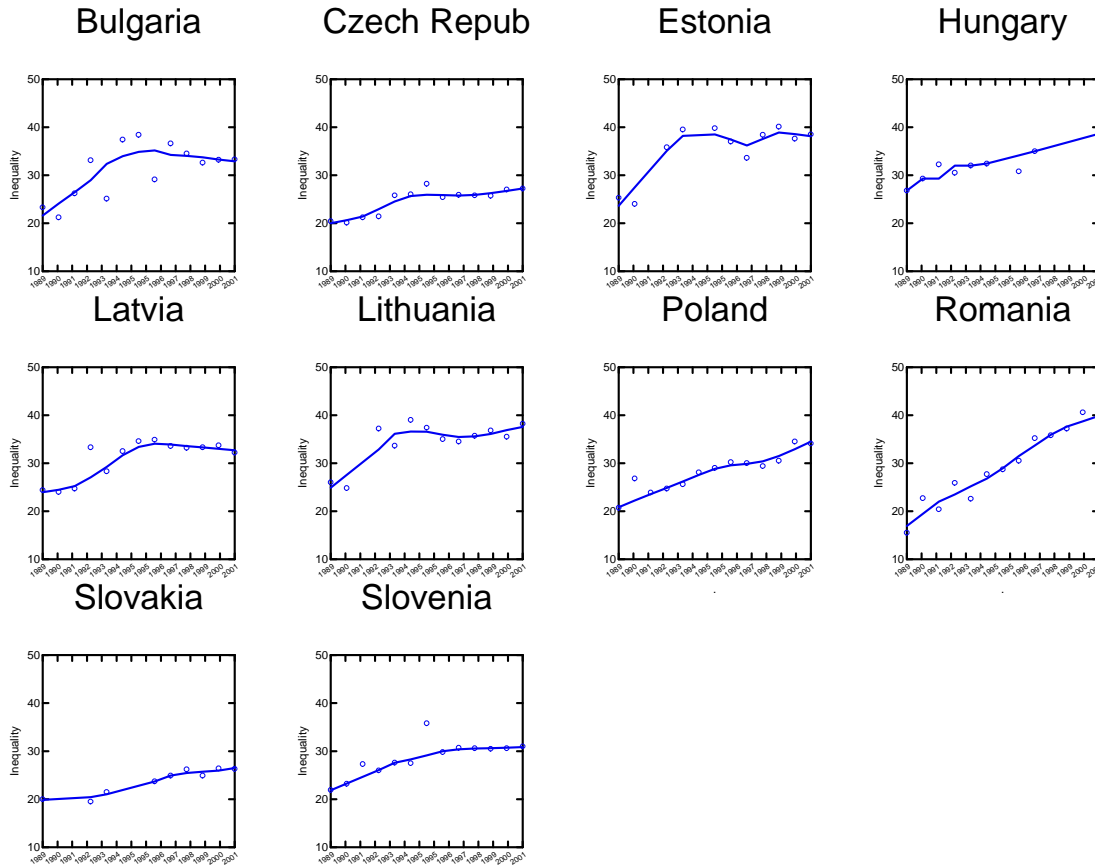


Figure 2: Income Inequality Trends in Individual Postsocialist Countries, 1989-2001



Notes: Smoothers are obtained with locally weighted least squares (LOWESS), which produces a smoothed line so that proximate cases weight more heavily than do distant ones by running along the x values and finding predicted values from a weighted average of nearby y values. The surface is allowed to flex locally to better fit the data, and we use the default tension setting (.5) to specify the local flex.

Table 1. Variables used in the Analysis of Income Inequality in Postsocialist Countries

| Variable | Description | Mean (S.D) |
|--|---|-----------------------|
| Dependent Variable | | |
| Gini Index | Gini coefficients expressed in percentage terms, measuring the dispersion of income between the richest and the poorest. The higher the score, the higher the dispersion/inequality. Data come from Transmonee database, which is the only one that includes all countries in our sample. Data are derived from household income (interpolated distributions from grouped data from household budget surveys) or household earnings (interpolated from group data for monthly earnings, with bonuses, for full-time employees as reported by employers). A control for income source was insignificant. | 31.175 (4.812) |
| Privatization | | |
| Size of Private Sector | Percent of GDP accounted for by Private Sector. When this variable is included together with the time trend, we corrected for time's indirect effect on outcome via the size of private sector by regressing the size of private sector variable on the time variable and using the unstandardized residuals in place of the original size of private sector variable (i.e. orthogonalization, Draper and Smith 1981). | 56.263 (18.702) |
| Redistributive State Retrenchment | | |
| Government Expenditure | Government expenditure as % of GDP includes any investment expenditure by a government into public goods and transfer payments, such as social security or unemployment benefits, salaries of public servants, and purchase of weapons for the military. When this variable is included together with sector dualism, we corrected for its indirect effect on the outcome via dualism by regressing dualism on government expenditure and using the unstandardized residuals in place of the original dualism variable. | 42.621 (7.346) |
| Ethno-Nationalist Discrimination | | |
| Ethno-national Minorities Size | Percent share of ethno-national minorities population in a country. Coded as 2 if more than 20%, as 1 if between 10-20%, and as 0 if less than 10%. | .912 (.770) |

Foreign Capital Penetration

| | | |
|-----------------------|---|----------------------|
| FDI Inflow per capita | The size of FDI inflow into the country i at year t . Measured as the ratio of FDI inflows (\$) to population size, and logged for skewness with a base 10 log transformation. When this variable is include together with the time trend, we corrected for the time's indirect effect on the outcome via FDI by regressing the FDI variable on the time variable and using the unstandardized residuals in place of the original FDI variable. | 111.976 (108.156) |
|-----------------------|---|----------------------|

Baseline Development Indicators

| | | |
|---|---|----------------------|
| GDP | Gross Domestic Product Per Capita (\$ thousand), logged for skewness with a base 10 log transformation | 3782.83 (2539.41) |
| Percent of the Labor Force in Agriculture | The percentage of the labor force that works in the agricultural sector. | .182 (.104) |
| Unemployment | The percent share of registered unemployed people as a share of labor force | 10.802 (4.328) |
| Sector Dualism | Following Alderson and Nielsen (1999, 2002), this captures the average difference in income between the agricultural and non-agricultural sectors of the economy. It is measured as the absolute value of the difference between the percentage of the labor force in agriculture, and the proportion of GDP in agriculture. | .091 (.075) |
| Secondary School Enrollment | Total upper secondary education enrolment Upper secondary education: offers educational programs which require the completion of basic education for admission or a combination of education and vocational and technical experience. This is measured as the ratio of enrolled students to the age relevant population (15-18), in percent. | 78.596 (11.537) |
| Natural Rate of Population Increase | Birth rate minus death rate, per thousand population; excludes changes due to migration | -1.910 (2.613) |

Additional Controls

| | | |
|---------------------|--|-------------------|
| Domestic Investment | Domestic Investment consists of additional outlays to the economy's fixed assets, plus net changes in inventory levels. Fixed assets include | 23.514 (5.924) |
|---------------------|--|-------------------|

| | | |
|---------------------------|--|-------------------|
| | land improvements (fences, ditches, drains, etc.); plant, machinery and equipment purchases; and the construction of roads, railways, schools, offices, hospitals, private residential dwellings, commercial and industrial buildings etc. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales and “work in progress.” Net acquisitions of valuables are also considered capital formation. | |
| Change in Tertiary Sector | Change in employment in the service sector as a percentage of the labor force. | 21.904 (3.332) |
| Gini in 1990 | Gini index at the beginning of transition to take into account differences in country initial conditions. See explanation for Gini index above. (When this variable is included together with ethno-national minorities size we corrected for the indirect effect of this variable on the outcome via initial Gini by regressing initial Gini on ethno-national minorities size and using the unstandardized residuals in place of the original initial Gini variable. | 47.809 (9.107) |
| Time trend | A time trend, where 1990 = 1 | 8.373 (4.812) |

Note: See Appendix A for data structure and sources.

Table 2: Baseline Model: Unstandardized Coefficients from Random-Effects Regression of Income Inequality on Development Indicators^a

| | Model 1 | Model 2 | Model 3 |
|--|--------------------|--------------------|--------------------|
| BASELINE DEVELOPMENT INDICATORS | | | |
| GDP/capita (log) | -7.260 (-1.88) | -64.484 (-0.78) | |
| GDP/capita (log) – squared | | 8.086 (0.70) | |
| Labor in agriculture | | | 6.401 (0.51) |
| Sector dualism | | | 31.269** (2.47) |
| Unemployment | | | -0.048 (-0.50) |
| Education level | | | -0.016 (-0.24) |
| Population growth | | | -0.637* (-2.25) |
| CONTROLS | | | |
| Gini in 1990 | 0.673* (2.14) | 0.750** (2.36) | 0.778** (2.49) |
| Time trend | 0.812*** (7.44) | 0.802*** (7.29) | .451** (2.69) |
| Constant | 35.533** (2.37) | 134.617 (0.94) | 7.591 (0.75) |
| R2 | 0.490 | 0.527 | 0.610 |

^a Coefficients are obtained with random effects GLS regression.

* p < .05 ** p < .01 *** p < .001 (two-tailed tests), t-values based on robust standard errors are in parentheses, N=75

Table 3: Social Foundations of Income Inequality in Postsocialism: Unstandardized Coefficients from Random-Effects Regression of Income Inequality on Select Independent Variables^a

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|--|---------------------|----------------------|----------------------|----------------------|----------------------|
| PRIVATIZATION | | | | | |
| Size of private sector ^b | 1.469*** (4.03) | 1.496*** (4.08) | 0.515 (1.39) | | |
| REDISTRIBUTIVE STATE RETRENCHMENT | | | | | |
| Government expenditures | -1.351** (-2.83) | -1.266** (-2.57) | -1.206* (-2.41) | -1.195* (-2.44) | -1.172* (-2.03) |
| SOCIAL DIFFERENTIATION | | | | | |
| Ethno-national minorities size | | 2.568* (2.33) | 2.630* (2.00) | 2.627* (2.34) | 2.183* (2.08) |
| GLOBAL INTEGRATION | | | | | |
| Inward FDI flow/capita (log) | | | 1.507*** (3.66) | 1.500*** (3.72) | 2.132* (2.48) |
| BASELINE MODEL CONTROL | | | | | |
| Sector dualism | 2.829*** (4.37) | 2.817*** (4.29) | 2.731*** (3.98) | 2.635*** (4.06) | 2.736*** (3.35) |
| ADDITIONAL CONTROLS | | | | | |
| Domestic Investment | | | | | -.136 (-1.53) |
| Change in Tertiary Sector | | | | | .450 (.39) |
| Gini in 1990 | 1.050*** (3.25) | 2.419* (2.02) | 2.019 (1.38) | 1.987 (1.58) | 1.596 (1.40) |
| Time | 0.614 (1.50) | 0.588 (1.44) | 0.324 (0.84) | 0.609 (1.51) | .872 (1.47) |
| Constant | 8.697 (1.20) | 31.634*** (28.46) | 31.333*** (23.40) | 31.329*** (27.65) | 34.805*** (13.56) |
| R2 | 0.475 | 0.544 | 0.550 | 0.558 | 0.580 |

^a Coefficients are obtained with random effects GLS regression. * p < .05 ** p < .01 *** p < .001 (two-tailed tests), t-values based on robust standard errors are in parentheses, N=75, except for Model 5 where N=65

^b Collinearity between the private sector and FDI variables is substantial, as is indicated by a higher R2 when size of private sector is removed from the model than when it is included. Hence, Models 4 and 5 do not include the size of private sector variable.

APPENDIX A: DATA STRUCTURE AND SOURCES

SAMPLE: POOLED CROSS-NATIONAL TIME SERIES

Country/Year Observations included in these analyses: Bulgaria (1990-1994; 1996-2000), Czech Republic (1990-93, 1996-2000), Estonia (1995-2000), Hungary (1990, 1992-1993, 1996-), Latvia (1992-2000), Lithuania (1997-2000), Poland (1990-2000), Romania (1991-2000), Slovakia (1996-2000), Slovenia (1993, 1995-2000)

DEPENDENT VARIABLE

Gini Coefficient

TransMONEE 2003 Database, UNICEF IRC, Florence

ECONOMIC DEVELOPMENT

GPD per capita

Sources: World Development Indicators online data base: <http://devdata.worldbank.org/dataonline>

INTERNAL DEVELOPMENT MODEL

Secondary School Enrollment

Source: TransMONEE 2003 Database, UNICEF IRC, Florence.

Natural Rate of Population Increase

Source: TransMONEE 2003 Database, UNICEF IRC, Florence.

Share Employed in Agriculture

Source: World Development Indicators online data base: <http://devdata.worldbank.org/dataonline>

Share of Agriculture in GDP (for Sector Dualism measure)

Share of Agriculture in GDP source: EBRD Transition Report, 1999 and 2003.

Unemployment

Source: EBRD Transition Report, 1999 and 2003

PRIVATIZATION

Private Sector Share in GDP

Source: EBRD Transition Report, 1999 and 2003.

REDISTRIBUTIVE STATE RETRENCHMENT

Government Expenditure

Source: World Development Indicators online data base: <http://devdata.worldbank.org/dataonline>

SOCIAL DIFFERENTIATION

Ethno-national Minorities Size

Source: Freedomhouse Transition Reports <http://www.freedomhouse.org/template.cfm?page=1>

GLOBAL INTEGRATION

Inward Foreign Direct Investment Flow

Source: EBRD Transition Report, 1999 and 2003.

CONTROLS

Domestic Investment

Source: World Development Indicators online data base: <http://devdata.worldbank.org/dataonline>

Change in Tertiary Sector

Source: World Development Indicators online data base: <http://devdata.worldbank.org/dataonline>

APPENDIX B: Zero-order Correlation Coefficients for Variables used in the Analysis

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
| (1) Gini | -- | | | | | | | | | | | | | |
| (2) GDP/capita (log) | -.316 | | | | | | | | | | | | | |
| (3) Labor in agriculture | .239 | -.706 | | | | | | | | | | | | |
| (4) Unemployment | .206 | -.036 | .078 | | | | | | | | | | | |
| (5) Sector dualism | .184 | -.398 | .857 | .191 | | | | | | | | | | |
| (6) Education | -.304 | .590 | .227 | .266 | .073 | | | | | | | | | |
| (7) Population growth | -.589 | .316 | .239 | .206 | .184 | .304 | | | | | | | | |
| (8) Size of private sector | .351 | .219 | .270 | .345 | .063 | .244 | .351 | | | | | | | |
| (9) Govern't expenditure | .403 | .374 | .365 | .037 | .253 | .467 | .403 | .247 | | | | | | |
| (10) FDI/capita (log) | .317 | .478 | .466 | .196 | .192 | .166 | .317 | .763 | .105 | | | | | |
| (11) Ethno-national minorities | .577 | .506 | .024 | .014 | .163 | .659 | .577 | .133 | .396 | .063 | | | | |
| (12) Domestic investment | -.211 | .567 | -.612 | -.245 | -.381 | .189 | .521 | -.015 | .576 | -.041 | -.078 | | | |
| (13) Change in Tertiary sector | -.111 | -.025 | -.054 | -.085 | -.076 | -.093 | -.249 | .191 | -.088 | -.000 | -.078 | .081 | | |
| (14) Gini in 1990 | .361 | .066 | -.514 | .002 | -.511 | -.112 | .361 | .171 | .179 | .324 | .517 | .060 | .082 | |
| (15) Time trend | .459 | .171 | -.113 | .385 | .076 | .187 | .459 | .871 | -.375 | .694 | .150 | .418 | -.327 | .040 |

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