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Anomic Crime in Post-Welfarist Societies: Cult of the Individual, Integration Patterns and Delinquency

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Anomic Crime in Post-Welfarist Societies: Cult of the Individual, Integration Patterns and Delinquency

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Post-Fordist economies come along with post-welfarist societies marked by intensified cultural individualism and increased structural inequalities. These conditions are commonly held to be conducive to relative deprivation and, thereby, anomic crime. At the same time, post-welfarist societies develop a new "balance of power" between institutions providing for welfare regulation, such as the family, the state and the (labour) market—and also the penal system. These institutions are generally expected to improve social integration, ensure conformity and thus reduce anomic crime.
Combining both perspectives, we analyse the effects of moral individualism, social inequality, and different integration strategies on crime rates in contemporary societies through the lenses of anomie theory. To test our hypotheses, we draw on time-series cross-section data compiled from different data sources (OECD, UN, WHO, WDI) for twenty developed countries in the period 1970–2004, and run multiple regressions that control for country-specific effects.
Although we find some evidence that the mismatch between cultural ideal (individual inclusion) and structural reality (stratified exclusion) increases the anomic pressure, whereas conservative (family-based), social-democratic (state-based) and liberal (market-based) integration strategies to a certain extent prove effective in controlling the incidence of crime, the results are not very robust. Moreover, reservations have to be made regarding the effects of "market" income inequality as well as familialist, unionist and liberalist employment policies that are shown to have reversed effects in our sample: the former reducing, the latter occasionally increasing anomic crime.

1. Introduction

The anomie concept originating in the classic works of Durkheim (1984 [1893], 1952 [1897]) and Merton (1938, 1968 [1949]) has inspired large strands of criminology on both sides of the Atlantic (Rock 2002; Deflem 2006). But anomie is not confined to the sociology of crime; it also figures prominently in sociology as such: As a somewhat fuzzy, "complex" and "multidimensional" concept (Sztompka 1998), it provides heuristic guidance for sociological theory-building at the interface of normative and factual orders *(nomos)* and orients macrosociological research towards problems of integration and regulation. The causes and functions of deviance and delinquency are thus not only found in society at large; societies themselves are made up by "nomic" as well as "anomic" processes (Marks 1974).

Focussing on anomic crime in post-welfarist societies, this paper aims to contribute both to general and criminal sociology: By analysing the interplay of culture and structure and the interaction of major institutions (state, market, family) in "ordering", "dis-ordering" and "re-ordering" society, we provide a macrocontextualization of individual delinquency through the prism of anomie theory.

In our theoretical approach, we combine classic elements of both the Durkheimian and the Mertonian tradition and also benefit from recent developments in "institutional-anomie theory" (Messner and Rosenfeld 1994, 2006; Rosenfeld 2006). The latter parallels our own efforts in linking up to comparative research on the social foundations of welfare capitalism (Esping-Andersen 1990, 1999). By including insights from this field of study, we hope to shed new light

on the tensions between individualization and integration in contemporary societies (Thome 2007).
Empirically, we build on research in the fields of "inequality and crime" and "institutions and crime". We develop a model that combines conceptual and statistical features of state-of-the-art studies in both areas but adopts an original set of hypotheses based on our theoretical approach. Drawing on time-series cross-section data for twenty developed countries, we run multiple regressions that allow us to describe crime-generating mechanisms within and across welfarist and increasingly "post-welfarist" societies net of country-specific effects (Dean 1999).

2. Theoretical Background

In the following, we will briefly describe the different components of our theoretical approach and the anomie concept underlying our empirical study.

The first component of our approach figuratively goes back to Merton standing on the shoulders of Durkheim (Merton 1965), and basically refers to a mismatch between culture and structure at the macrosocial level that generates anomic pressure at the microsocial level: individuals who do not have the (structurally given) opportunities to live up to the (culturally prescribed) goals might thus turn to criminal careers. This rather rudimentary reading of the classic anomie concept can be enriched by Durkheim's focus on cultural inclusion, namely the "cult of the individual" (1973a [1898], 1961 [1952]), and Merton's focus on structural exclusion, experienced as "relative deprivation" (1968 [1949]; Merton and Kitt 1950). With respect to these notions, we would argue that the "inclusive" ideal of individual achievement also generates the "exclusive" reality of individual underachievement. The anomic conflict between an individualistic culture of competition and success on the one hand and stratified and precarious opportunities to compete and succeed on the other hand would thus be inherent in capitalist societies and generate a "normal" level of crime.

The second component of our anomie concept adds "social institutions" to this picture, as suggested by institutional-anomie theory. Whereas institutions have been in the centre of sociological interest from the very beginning (Durkheim 1966 [1895]), criminology still stands to gain from institutional analysis: Starting from this assessment, Messner and Rosenfeld commit themselves to "explaining different levels and forms of crime with reference to three analytically distinct types of institutional configurations that reflect differences in the articulation of institutions, or differences in the 'institutional balance of power'" (2004, 96). The three ideal-typical institutional configurations they refer to are inspired by Esping-Andersen's original "three worlds of welfare capitalism" (1990) and his later emphasis on the "inter-causal triad of state, market and family" (1999, 35). Using the same references, we will distinguish between three strategies of social integration that capture the different emphasis welfare regimes put on the role of the state, the labour market, and the family. In this perspective, anomic crime results from institutional failure.

The third component complements our approach and integrates the aforementioned aspects. Assuming that the crime-generating mechanisms suggested by our "classic" and "institutionalist" readings of the anomie concept point to different, albeit related dimensions of the problem at hand, we combine them in a larger framework. The first dimension, namely the conflict between cultural inclusion (promising individual achievement) and structural exclusion (perpetuating individual underachievement), thus interacts with the second dimension, namely the interplay and respective performance of major institutions (state, market, family) in providing welfare regulation and social integration. In this sense, crime is a result of both individual failure "to conform" and institutional failure "to integrate".

1 Countries included in the sample are Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom, and United States.

This twofold understanding of anomie is embedded in a larger framework of macrosociological theories that deal with societal transformations in the age of "globalization" and account for cross-national convergence and divergence at the same time. In this context, we would assign the cult of the individual and its neoliberal excesses to the level of world culture. The presumptions—and impositions—of rational actorhood and self-government are thus seen as factors of global convergence (Meyer and Jepperson 2000; Foucault 2007, 2008). In contrast, patterns of social integration are generally attributed to the national level, where strong institutional complementarities and path-dependencies seem to preserve distinct regulatory cultures and varieties of capitalism (Hall and Soskice 2001; Streeck and Thelen 2005).

By integrating the tension between global convergence (with respect to cultural values) and national divergence (with respect to institutional realities) into our model, we strive for a better understanding of the globalized division of labour and its characteristic problem of order. In other words, we expect that post-Fordist economies come along with post-welfarist societies that can be described by a new cult of the individual and shifting patterns of integration as well as by typical (individual and institutional) failures generating anomic crime. Sociological theory and criminological research would thus once more benefit from each other (Garland and Sparks 2000).

3. Previous Research

In our theoretical model, we highlighted two mechanisms that offer complementary explanations for anomic crime. The first mechanism attributes individual delinquency to structural inequality in highly competitive societies, the second builds on the integration capacity of specific institutional configurations at the national level. Although we are not aware of empirical studies that are fully compatible with our approach, comparative research based on international crime statistics has recently clustered around problems of "inequality and crime" as well as "institutions and crime". In the following, we will briefly sketch out some of the connections these studies have to our project and summarize the most relevant results.

Although comparative research on the criminogenic effects of inequality rarely starts from the "division of labour in society", we will commence our short review once more with Durkheim (1984 [1893]), or rather with Messner's "cross-national test of a Durkheimian model". In this early study, Messner accounts for both "moral individualism" and "social inequality" and thus employs concepts that are largely consistent with the first component of our anomie concept, namely the cult of the individual on the one hand and the stratified opportunity structure on the other hand (1982, 229; 1989, 607). While the latter—social inequality—is measured by the Gini coefficient, the former—moral individualism—is operationalized by the school enrolment ratio (or, alternatively, the size of the Protestant population).

With this conceptual reminder, we will now turn to the state-of-the-art in comparative research on inequality and crime. Our main point of reference is a rather comprehensive and statistically sophisticated study by Fajnzylber, Lederman, and Loayza (2002). Their model is based on panel data (robberies: 37 countries, 1970–94; homicides: 39 countries, 1965–95) and accounts for country-specific effects. Net of controls (GDP growth, GNP per capita, urbanization and educational attainment), it establishes a positive causal link between income inequality, measured by Gini coefficient or P80/P20 ratio, and violent crime, namely robberies and homicides. Educational attainment (i.e. average years of education in the adult population) yields negative results with respect to homicides but positive results with respect to robberies (ibid., 18).

The main findings of the study—a robust positive link between inequality and crime—are questioned by Neumayer (2003; 2005). Like Fajnzylber, Lederman, and Loayza (2002), he accounts for country-specific effects but uses different samples (robberies: up to 59 countries, 1980–97; homicides: up to 117 countries, 1980–97), adds and varies explanatory and control variables (e.g. including social welfare expenditures, female labour force participation, percentage of male population aged 15–64; unemployment rate) and omits educational attainment for reasons of data availability and the inconsistency of previous results (2005, 105, fn. 1). While Neumayer substantiates his critique for bigger samples of countries that show no evidence for a causal link between inequality and crime, he also replicates the crime-inducing

effects of Gini coefficient and P80/P20 ratio in smaller samples (robberies: 33 and 30 countries respectively) that are comparable to those in the aforementioned study.

Research in the field of crime and institutions that concerns the second component of our approach largely centres around adherents and critics of institutional-anomie theory (Rosenfeld 2006). Comparative studies that try to "expand and maximize variation in institutional structure" (Messner and Rosenfeld 2004, 98) have been undertaken on the national level, preferably scrutinizing the anomic potential of the "American Dream" in its homeland (Messner and Rosenfeld 1994), as well as on the international level. While our project is mostly interested in the latter, research on crime in the United States also offers some conceptual advice.

Studies at the U.S. level specify the dependent variable either as property crime or violent crime (both including robberies) or instrumental and expressive homicides (Chamlin and Cochran 1995; Piquero and Leeper Piquero 1998; Maume and Lee 2003; Baumer and Gustafson 2007). Independent variables generally include income inequality (Gini coefficient or poverty rate) as a proxy for "economic dominance" in the institutional balance of power, and measures of the institutional strength of "non-economic" social spheres like the education system (e.g. school enrolment ratio), the polity (e.g. welfare expenditures), and the family (e.g. divorce rate). While income inequality is expected to increase delinquency, the education system is credited with a crime-reducing effect (Piquero and Leeper Piquero 1998, 69). The latter assumption stands in remarkable contrast to earlier accounts of the disintegrative potential of moral individualization through education (Messner 1982). Baumer and Gustafson (2007, 634–5) instead construct indices of "low educational and economic attainment" and "educational and income inequality" that are both expected to exert positive effects on crime.

Comparative research at the cross-national level is more restricted with respect to data availability and quality. Accordingly, the authors of the studies reviewed here (Messner and Rosenfeld 1997; Savolainen 2000; Pratt and Godsey 2003) take recourse to the homicide rate as dependent variable and proxy for anomic crime. However, this is debatable: As mentioned above, homicides and robberies (or property crime more generally) do not always generate consistent results (Chamlin and Cochran 1995; Jensen 2002; Fajnzylber, Lederman, and Loayza 2002). As regards "institutional" variables, mainly income inequality ("economic dominance") and decommodification measures ("political restraint") are included, the latter inspired by Esping-Andersen (1990). Both are expected to exert independent and opposite effects on homicides (Messner and Rosenfeld 1997, 1402; Savolainen 2000, 1026). Control variables comprise several demographic and development indicators (e.g. sex ratio, GNP growth, urbanization). Despite their theoretical relevance, the institutional effects of education and family are not singled out but more or less subordinated to the political dimension (Savolainen 2000, 1023). In addition to these shortcomings, reservations have to be made regarding the estimation methods, in this case OLS or WLS regressions on the basis of relatively small samples (n = 39, 45 or 46) without controls for country-specific effects. Nevertheless, the results of the reported studies are in line with assumptions derived from institutional-anomie theory, namely a negative, i.e. crime-reducing, effect of decommodification (all three studies), a positive effect of inequality, and a negative interaction effect between income inequality and decommodification (Savolainen 2000; Pratt and Godsey 2003).

We will conclude this section with another desideratum of the "institutionalist" approach: Although the compilation referred to above (Rosenfeld 2006) includes an article on relations between welfare institutions and imprisonment (Sutton 2004), and in spite of ongoing discussions on a shift from "penal-welfare policies" of social support to post-welfarist strategies of "governmental control" (Garland 2000; Rose 2000), the penal system is not considered as a social institution, let alone as a "labour market institution", as recently argued for the U.S. (Western and Beckett 1999; Western 2006; Münch 2007). Still, rising imprisonment rates are not only observed in liberal countries deemed "exceptional" in this respect but, for instance, also in Scandinavia (Lappi-Seppälä 2007). It thus seems appropriate to conceive of the "new punitiveness" as one of the strategies of

social integration in the repertoire of post-welfarist regimes (Pratt et al. 2005; Durkheim 1973b [1900]).

4. Rationale and Hypotheses

The focus of our research is the transformation of integration patterns in contemporary societies under the condition of intensified individualism and increased inequality. Through the lenses of anomie theory, the incidence of crime in a society indicates the effectiveness of institutions, or institutional configurations, in "integrating" individuals otherwise prone to delinquency, namely for reasons of relative deprivation. Comparative political economy has specified strategies of integration, or regulation, prevailing in certain types of welfare regimes but has also pointed out the widespread mix of these strategies and recent tendencies of convergence (Arts and Gelissen 2002; Powell and Barrientos 2004).

In order to map integration patterns at work in societies at the transition from welfarism to post-welfarism, we will therefore distinguish between three "typical" but usually "'mixed" strategies of integration, namely a conservative (family-based) strategy, a social-democratic (state-based) strategy, and a liberal (market-based) strategy. The hypotheses suggested below then allow us to assess the institutional effectiveness of these different integration strategies at an aggregate level of analysis (countries x years; modelled in a pooled regression with fixed effects). That is, technically speaking, they do not refer to single countries or specific welfare regimes.

At first sight, this "generalized" approach might seem counterintuitive. Comparative research on welfare regimes usually builds on rather than neutralizes country-specific "fixed effects", including not only permanent geographical constraints and "deep" cultural persistencies, but also institutional inertia and path dependencies. Still, the post-welfarist transformations to be explored in this paper arguably take place at a global level and thus entail a different research design that avoids any sort of "methodological nationalism". Instead, it has to allow for and, if possible, single out supranational factors of convergence (notwithstanding remaining divergencies at the national level). Methodologically, we will thus focus on a "unitary" type of institutional change that in principle affects all countries and regimes represented in our sample, irrespective of their historical particularities and cultural idiosyncrasies, as suggested in the third component of our anomie concept.

Whereas the rationale of our research is thus to go beyond comparative welfare regime research, we will take account of the state-of-the-art in this field in at least two respects. On the one hand, we will employ the decommodification index, an empirical measure used to classify and distinguish different welfare regimes, as a shortcut for the "institutional balance of power" in a given country (Messner and Rosenfeld 1997). In Esping-Andersen's pioneering work (1990), social-democratic, conservative and liberal welfare regimes were characterized by their—more or less—distinctive scores at the top, in the middle and at the bottom of a simple scale that assesses the generosity and conditionality of different social insurance programmes (pensions, unemployment benefit, sick pay). In the context of a macrosociology of crime, updated versions of the decommodification index may thus serve as a proxy for prevalent institutional constellations or integration patterns (Scruggs and Allan 2006). Nevertheless, this measure is not only contested in its discriminatory power regarding different types of welfare regimes but also limited in its explanatory power regarding "regime-specific" institutional constellations and their role in containing anomic crime.

On the other hand, we will therefore replace the decommodification index by a range of indicators that spell out the institutional effects of the family, the state and the labour market for the problem at hand. On a conceptual level, we employ the notion of integration strategies in order to point to underlying socio-political choices; empirically, we will however focus on the factual weight of these institutions and their causal links to anomic crime. Moreover, we do not necessarily consider the institutional effectiveness of family-based, state-based and market-based integration strategies to be contingent on the welfare regime classification of the respective countries but will allow for one-sided as well as mixed institutional constellations at an aggregate level of analysis.

Figure 1: Theoretical components and expected effects (general)

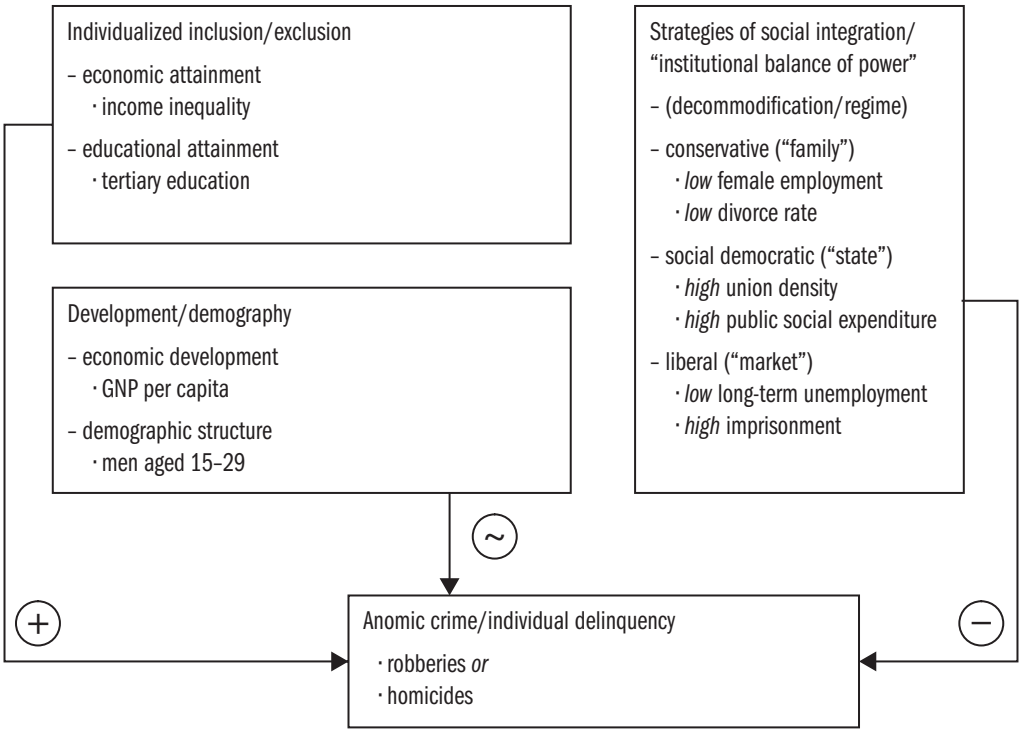
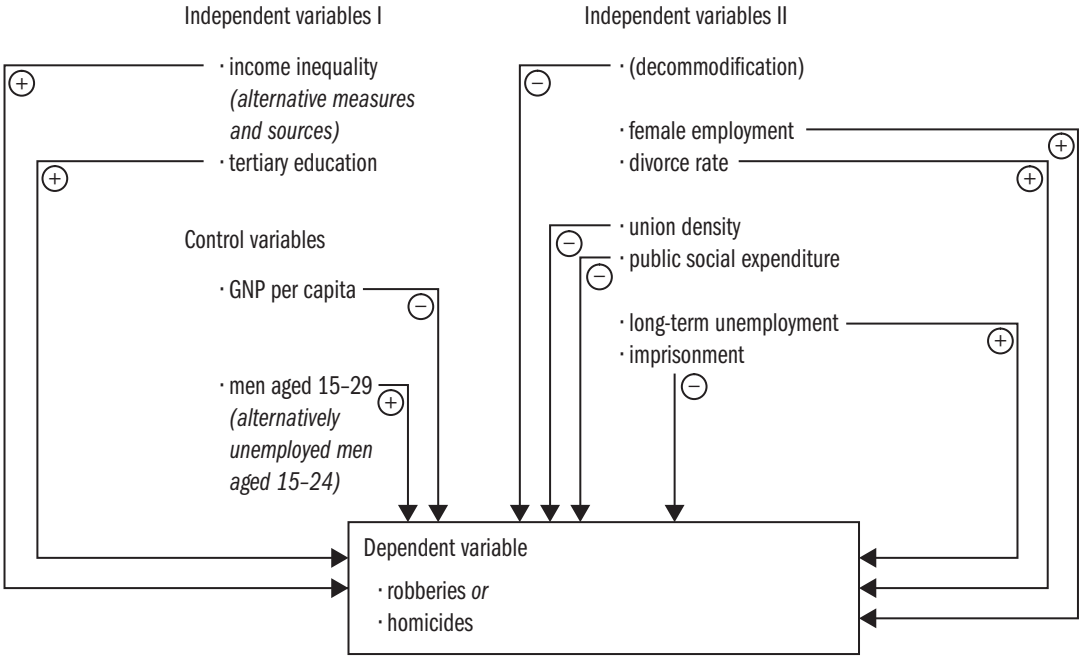


Figure 2: Theoretical components and expected effects (detailed)



The following hypotheses are meant to operationalize the first and second component of our anomie concept and allow for empirical testing (see Figures 1 and 2). The third component is reflected in our methodology and modelling strategy.

With respect to the first component of our anomie concept, we emphasized the cult of the individual at the cultural level and relative deprivation at the structural level. The "inclusive" ethos of individual success thus comes along with the "exclusive" experience of individual failure. Two alternative considerations lead us to identical hypotheses: On the one hand, we can follow Messner (1982) and represent the cultural and structural dimensions of societal transformations as "moral individualism" (school enrolment) and "social inequality" (income inequality). On the other hand, we can highlight the ambiguities that the cult of the individual engenders for the school system and the labour market, namely strengthened individual competition, increasing inequalities and individual failure as the downside of educational and economic attainment.

Whereas the assumption that income inequality reinforces crime is widely held in the literature (see above), it seems less obvious to postulate a positive link between school enrolment and crime, as we do in this paper. In contrast, scholars in the institutional-anomie tradition would rather interpret this indicator as a measure of the institutional strength of the educational system which helps, in their accounts, to counterbalance market forces and thus contain anomic crime. Moreover, following Durkheim, there is a fine line between "moral" and "excessive" individualism which is conceptually important (Thome 2007), but, in the case at hand, empirically almost intractable (as one and the same indicator might represent both).

Acknowledging these objections, we would like to restate our argument that greater emphasis on educational attainment also implies greater emphasis on individual achievement in education and on the market. The individual's inclusion in society therefore depends less on his/her protection by collective associations such as unions and the state and more on his/her individual ability to achieve. In this situation, there should be greater chances for underachievement compared to expectations than in a situation of more collectivistic protection of the individual. This means relative deprivation, which implies greater propensity to compensate for underachievement using illegitimate means, and thus increases delinquency.

Hypothesis 1a: Higher income inequality increases anomic crime.
Hypothesis 1b: Higher school enrolment increases anomic crime.

With respect to the second component of our anomie concept, we distinguish between three strategies of integration that rely on the institutional effectiveness of the family, the state and the labour market respectively and thus provide different mechanisms of social support and/or control that ensure conformity and reduce delinquency. The hypotheses below are formulated in the perspective of typical proponents of these conservative, social democratic and liberal integration strategies; in other words, it is taken for granted that institutional effectiveness meets ideological expectations. The validity of these claims can then be tested empirically.

Conservative integration strategies rely on the integrity and integrative capacity of the family, currently challenged by trends of family disruption as well as "defamilialization" (Esping-Andersen 2000).

Hypothesis 2a: Higher female employment increases anomic crime.
Hypothesis 2b: Higher divorce rates increase anomic crime.

Social democratic integration strategies rest on the regulatory and redistributory capacity of the state and intermediate organizations that implement policies of "decommodification" (ibid.).

Hypothesis 3a: Higher union density reduces anomic crime.
Hypothesis 3b: Higher public social expenditure reduces anomic crime.

Liberal integration strategies mainly build on economic incentives and market allocation and thus tend towards

"re-commodification" (from welfare to workfare). Besides labour market flexibility, we will also consider punitive policies as part or complement of these strategies.

Hypothesis 4a: Higher long-term unemployment increases anomic crime.
Hypothesis 4b: Higher imprisonment rates reduce anomic crime.

The paired hypotheses 2, 3 and 4 that refer to the second component of our anomie concept replace the more general assumption prominent in institutional-anomie research that decommodification is negatively related to crime (Messner and Rosenfeld 1997; Savolainen 2000; cf. Batton and Jensen 2002; Jensen 2002). In other words, the degree of commodification or decommodification that characterizes and classifies a welfare regime (e.g. as measured by the decommodification index) can be taken as a proxy for the institutional balance of power. A "commodified" society would thus ceteris paribus produce more anomic crime than a "decommodified" society. Although this baseline argument conflates the different components unfolded in our anomie concept, we will test it as initial hypothesis in our modelling strategy (see below).

A final remark has to be made with respect to "anomic" crime as the dependent variable in all these hypotheses. Cross-national institutional-anomie research has focused so far on homicide rates and neglected alternative measures. We will instead take robbery rates as the point of reference in our model and then compare the results with homicide rates. While the former seems preferable for theoretical reasons, namely its closer nexus with relative deprivation, the latter is often preferred for empirical reasons, namely the problem of cross-national data reliability (Fajnzylber, Lederman, and Loayza 2002, 8–9; Pratt and Godsey 2003, 619; Sutton 2004, 180).

5. Data and Methods

The operationalization of broad sociological concepts (such as cult of the individual, integration patterns, anomic crime) is largely constrained by the availability of appropriate data, and this particularly applies to comparative research at the cross-national level. Faced with the gap between theoretical ambitions and empirical options, our approach to data analysis and interpretation goes beyond hypothesis-testing in the strict sense and also involves an exploratory component. Bearing in mind the ambiguities of macrosociological research designs, we are not only interested in the details of particular findings but also in general patterns that emerge from sorting and comparing a large number of results. In this respect, our assessment draws on the signs and significance but not on the size of indicated effects. In the following sections, we will briefly specify the data and methods used in our empirical study (for more information see Appendix, Table A1).

Dependent variables. We compare two different dependent variables as proxies for the incidence of crime: robbery rates and homicide rates. Data for the number of robberies per 100,000 people are taken from the UN Survey of Crime Trends. Although this survey also gathers data about the number of homicides per 100,000 people, we draw our homicide data from the WHO, because this source covers a larger timespan. As our two dependent variables have a rather skewed distribution, we use the robbery rate and homicide rate expressed in natural logs, thereby following, for example, Fajnzylber, Lederman, and Loayza (2002).

Independent variables. The dependent variables are expressed as a function of the different variables of our theoretical model. To measure income inequality (hypothesis 1a), we use two alternative indicators: Gini coefficient and P90/P10 ratio. For both variables we can draw on OECD data. But as the OECD Gini coefficient is only available for very few years, we alternatively use data compiled from different sources in the World Income Inequality Database (WIID) provided by the World Institute for Development Economics Research of the UN University (UNU-WIDER). However, combining data from different sources in a single database engenders problems of compatibility. Therefore, we use both OECD and WIDER data sets and compare the results, whereby we imputed missing values for the OECD Gini coefficient. Regarding WIDER Gini coefficient and WIDER P90/P10 ratio, we only included data characterized as good quality (categories 1 and 2 of the quality rating). The OECD P90/P10 ratio is based on data available from the OECD Labour Force/Earnings Statistics and comes

closest to our ideal measure of "market" income inequality: unlike income inequality measures based on household disposable income, the earnings ratio is directly linked to disparities in economic attainment (and, thereby, relative deprivation) irrespective of governmental redistribution. A "pre-government" inequality indicator also sharpens the contrast with integration indicators, most of which are "post-government" in fact.

For school enrolment (hypothesis 1b) we use tertiary school enrolment rates. We also include the female employment rate and the divorce rate (hypotheses 2a and 2b), the union density rate and the rate of public social expenditure (hypotheses 3a and 3b) as well as the long-term unemployment rate and the imprisonment rate (hypotheses 4a and 4b). As incidence of crime and imprisonment rate might be co-determined, the imprisonment rate enters our model as an endogeneous variable. We thus assume that the crime rate (dependent variable) is not only affected by the imprisonment rate (independent variable) but also conversely the imprisonment rate by the crime rate. All other independent variables are treated as exogeneous in our model. As control variables, we include additionally the share of men aged 15–29 (and, alternatively, the share of unemployed men aged 15–24) as well as GDP per capita, and furthermore a set of time dummy variables (one dummy for each year) to control for a possible time trend.

As mentioned for the Gini coefficient above, our variables are not available for all the years. Dropping all the cases with missing values would considerably reduce the sample size. Hence, we imputed missing values using the command `ipolate`, which is implemented in Stata. Imputation of missing values is not unproblematic as the available information is used in an inflationary manner. Moreover, imputation can obtrude a time trend into the data. This can yield biased estimation results. Hence, we tried to constrain the imputation to a "reasonable" degree and checked the means, minimum, and maximum of our original data with the imputed values.

Estimation methods. It has been shown in the literature that crime data exhibit inertial properties (Fajnzylber, Lederman, and Loayza 2002; Neumayer 2003, 2005). Hence, the lagged dependent variable has to be included on the right hand side of our estimation model and a dynamic (lag-dependent) panel approach seems appropriate.

Consider the following dynamic panel model:

$$y_{it} = \alpha y_{i,t-1} + x_{it}\beta_1 + w_{it}\beta_2 + v_i + \varepsilon_{it} \quad i = 1,\ldots N \quad t = 1, \ldots, T$$

whereby x_{it} is a vector of strictly exogenous variables (which may contain time dummy variables), w_{it} is a vector of endogeneous covariates (comprising here only imprisonment), β_1 and β_2 are vectors of parameters to be estimated, v_i is the country-specific effect (which can be correlated with the covariates), and ε_{it} is the idiosyncratic error term. It is assumed that the country-specific effects and the error term are independent for each country over time.

The inclusion of the lagged dependent variable makes standard estimators inconsistent as, by construction, the lagged dependent variable is correlated with the error term. A usual way to deal with this problem is to instrument the lagged dependent variable with further lags. Therefore, we apply a generalized method-of-moments (GMM) estimator, which was developed by Arellano and Bond (1991). Accordingly, lagged levels of the dependent variable and of the endogenous variables are used as GMM-type instruments. Additionally, first differences of the exogenous variables are generated to serve as standard instruments. Hence—through the first differencing—the country-specific effect is removed from the equation.

This yields the following equation to be estimated:

$$y_{it} - y_{i,t-1} = \alpha(y_{i,t-1} - y_{i,t-2}) + \beta_1'(x_{it} - x_{i,t-1}) + \beta_2'(w_{i,t-1} - w_{i,t-2}) + (\varepsilon_{it} - \varepsilon_{i,t-1})$$

In addition to this so-called "Difference GMM" we apply the "System GMM". This estimator was developed by Blundell and Bond (1998) extending the work of Arellano and Bover (1995). Whereas the "Difference GMM" uses lagged levels as instruments in the differenced equation, the "System GMM" uses additionally lagged differences as instruments for the level equation (for a detailed description of the two estimators see also Fajnzylber, Lederman, and Loayza 2002).

Modelling strategy. Regarding our modelling strategy, we introduce the explanatory variables in the following order: In the first step, we only include measures representing the first component of our anomie concept, namely income inequality (Gini coefficient or P90/P10 ratio) and school enrolment, as well as control variables, i.e. GDP per capita and men aged 15–29 (or, alternatively, unemployed men aged 15–24). We assume that these variables are independent of each other and restrict our analysis to their main effects; we thus do not model interaction effects. As our model builds on first differences, multicollinearity concerns proved negligible (see below).

In the second step, we include the decommodification index that acts both as a regime indicator (testing the relevance of welfare regime classification) and as a rough proxy for the second component of our anomie concept. Again, we assumed that this measure is not significantly correlated with previous variables.

In the remaining steps, we replace the decommodification index by our six explanatory variables that represent conservative, social democratic and liberal integration strategies based on the institutions of the family, the state and the labour market. Although there might be reason to expect significant bivariate correlations between each pair of indicators representing the same strategy, we generally assume that the measures are independent of each other and thus do not model indices. Taking the first differerences of the variables, multicollinearity indeed turned out to be a minor problem both within and between the different strategies. Nevertheless, we introduce the indicators not according to the regimes (conservative, social democratic, liberal) or institutions (family, state, market) they are derived from but according to the idea of a "welfare mix" or "institutional balance" of different integration strategies. In the third step, we thus only include indicators closely related to labour market policies (female employment, union density, long-term unemployment) and in the fourth step only indicators of a more general socio-political nature (divorce rates, public social expenditure, imprisonment). Finally, we test the full model encompassing all institutional indicators, except for the decommodification index. Again, we rely on the main effects of the variables and abstain from modelling interaction effects or indices.

6. Results

Before we turn to the results of our multiple regression models, we will give some details on bivariate correlations computed both for pooled levels and pooled first differences (Fajnzylber, Lederman, and Loayza 2002, 10). Regarding multivariate statistics, we will focus on regression models using robberies as dependent variable since, on the one hand, we prefer this measure of anomic crime for theoretical reasons and, on the other hand, the respective datasets proved easier to handle in our modelling procedures.

Bivariate correlations. As mentioned before, our model mitigates the problem of multicollinearity by including variables only in their first differences (which also entails a considerable loss of information). From a methodological point of view, we thus have little reason to worry about unwanted correlations (Neumayer 2003, 629–30; 2005, 104–6). With respect to the variables introduced in the first two steps of our modelling strategy, there are no significant correlations net of fixed effects between any of the following variables: income inequality (OECD data) and tertiary education, GDP per capita and men aged 15–29 years, and decommodification. Only GDP per capita and unemployed men aged 15–24 years prove to be significantly correlated over time (Table 1).

Table 1: Selected bivariate correlations I (levels and first differences)

		OECD Gini	OECD P90/P10	Tertiary education	GDP per capita	Men aged 15–29	Unemployed men 15–24	Decommod-ification
OECD Gini	(a)	1.00	0.62*	0.40*	0.02	0.16*	0.21*	-0.75*
	(b)	1.00	0.04	0.04	0.09	0.07	-0.04	-0.03
OECD P90/P10	(a)		1.00	0.63*	0.21*	0.20*	-0.07	-0.60*
	(b)		1.00	-0.06	0.10	-0.05	-0.06	0.10
Tertiary education	(a)			1.00	0.38*	-0.38*	0.04	-0.21*
	(b)			1.00	-0.05	-0.10	0.06	-0.07
GDP per capita	(a)				1.00	-0.56*	-0.17*	0.22*
	(b)				1.00	0.03	-0.59*	0.11
Men aged 15–29	(a)					1.00	-0.16*	-0.31*
	(b)					1.00	-0.04	-0.04
Unemployed men 15–24	(a)						1.00	-0.20*
	(b)						1.00	-0.02
Decommodification	(a)							1.00
	(b)							1.00

(a) pooled levels; (b) pooled first differences

Table 2: Selected bivariate correlations II (levels and first differences)

		Decommod-ification	Female employment	Union density	Long-term unemployment	Divorce	Public social expenditure	Incarceration
Decommodification	(a)	1.00	0.30*	0.55*	0.22*	-0.30*	0.78*	-0.60*
	(b)	1.00	0.06	0.08	-0.07	0.02	0.03	0.10
Female employment	(a)		1.00	0.33*	-0.47*	0.52*	0.29*	0.24*
	(b)		1.00	-0.14	-0.40*	-0.06	-0.32*	-0.07
Union density	(a)			1.00	0.16*	-0.09	0.53*	-0.40*
	(b)			1.00	-0.07	0.09	0.25*	-0.08
Long-term unemployment	(a)				1.00	-0.46*	0.45*	-0.32*
	(b)				1.00	0.03	0.17*	0.05
Divorce	(a)					1.00	-0.09	0.57*
	(b)					1.00	0.02	0.11*
Public social expenditure	(a)						1.00	-0.28*
	(b)						1.00	-0.03
Incarceration	(a)							1.00
	(b)							1.00

(a) pooled levels; (b) pooled first differences

With respect to the variables introduced in the remaining steps of our modelling strategy, notable correlations over time only exist between female employment and long-term unemployment (-0.40), female employment and public social expenditure (-0.32), and public social expenditure and union density (0.25). It is especially noteworthy that controlling for fixed effects removes any correlation between the decommodification index on the one hand and institutional indicators on the other hand (Table 2). This is particularly striking in the case of our social democratic indicators: union density and public social expenditure, the more so as the latter is occasionally taken as a proxy for decommodification and is indeed highly correlated with this measure on the basis of pooled levels, i.e. as long as cross-country variation is taken into account (0.78).

In addition to multicollinearity issues, we also searched the correlation matrix for correlations that might be meaningful for understanding the (assumed) transition to post-welfarism and thus should be further explored in multiple regressions. On the basis of first differences, 25 of 105 possible correlation values in a matrix of 15 x 15 variables are significant at the 5 percent level, four of which have already been mentioned above. Regarding our dependent variables, robberies are correlated with Gini coefficient (0.15), divorces (0.15), men aged 15–29 (0.17) and GDP per capita (-0.14); homicides are correlated with P90/P10 ratio (0.18) and men aged 15–29 (0.11). Imprisonment—a variable hitherto neglected in institutionalist accounts of anomic crime—is correlated with divorces (-0.11), unemployed men (0.11) and GDP per capita (-0.21). One third of the significant correlations over time thus refers to the triangle of robberies, homicides and imprisonment. Three fifths refer to these variables and/or control variables.

Multiple regressions. To test our hypotheses and explore the patterns of "post-welfarist" change in the timespan covered by our data, we ran a large number of regressions both for robbery and homicide rates. In the following, we will focus on the results obtained for robberies and just briefly refer to regressions based on homicides.

With respect to robberies, our model is supported overall by the standard tests for GMM estimations, which do not produce evidence for model misspecification. The Sargan test showed that the null hypothesis that the overidentifying restrictions are valid could not be rejected. The Arellano-Bond (AB) test showed that the null hypothesis that there is no autocorrelation of first order in the first-differenced errors could be rejected; this was expected because when the idiosyncratic errors are independently and identically distributed, the differenced errors are first-order serially correlated. At the same time, the null hypothesis that there is no autocorrelation of second order in the first-differenced errors could not be rejected, and hence there is no evidence of second-order serial correlation in the first-differenced errors.

As we tested our model with alternative variables for income inequality (Gini coefficient and P90/P10 ratio, from two different sources) and alternative controls for the group of young men overrepresented in crime statistics (men aged 15–29 and unemployed men aged 15–24), there are eight versions of the model to be compared, four of which are documented in Tables 3 and 4 (for the descriptive statistics see Appendix, Table A2). Here, we only vary the inequality measures but not the control variables. We decided to be more explicit on the former since the results seem to question the positive link between income inequality and crime that is assumed above, widely described in the literature and also corroborated empirically (e.g. Fajnzylber, Lederman, and Loayza 2002). Nevertheless, we will also include information on the effects of varying the "demographic" control variable. Moreover, although more detail will be given for estimations with the "Difference GMM", we will also briefly report findings for the "System GMM".

Table 3: Robberies: Detailed results for OECD inequality measures

	Robberies (natural logs)											
	OECD Gini coefficient						*OECD P90/P10 ratio*					
	(1)	(2)	(3)	(4)	(5)	(5a)	(1)	(2)	(3)	(4)	(5)	(5a)
Robberies (lagged)	.891***	.888***	.891***	.875***	.847***	.923***	.911***	.906***	.927***	.913***	.933***	.948***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Income inequality (alternative measures)	-.002 (0.716)	-.002 (0.638)	-.001 (0.911)	.003 (0.533	.006 (0.214)	-.000 (0.935)	-.098*** (0.000)	-.102*** (0.000)	-.079*** (0.003)	-.062** (0.012)	-.051** (0.047)	-.098*** (0.008)
Tertiary education	.002***	.002***	.002***	.001*	.002**	.000	.002**	.002***	.002***	.001	.002*	-.001
	(0.003)	(0.002)	(0.005)	(0.061)	(0.020)	(0.814)	(0.033)	(0.009)	(0.007)	(0.121)	(0.085)	(0.688)
Decommodification		.004						.010***				
		(0.270)						(0.003)				
Female employment			.001		.004*	-.002			-.000		-.003	-.002
			(0.577)		(0.051)	(0.150)			(0.801)		(0.198)	(0.367)
Divorce				.026	.021	.061**				.059***	.069***	.088***
				(0.238)	(0.371)	(0.013)				(0.003)	(0.001)	(0.000)
Union density			.161		.039	.055			.356**		.242*	.044)
			(0.199)		(0.750)	(0.614)			(0.013)		(0.079)	(0.724)
Public social expenditure				-.003	-.001	.001				-.008***	-.008***	-.004
				(0.226)	(0.717)	(0.818)				(0.003)	(0.004)	(0.489)
Long-term unemployment			0.000		.001	-.000			-.001		-.001	-.002*
			(0.999)		(0.272)	(0.829)			(0.435)		(0.368)	(0.058)
Imprisonment (lagged)				-.000***	-.000***	-.000**				-.000	-.000	-.000
				(0.000)	(0.000)	(0.039)				(0.101)	(0.313)	(0.236)
Men aged 15–29	.009***	.010***	.010**	.009**	.012***	-.002	.008**	.008**	.007*	.010***	.007*	-.002
	(0.008)	(0.006)	(0.012)	(0.011)	(0.003)	(0.789)	(0.018)	(0.016)	(0.074)	(0.004)	(0.061)	(0.684)
GDP per capita	-.340***	-.374	-.341***	-.340***	-.375***	-.076	-.421***	-.537***	-.369***	-.464***	-.380***	-.185*
	(0.000)	(0.000)	(0.002)	(0.001)	(0.000)	(0.215)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.059)
Number of observations	401	401	401	401	401	417	390	390	390	390	390	401
Number of countries	16	16	16	16	16	16	15	15	15	15	15	15
Sargan test (Pr > chi2 =)	0.575	0.601	0.587	1.000	1.000		0.174	0.266	0.311	1.000	1.000	
AB test order 1 (Pr > z =)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	
AB test order 2 (Pr > z =)	0.401	0.376	0.409	0.348	0.374		0.188	0.199	0.196	0.107	0.099	

* Significant at p<.1; ** p<.05; *** p<.01; standard error in parentheses; (1) - (5) Difference GMM; (5a) System GMM

Note: For the OECD Gini coefficient Belgium, Korea, Spain, and Switzerland are not included; for the OECD P90/P10 ratio Austria, Finland, Korea, Norway, and Spain are not included.

Table 4: Robberies: Detailed results for WIDER inequality measures

	Robberies (natural logs)											
	WIDER Gini coefficient						*WIDER P90/P10 ratio*					
	(1)	(2)	(3)	(4)	(5)	(5a)	(1)	(2)	(3)	(4)	(5)	(5a)
Robberies (lagged)	.907***	.904***	.927***	.909***	.921***	.931***	.915***	.912***	.934***	.909***	.914***	.933***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Income inequality (alternative measures)	.005** (0.013	.004** (0.016)	.005*** (0.006)	.004** (0.018)	.004** (0.015)	.007** (0.024)	-.012** (0.015)	-.012** (0.015)	-.013** (0.017)	-.007 (0.140)	-.009* (0.088)	-.005 (0.389)
Tertiary education	.002***	.003***	.002***	.001*	.001	-.000	.003***	.003***	.003***	.002**	.002**	.001
	(0.001)	(0.000)	(0.001)	(0.067)	(0.126)	(0.936)	(0.000)	(0.000)	(0.000)	(0.010)	(0.036)	(0.680)
Decommodification		.007**						.005				
		(0.033)						(0.148)				
Female employment			.001		.000	-.001			-.001		-.000	-.000
			(0.744)		(0.816)	(0.683)			(0.622)		(0.805)	(0.809)
Divorce				.063***	.070***	.064***				.041**	.047**	.066***
				(0.001)	(0.001)	(0.001)				(0.043)	(0.028)	(0.002)
Union density			.381***		.180	.239*			.234		.004	.089
			(0.002)		(0.136)	(0.071)			(0.153)		(0.981)	(0.418)
Public social expenditure				-.007**	-.006**	-.003				- .007***	-.006**	-.004
				(0.010)	(0.021)	(0.514)				(0.007)	(0.030)	(0.383)
Long-term unemployment			-.001		-.000	-.001			-.001*		-.001	-.001
			(0.470)		(0.448)	(0.450)			(0.054)		(0.208)	(0.181)
Imprisonment (lagged)				-.000***	-.000**	-.000***				-.000**	-.000*	-.000**
				(0.006)	(0.048)	(0.004)				(0.032)	(0.080)	(0.021)
Men aged 15–29	.008**	.008**	.007*	.008**	.008**	-.000	.003	.004	.002	.006*	.007*	-.002
	(0.013)	(0.012)	(0.086)	(0.010)	(0.022)	(0.970)	(0.365)	(0.325)	(0.545)	(0.058)	(0.072)	(0.749)
GDP per capita	-.208**	-.284***	-.179	-.290***	-.283***	-.101*	-.400***	-.455***	-.428***	-.460***	-.483***	-.289**
	(0.032)	(0.006)	(0.107)	(0.004)	(0.008)	(0.087)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.019)
Number of observations	447	447	447	447	447	461	403	403	403	403	403	415
Number of countries	18	18	18	18	18	18	16	16	16	16	16	16
Sargan test (Pr > chi2 =)	0.001	0.002	0.007	1.000	1.000		0.263	0.310	0.441	1.000	1.000	
AB test order 1 (Pr > z =)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	
AB test order 2 (Pr > z =)	0.496	0.446	0.483	0.346	0.328		0.544	0.508	0.527	0.434	0.425	

* Significant at p<.1; ** p<.05; *** p<.01; standard error in parentheses; (1) – (5) Difference GMM; (5a) System GMM
Note: For the WIDER Gini coefficient Korea and Spain are not included; for the WIDER P90/P10 ratio Japan, Korea, New Zealand, and Spain are not included.

Starting with the models for robberies that apply the "Difference GMM" and include the Gini coefficient as income inequality measure (either from OECD or WIDER databases) and men aged 15–29 as demographic control varable, we obtain significant results in line with expectations for the lagged dependent variable and both control variables. Of the two variables representing the first component of our anomie concept, one, namely tertiary education, is significant with the "right" sign in all model variants and modelling steps; the other, the Gini coefficient, yields significant positive results only when WIDER data is used. The decommodification index, introduced in the second modelling step, is generally positively signed in all model variants but reaches significance only in models using the WIDER Gini coefficient. According to that, the link between decommodification and robberies over time is not negative but positive. When we replace, in the third modelling step, the decommodification index by indicators that represent besides different integration strategies also different labour market policies (female employment, union density, long-term unemployment), only union density comes close to (see OECD Gini coefficient; Table 3) or reaches (see WIDER Gini coefficient; Table 4) significance, albeit with the "wrong" sign: The institutional effectiveness of "decommodifying" social democratic labour market policies with respect to integration and crime prevention is thus once more called into question. In the fourth modelling step, the three other, more general indicators of conservative, social democratic and liberal integration strategies (divorce rates, public social expenditure, imprisonment) are included instead and indeed perform quite well and according to assumptions. Although only one of them (imprisonment) reaches significance in the model variant with OECD Gini coefficient, all of them are significant when the WIDER Gini coefficient is used. Apart from labour market policies, the institutional effectiveness of the different integration strategies thus seems less questionable. The fifth modelling step—the full model including all institutional variables (except for the decommodification index)—largely confirms the aforementioned effects in the WIDER version, whereas results are, once more, less conclusive in the OECD version (where curiously female employment is now significant with the hypothesized sign).

In alternative regressions including unemployed men aged 15–24 (instead of men aged 15–29), the control variables do not always reach significance and perform somewhat differently when model variants based on OECD and WIDER Gini coefficients are compared. Apart from that, the results obtained for the explanatory variables in the aformentioned model specifications are largely replicated even when the demographic control variable is changed.

Turning to models for robberies that still employ the "Difference GMM" but now include the P90/P10 ratio as measure of "market" income inequality (again drawn from OECD as well as WIDER sources), the most striking finding is that, other than expected, a more balanced earnings distribution does not reduce but rather increase the incidence of crime. By changing the indicator, the causal link between income inequality and anomic crime thus seems to be reversed. Whereas in these models the demographic control variable is not always significant, the rest of the results generally confirm what has been stated above. The decommodification index (second modelling step) and the employment-related institutional indicators (third modelling step) do not corroborate the hypotheses underlying the different integration strategies. Instead, we once again find inconclusive as well as contradictory results, i.e. several variables (namely, the decommodification index, union density and long-term unemployment) are significant at least in some of the specifications but with the "wrong" sign. At the same time, the three other institutional indicators (fourth modelling step) yield results that are almost always significant and in line with expectations. Again, the findings for model variants including either men aged 15–29 or unemployed men aged 15–24 are structurally similar.

Comparing the results of "Difference GMM" estimations with "System GMM" estimations raises doubts about some of these findings but does not question the overall approach in interpreting the data. Referring only to the full model (fifth modelling step), it is clear that estimations based on the "System GMM" yield less significant results. Still, the lagged dependent variable, the divorce rate, the imprisonment rate and the control for GDP per capita are significant with the expected signs in all model specifications (or all but one). Regarding income inequality, there are both

significant positive results (WIDER Gini coefficient) and significant negative results (OECD P90/P10 ratio) as well as some inconclusive ones. As before, union density and long-term unemployment occasionally turn significant with the "wrong" signs. In contrast, this time tertiary education does not reach significance in the full model (but in earlier modelling steps) nor does public social expenditure (in any of the modelling steps). The latter finding has to be taken into account when assessing the institutional effectiveness of the social democratic integration strategy.

With respect to homicides, our model is supported by the Sargan test, but not by the second Arellano-Bond test, according to which there is evidence for serial correlation in the first-differenced errors at order two. As this means that the moment conditions used are not valid and that the model seems to be misspecified, we will not go into the details of these regressions. But if the prelimary results are of any use to the problem at hand, they challenge the assumption that the two crime indicators considered in this paper can be used interchangeably. As a matter of fact, robberies and homicides are substantially correlated only when cross-sectional variation is taken into account (0.44) whereas there is no significant correlation over time (0.10). This discrepancy seems to be reflected in quantitative and qualitative differences in the effects of at least some of the explanatory variables (e.g. the decommodification index and the imprisonment rate) when compared to the above findings. Still, all in all the results (as yet not reliable) hint at the same problems of employment-related integration strategies that were pointed out in the previous analysis.

7. Conclusions

The aim of this study was to map patterns of integration in societies at the transition from welfarism to post-welfarism. For this purpose, we built on theoretical and empirical approaches within the anomie paradigm that interlinks general and criminal sociology. In multiple regressions for a sample of twenty developed countries in the period 1970–2004, we focused on the robbery rate as indicator of the institutional effectiveness of different integration strategies (namely, conservative, social democratic and liberal).

Overall, our research design proved successful as we were able to demonstrate that individual inclusion and stratified exclusion on the one hand and different strategies of integration (represented by our institutional indicators) on the other hand interlink in regulating the incidence of crime. Furthermore, we had good reason not to conflate the effects of indicators representing different dimensions of the same strategy in indices but to group the indicators across strategies instead (see modelling steps three and four). That way, we were able to single out the problematic—and indeed somewhat counterintuitive—effects of employment-related policies (here interpreted as means of social integration) over time. We thus found evidence that familialist (low female employment), unionist (high union density) and liberalist (low long-term unemployment) employment strategies do not necessarily lower but occasionally increase anomic crime. At the same time, the "family" (low divorces), the "state" (high public social expenditure) and the "prison" (high imprisonment)—the latter interpreted as institutional counterpart of the "market"—do effectively contribute to crime prevention and social integration when other aspects of the respective strategies are taken into account.

The rather positive than negative effect of the decommodification index indicates that welfare regime classification matters, albeit not in the expected sense. The significant results obtained at least in some of our models would thus suggest that "commodification" and not "decommodification" induces lower crime levels over time in a given society. While the results summarized so far seem more or less coherent, a puzzle is left by the contradictory performance of the Gini coefficient (positive sign when using OECD data) and the P90/P10 ratio (negative sign both for OECD and WIDER data) as alternative measures of income inequality. To be sure, the former rather relates to a "pre-government" and the latter to a "post-government" income distribution. Still, we rather would have expected the opposite effects. To make sense of the results, we thus have to re-interpret the Gini coefficient as a measure of "decommodified" income distribution and the P90/P10 ratio as a measure of "commodified" income distribution. Through this lens, the "curious" results just replicate the findings for the decommodification index.

As the latter example shows, the link between theoretical assumptions and empirical operationalization—and therefore the interpretation of the findings—remains contingent and rather contentious in macrosociological studies like ours. Still, the exploration and assessment of a large number of empirical results yields important insights for understanding and theorizing upon contemporary societies. But to substantiate our assumption that there is a general shift towards more "liberal" regimes that build on incentive as well as punitive elements, further analyses will be necessary that also scrutinize the possible "artifacts" of different estimation methods and sample structures.

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Appendix

Table A1: Data description and sources

Variable	Description	Source
Robberies	Total recorded robberies, per 100,000 population	UN Surveys of Crime Trends
Homicides	Homicide and manslaughter, estimated total deaths per 100,000 population	WHO
OECD Gini coefficient	Gini coefficient for the distribution of household disposable income	OECD, Society at a Glance 2005
OECD p90p10 ratio	Ratio of earnings at the 90th percentile level to earnings at the 10th percentile level	OECD Labour Force/Earnings Statistics
WIDER Gini index	See definitions in WIID	UNU-WIDER database
WIDER p90p10 ratio	See definitions in WIID	UNU-WIDER database
Tertiary education	School enrolment, tertiary (in % gross)	WDI 1999 and 2007
Female employment	Share of women of working age (15 to 64 years) in employment	OECD Factbook 2007
Divorce	Crude divorce rate, number of divorces per 100,000 population	OECD, Society at a Glance 2006; for Canada: Statistics Canada; for Australia: Australian Bureau of Statistics
Union density	Union members divided by total employees, both from survey data; if no survey data available for union members administrative data were used	OECD Statistics
Public social expenditure	Public social expenditure as percentage of GDP	OECD, Society at a Glance 2005
Long-term unemployment	Persons unemployed for 12 months or more as a percentage of total unemployed	OECD Factbook 2007
Imprisonment	Prisoners per 100,000 people	OECD, Society at a Glance 2001 and 2006
Men aged 15–29	Male population aged between 15 and 29 years as a share of the total population	OECD Statistics
Unemployed men aged 15–24	Unemployment rate of young men aged between 15 and 24	OECD Statistics
GDP per capita	GDP per capita, purchasing power parity, constant US $	WDI 2007
Decommodification index	Index based on welfare state characteristics (pensions, unemployment, sick leave)	Comparative Welfare Entitlements Dataset (provided by Lyle Scruggs; see www.sp.uconn.edu/~scruggs/wp.htm)

Table A2: Descriptive characteristics of the sample

	Mean	Standard deviation	Min.	Max.
Robberies	62.04	51.89	1.29	272.69
OECD Gini coefficient	27.51	4.21	17.70	36.14
Tertiary education	43.40	17.88	15.28	97.70
Female employment	55.60	11.76	27.20	81.00
Divorce rate	2.28	0.99	0.20	5.30
Union density	0.43	0.20	0.10	0.84
Public social expenditure	20.93	6.35	3.50	36.80
Long-term unemployment	27.95	17.58	1.10	78.50
Imprisonment	99.10	106.12	22.00	711.67
Men aged 15–29	33.91	4.07	24.36	45.18
GDP per capita	20118.57	6101.77	9955.07	38200.41
Decommodification index	26.80	5.96	14.90	43.10
OECD P90/P10 ratio	2.99	0.82	1.02	5.78
WIDER Gini coefficient	30.08	4.94	19.80	42.10
WIDER P90/P10 ratio	5.65	1.95	1.83	12.64

Note: As the descriptive statistics for the different models are largely redundant, we provide only the details for the model based on the OECD Gini coefficent and add rows for the alternative inequality measures we used (OECD P90/P10 ratio, WIDER Gini coefficient, WIDER P90/P10 ratio), which slightly changed the overall sample.

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