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SOCIAL ASSISTANCE, ACTIVATION POLICY, AND SOCIAL EXCLUSION: ADDRESSING CAUSAL COMPLEXITY[1]

Marina Petrovic

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Authors
Marina Petrovic, PhD fellow
Maastricht Graduate School of Governance
Maastricht University
Email: marina.petrovic@maastrichtuniversity.nl

Mailing address
Universiteit Maastricht
Maastricht Graduate School of Governance
P.O. Box 616
6200 MD Maastricht
The Netherlands

Visiting address
Kapoenstraat 2, 6211 KW Maastricht
Phone: +31 43 3884650
Fax: +31 43 3884864
Email: info-governance@maastrichtuniversity.nl

SOCIAL ASSISTANCE, ACTIVATION POLICY, AND SOCIAL EXCLUSION: ADDRESSING CAUSAL COMPLEXITY[1]

Marina Petrovic
Maastricht Graduate School of Governance
Maastricht University
Email: marina.petrovic@maastrichtuniversity.nl

Abstract

This paper contributes to a more systematic understanding of the link between government supported social assistance programs and social exclusion which are viewed as a complex social phenomenon. In the paper, social exclusion is defined as at-high-risk-of-poverty rate and low work intensity. The primary focus of the paper is on the underlying causal processes and combinations of relevant conditions leading to social exclusion among the able-bodied social assistance beneficiaries of working age. Another aim is to explore more systematically if and how activation and socio-professional integration policies as part of the social assistance programs will relate to poverty and work intensity. The study puts forward a two-step fuzzy set Qualitative Comparative Analysis (fsQCA) as a novel methodological approach for treating social exclusion in ten European Union (EU) countries with developed social assistance and activation schemes. Relying on the fsQCA and set-theoretic relations, this paper deals with complex causal hypotheses in terms of necessary and sufficient conditions under which the defined social exclusion outcomes occur. The findings favor activation policies playing an affirmative role in the fight against poverty and low work intensity. However, the analysis shows that while low activation appears to be a necessary condition for the occurrence of higher exclusion, it is not sufficient to yield the desired outcomes. Instead, it reveals two possible paths leading to the social exclusion outcomes, each combining at least two different conditions such as the level of development of social safety nets and the share of social protection spending on social assistance.

Key words: social exclusion, social assistance, activation, necessary and sufficient conditions

Introduction

The literature has over time produced a long list of possible causes of social exclusion ranging from the discussion on deep structural changes to the insufficiently addressed malfunction of social institutions and systems (European Commission 1992, 1998, 2000, Levitas 2000). Citizens execute their rights through institutional settings. Failures of the

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systems lead to the non-realization of citizenship rights and exclusion, leaving them with few opportunities to change their circumstances (Burchardt et al. 2002). Such developments have an adverse impact on the most disadvantaged members of any society. As a consequence, different forms of exclusion have to be addressed by government interventions (Atkinson 1998). Government social assistance and activation policies are put at the forefront of this discussion. They constitute the main focus of the analysis presented in this paper.

The aim of this paper is to analyze the link between government supported social assistance programs and social exclusion which are viewed as a complex social phenomenon. In the paper, social exclusion is defined as at-high-risk-of-poverty rate and low work intensity among able-bodied social assistance beneficiaries of working age. The primary focus of the paper is on the underlying causal processes and combinations of relevant conditions leading to these social exclusion outcomes. Another aim of the paper is to explore more systematically if and how activation and socio-professional integration policies as part of social assistance programs relate to poverty and work intensity among social assistance recipients.

Although the literature recognizes the impact of different forms of government interventions on social exclusion outcomes, it rarely addresses the inter-linkages among different macro and micro level policies. Moreover, important structural or context factors appear to be often neglected in the analysis. In most cases, the studies deal with independent variables and their impact on poverty or work inactivity. This paper focuses on the combined effect of different explanatory variables in the small number of country cases.

The presented analysis provides insights in the possible combinations of remote and proximate factors leading to poverty and non-employment among social assistance recipients. It offers a list of explanatory factors, or *characteristics of countries*, such as their wealth and living standards measurements, income inequalities, and the levels of development and financing of social protection systems. These factors are treated as remote conditions in the analysis. Schneider and Wagemann (2006) view remote conditions as relatively stable over time. They are usually described as structural or context factors. Characteristics of the *social assistance programs* are taken as another set of potential factors influencing the outcomes – this time, the proximate factors in the analysis. These involve the levels of spending on social assistance and development of activation and socio-professional integration policies within these programs. The proximate factors are spatially closer to the social exclusion outcomes and should be viewed as products of government social policy interventions.

This research puts forward fuzzy-set Qualitative Comparative Analysis (fsQCA) as a novel methodological approach for treating social exclusion. Relying on the fsQCA and set-theoretic relations, this paper deals with complex causal hypotheses in terms of necessary and sufficient conditions under which the defined social exclusion outcomes occur. As fsQCA is not inference i.e. it does not involve sampling and inferring, the selection of each individual country case for the analysis has been done purposefully and carefully. It includes ten EU countries with developed social assistance and activation schemes. The finding argues in favor of an affirmative role of activation policies in the fight against poverty and low work intensity. However, the analysis shows that activation alone is neither a necessary nor sufficient condition. Instead, the analysis reveals two possible paths leading to the outcome, each combining at least two different conditions such as the level of development of social safety nets and the share of social protection spending on social assistance.

The paper is organized as follows. The first section explains groups of causal explanations and possible policy approaches to social exclusion. The second section introduces the main variables and data. The discussion proceeds with the main steps of the analysis and model specification. The final section provides interpretation of results and offers suggestions for further work.

Theoretical framework

The literature recognizes different approaches to social exclusion: sociologists tend to stress the importance of behavior among different groups within a given society; economists emphasize the role of the labor markets in reducing poverty and social exclusion, while social policy analysis focuses on government designed policies and their impact. Since social exclusion is a complex phenomenon, these isolated approaches provide an explanation of social exclusion that is rather incomplete (Burschardt , Le Grand, & Piachaud 2002).

The prevailing focus on individuals by the economic science provides only a partial explanation of social exclusion (Atkinson 1998). For the dynamic dimension of exclusion, contemporary economic analysis has developed a number of econometric models explaining moves in and out of employment for social assistance beneficiaries (Barret 2000, Gustafsson et al. 2002, Dahl and Lorentzen 2003). However the analyses of underlying causes, causal processes and wide ranging dimensions of social exclusion have rarely been reflected in the research. In addition, one may argue that Atkinson's (1998) relativity element, indicating that social exclusion is a product of different events in society, has largely been neglected. At least, it has not been sufficiently addressed in the analysis of the impact of welfare policies and institutions on reducing social exclusion.

Social policy analysis approach draws from different theoretical traditions, such as social administration (primarily rooted in the U.K.), welfare economics, and political economy (Hill and Bramley 1986). In the welfare state literature, the role of social policy and its interventions have been traditionally analyzed in the context of modernization and industrialization processes (Wilensky 1975, Kapstein and Milanovic 2003) or as the consequence of dramatic political and economic shocks (Pierson, 1996). The argument is that as these processes unfold the state functions as a replacement to traditional family, church, and other informal safety nets, providing social protection support within its government run system. This has been an important factor in shaping the traditional European welfare state. With respect to the developing countries, Lindert (1996) argued that even these countries follow the route of the more advanced economies in designing their social policies. Commonly, the economists view social policy as the government response to the failure of markets to provide assistance and insurance that people may require to mitigate various risks (Holzmann and Jorgensen 2001, Kapstein and Milanovic 2003).

Government social policy is largely interlinked with different macro and micro level policies. In the discussion of various aspects of social policy Musgrave and Musgrave (1975), Hill and Bramley (1986), and later Hall and Soskice (2001) refer to macroeconomic policies viewed as necessary parts of social policy analysis. These policies, for example, influence investments, production outputs, and levels of employment, but also levels of social protection and the distribution of income. The

discussion in this paper shows that the goal of poverty reduction and social assistance beneficiaries' integration in the labor market and society in general requires a broader understanding of both macroeconomic and microeconomic factors impacting on these welfare outcomes. For these reasons and in support of Hill and Bramley's (1986) arguments, macroeconomic policy should always be analyzed within the scope of social policy and is to be treated as part of the overall environment of social welfare policy.

Schneider and Wagemann (2006) argue that social scientific theories explaining complex social events offer implicit arguments for the division of a list of causal conditions into two groups that can be treated as remote and proximate conditions. Macro and micro level policies could be both remote and proximate conditions depending on the research setting. Here, the 'remoteness' is not only related to space and time but rather to the limited causal impact, while 'proximity' assumes deeper causal relationship. Furthermore, building on the work of Mahoney and Snyder (1999) and Crouch (2003), Schneider and Wagemann (2006) describe situations in which proximate factors are treated as actor-based and process oriented events. In their view, social action (proximate conditions) occurs in contextually given arenas (remote conditions). Causal effects of different remote and proximate factors are being extensively explored in many areas of social science. Nevertheless, they usually fail to provide an integrative theoretical explanation of their combined impact.

A social policy analysis approach that offers a broad framework to analyze social assistance policy processes and policy impact within given contexts is known in the literature as "the model of welfare production". The model of welfare production was developed by Hill and Bramley (1986) as an effort to identify *inputs* which determine policy *outputs*, and possibly, *outcomes* of a given welfare policy. According to its authors (Hill and Bremley 1986), the model builds on the earlier work by Knap and the Easton and Jenkin's "systems model of the policy process" but refers in particular to the "production of social services and their impact on welfare" (p. 179). The model consists of inputs, production of inputs into outputs, which together with other factors affect the welfare of individuals, households, and society in general.

This analytical framework has already been applied in recent comparative studies on social assistance programs and their effects in poverty reduction by Kuivalainen (2005) and Jasenova (2007). In the welfare production model, a number of potential socio-economic factors intervene at different levels and stages of welfare production. Inputs are the resources employed to finance social assistance benefits and services as well as physical resources such as staff, buildings and equipment. The financing usually come from budget revenues. Outputs are viewed as definable, intermediate outputs, such as the share of government spending on social assistance, the share of social protection expenditures, social assistance coverage and benefit levels. Production refers to the process within which inputs are being transferred into outputs. In the case of social assistance provision, these processes include means-testing and work related-testing of benefit claimants. Outcomes, or the final outputs, are regarded as welfare i.e. the state of well-being of individuals and groups that are being analyzed. Welfare implies "the extent to which need is met" (Hill and Bramley 1986, p. 181) be it, in this case, beneficiaries' financial or employment related need.

While aimed at explaining policy processes, the model of welfare production might not be fully developed to address the interplay of all causal factors involved in the production of 'welfare' or social exclusion. However, with existing theoretical underpinnings and by laying the groundwork for an integrative approach that recognizes the causal effect of combined structural and proximate factors, this model may serve as the framework for

causal analyses. This certainly requires the application of methodology for the assessment of causal complexity. Recent literature refers to fuzzy set Qualitative Comparative Analysis (fsQCA) to enrich the knowledge about causal complexity (Ragin 2000, 2007, Rihoux and Grimm 2006, Schneider and Wagemann 2006). As such, the fsQCA will be applied in this study.

Data: Cases and variables

Cases included in the analysis involve ten selected EU countries[2]. The set of cases consists of an equal number of old and new EU member states with developed guaranteed minimum income schemes and activation policies as a means of tackling poverty and low work activity among welfare beneficiaries.[3] The selection of the old and the new EU countries was done purposefully in order to ensure diversity but also to make possible the analysis of potential similarities and differences between the western European and the countries of Central and Eastern Europe. At the same time, a potential list of macro and micro level indicators impacting on earlier determined social exclusion outcomes is long and had to be reduced to reflect only those factors that could be described as strongly relevant for the outcome. In the final model specification, the number of relevant factors is reduced to three. This is required for any meaningful fuzzy-set analysis in such a limited number of cases.

The specification of a relevant set of variables (in the fuzzy-set terminology: *conditions*) impacting on the social exclusion outcomes is a real challenge since poverty and work intensity are usually affected by a set of economic, social, and political factors. Thus, poverty and work activity are observed as complex social events which require the analysis of different socio-economic variables, namely, their combined effects as the subsequent analysis will show. Table 1 presents only those factors that have been selected as the most relevant ones for the analysis of poverty and work intensity among welfare beneficiaries. At the same time, social policy approach, adopted here for the analysis, has only recently joined the academic forum of socio-economic development research (Kapstein and Milanovic 2003). Moreover, it is rarely the case that one theory explains all the factors influencing complex social policy events (Rihoux and Grimm 2006), which makes the selection of appropriate relevant conditions even more difficult.

Table 1. Relevant conditions and outcomes – raw data

Country	RELEVANT CONDITIONS	OUTCOMES

[2] Czech Republic, Estonia, Latvia, Poland, Slovenia, Austria, Germany, France, Sweden, United Kingdom. The number of country cases is limited to ten due to the lack of data, particularly for Central and Eastern European countries.

[3] On average, 15 percent of the EU population lives below the at-risk-of-poverty threshold. The numbers are even more striking for social assistance beneficiaries, which comprises the primary focus of this research. According to the available survey data (EU-SILC 2005), their at-risk-of-poverty rate is on average two to three times higher than the poverty rate for the general population, as it is the case with their low work intensity (Annex 1 and Annex 2).

	GDP per capita (PPPs)	Inequality of income distribution	BTI welfare variable - safety nets and equal opportunities score	Spending on social protection (% of GDP)	Spending on social exclusion n.e.c. (% of social protection spending)	At-risk-of-poverty rate among social assistance beneficiaries	Work intensity =0 among poor social assistance beneficiaries
	gdp	***i***	***bti_w***	***sp***	***se***	***rp***	***wi***
Czech Republic	20,281	4.7	9	18.7	2.8	0.48	49.76
Estonia	16,654	7.2	7.5	12.9	1.1	0.14	14.26
Latvia	13,218	6.7	8.5	12.3	1.2	0.32	26.48
Poland	13,573	6.6	8.5	19.7	0.8	0.64	40.97
Slovenia	23,004	3.4	9.5	23.2	2.8	0.22	17.97
Austria	34,108	3.8	9	28.1	1	0.37	26.53
Germany	30,496	3.8	9.5	28.5	1.8	0.54	60.37
France	29,644	4.2	9.5	29.4	1.4	0.37	37.65
Sweden	31,995	3.3	9.5	31.5	2	0.33	42.6
United Kingdom	31,580	5.8	9.5	25.8	0.8	0.34	39.55

Source: World Bank International Comparison Program, 2008 (GDP per capita in $PPPs, 2005 data); Eurostat (Spending on social protection as share of GDP, 2004 data; Inequality of income distribution, 2004 data; Spending on social exclusion as share of total social protection expenditures, 2004 data); The Bertelsmann Transformation Index (BTI) 2006 (2005 data); EU-SILC 2005 (At-risk-of-poverty rate among social assistance recipients, 2004 data; Work intensity among social assistance recipients, 2004 data)

Therefore, in the explanation social policy outcomes, different theories have to be consolidated and applied. Country comparisons of national wealth and living standards are conventionally made on the basis of *nominal GDP or by their GDP at PPP (purchasing power parity) per capita.* The rationale here would be that richer countries score better on social exclusion outcomes and that all citizens benefit from their country's economic production. Nevertheless, for the developed welfare states and market economies, authors such as Hyman (1999) and Stiglitz (2000) stress that they do not always produce a distribution of income that is socially acceptable. This requires the inclusion of an *inequality of income distribution*[4] indicator in the analysis. As a response, almost all European states have over time reached a certain, rather high, level of *development of their social safety nets* to tackle poverty and inequality.[5] Concerned with the positive and negative effects of efficiency, government financed programs often raise the issue of the kinds and the levels of redistribution. Principles of justice and equity usually contrast the efficiency rationale. A number of theories of justice provide a philosophical basis for the discussion on redistributive policies. Within this scope, positions on social justice are wide ranging and hardly possible to cover in this kind of review without getting insights into political and social philosophy. The diversity of opinions might perhaps be the reason why welfare economics literature does not make

[4] According to the Eurostat definition, inequality of income distribution (income quintile share ratio) is defined as the ratio of total income received by the 20% of the population with the highest income (top quintile) to that received by the 20% of the population with the lowest income (lowest quintile). Income must be understood as equivalized disposable income. For the equivalization, the modified OECD equivalence scale is used, which assigns a weight of 1.0 to the first household member aged 14 or over, 0.5 to each additional member aged 14 or more and 0.3 to each member aged less than 14 years old.

[5] For the level of development of social safety nets and equal opportunities indicator, the analysis makes use of the welfare regime variable of the BTI (Bertelsmann Transformation Index).

confident prescriptions about the distribution function of the state, as properly noted earlier by Hill and Bramley (1986). *Redistribution through social protection programs*, expressed as a share of GDP, is commonly used in the explanation of poverty and poverty reduction effects (European Commission 2007, Herrmann 2008).

All the above listed conditions will be treated as "remote" conditions in the analysis as they create "a favorable context" for the improvement on social exclusion outcomes. The list is by no means exhaustive but rather limited to the most relevant contextual conditions that are to be complemented with the social assistance program's specific features.

Social assistance programs, i.e. cash transfers targeted at the poor individuals and households, constitute an important part of modern European social safety nets. Besides its poverty reduction goals, another important role of social assistance is its contribution to more equal income distribution and inequality reduction (Förster and Mira d'Ercole 2005, Adema 2006). Over recent decades, the design and provision of social assistance has been altered to include a requirement for the able-bodied beneficiaries of working age to work in order to receive benefits (Lodemel and Trickey 2000, Adema 2006). The programs such as social activation, education, training and work requirements have been included in social assistance legislation, signaling that poverty reduction might not be the only social assistance policy objective and that the goals such as greater activation and integration of social assistance beneficiaries in the labor market should be observed.

Activation and socio-professional integration of social assistance beneficiaries is part of the modern social assistance programs which, besides improving financial situation of welfare beneficiaries through cash transfers, aims at facilitating and promoting their social activation, education and labor market integration. It refers to a range of policy designs such as mandatory registration with public employment services, individualized approaches to beneficiaries' activation and integration, increased income incentives such as topping up of their benefits, etc. To what extent each of the country programs utilizes these policy designs is defined in the presented analysis as *the governments' commitment to activation and socio-professional integration* (Table 8, Annex 5;)[6]. Together with the share of the overall social protection spending defined at the EU level as *expenditure on social exclusion not elsewhere classified (n.e.c.)* it constitutes the core of the analysis of "proximate" conditions. This puts the whole analysis under the already discussed framework of "welfare production model" (Hill and Bramley 1986), allowing at the same time for the possible integration of remote and proximate conditions in a single model.

As noted earlier, the main outcome indicators analyzed in this paper are at-risk-of-poverty rate and work intensity among poor and rather inactive social assistance recipients[7]. The selection of these indicators corresponds to the set of EU level agreed indicators.[8] The operationalization of poverty and work intensity indicators in the paper follows the reasoning that for the able-bodied social assistance beneficiaries insufficiency

[6] See also the calibration of this indicator in Annex 3.
[7] Based on EU-SILC 2005 data.
[8] Since the nature of social exclusion is multidimensional, the EU Statistical Office (Eurostat) and researchers have developed a number of indicators to monitor and compare national performance in fighting social exclusion. Very often, the literature refers to them as "social inclusion indicators" or simply "social indicators" (Marlier et al. 2007). All of these are obviously at the same time indicators for "poverty and social exclusion". The agreed set of social indicators focusing specifically on poverty and social exclusion the, so called, Laeken indicators, focus on social outcomes and include: at-risk-of-poverty rate, persistent at-risk-of-poverty rate, intensity of poverty risk, long-term unemployment rate, population living in jobless households, early school leavers not in education or training, material deprivation, housing, self reported unmet need for health care, and child well-being.

of recourses and their detachment from the labor market present the main social exclusion challenge (Clark and Oswald 1994, Förster and Mira d'Ercole 2005). In parallel with different socio-economic indicators these outcome indicators comprise the core of the fuzzy set analysis, which will be discussed later.

At-risk-of-poverty rate among social assistance beneficiaries is viewed as a social exclusion outcome indicator for the specific group of people receiving cash support.[9] As a measure of relative poverty, the at-risk-of-poverty threshold is defined as 60 percent of the median income. Consequently, for each country case at-risk-of-poverty rate indicator reflects the share of individuals living in households receiving social assistance benefits where the total equivalent household income is below the established at-risk-of-poverty threshold. This is a relative definition of poverty as the poverty rate depends on the average income in the country.[10]

Work intensity is analyzed as an additional outcome indicator to enrich the analysis of exclusion. The work intensity indicator refers to the prevailing time that the working age social assistance benefits recipients spend in activity or inactivity. More precisely, work intensity reflects the share of the total number of months worked within the given number of working months in the income reference period. In this analysis, low work intensity indicates the share of the population of poor social assistance beneficiaries without any work (Code 1, *see* Annex 2 and Annex 3) in the income reference period in a given country.

Finally, both sets of outcome data have been calculated from the EU-SILC 2005 survey database. A set of conventional socio-economic indicators belongs to the publicly available Eurostat (social protection and social exclusion expenditure data), and World Bank (GDP data) databases. The Bertelsmann Transformation Index 2006 (BTI) is often used for the ranking of the development and transformation of countries in terms of their level of democracy and market economy. The BTI welfare regime variable included in this analysis measures to what extent social safety nets exist to compensate for poverty and other risks such as unemployment and to what extent equality of opportunity exists in a given country. The BTI exclude established democracies with market economies such as old EU member states. For these states, it has been assumed that they score relatively high on the social safety net index. These data have been cross-checked with the qualitative information posted in the MISSOC (Mutual Information System on Social Protection in the European Union) database.[11]

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[9] Social exclusion benefits (not elsewhere classified) are defined as cash transfers aimed at mitigating financial burden of a number of risk or needs of those referred to as "socially excluded" or to "those at risk of social exclusion". The benefits are provided by central and local governments and received by the households in the income reference period and include income support i.e. cash payments to eligible individuals and families without sufficient resources. Eligibility criteria may involve income and asset tests but also requirements related to nationality, residence, age, availability for work and family status. They could be described as income support to destitute and vulnerable persons to alleviate poverty or mitigate difficult financial circumstances.

[10] An additional threshold has been introduced at the value of 10 euro a day in order to compare absolute poverty rates across the EU (Annex 1). All the nominal amounts have been adjusted with the purchasing power standards. A 10 euro/day threshold was set earlier in the research of the European Center for Social Welfare Policy and Research (Lekles and Zolyomi 2008).

[11] MISSOC is an information system created to provide comparative information on social protection systems in EU member states. It includes detailed information on minimum income guaranteed schemes, activation and socio-professional integration policies employed in the analysis, the selection of which is presented in Annex 5.

Analysis

The analysis in this paper involves a fuzzy set Qualitative Comparative Analysis (fsQCA). QCA was developed originally for the analysis of crisp sets (Boolean algebra). In crisp sets, variables take either the value of 0 or the value of 1. Fuzzy sets are an explicit extension of crisp sets that permit membership scores in the interval between 0 and 1. It is important to note that fuzzy set membership scores do not assume a simple ranking of cases relative to each other, but rather underline qualitative states between 0 and 1. This gradation is central to the construction of fuzzy sets and a conventional Boolean truth table from fuzzy set data as it will be demonstrated in the paper.

An important requirement for fuzzy set analysis is that it needs to be based on the fit between membership scores and the theoretical content of the applied concept (Ragin 2000, Ragin 2008, Rihoux and Ragin 2009). In the fuzzy-set technique the cases may have partial membership. This procedure, known as calibration, respects core set theoretic principles. In the presented analysis, particular attention was paid to calibration (Annex 3). Full membership (a fuzzy set score of 1.0) and full non-membership (0.0) together with the cross-over point of 0.5 create three numerical anchors in the assessment of the outcome and relevant conditions. For example, the thresholds for full membership, cross-over point, and non-membership for at-risk-of-poverty rate among social assistance beneficiaries are set at higher than 50 percent, 32 percent, and below 10 percent respectively. Additional membership scores (such as 0.33 and 0.67) have been introduced for the complete analysis, summing it up to a five-value logic. Calibration has been done manually for all the outcome indicators and relevant conditions, based on theoretical and substantive knowledge, and with the assistance of TOSMANA software (Cronqvist 2006) for better visualization and anchoring.

The fuzzy set technique has been selected for this research because it captures both quantitative and qualitative differences among the analyzed countries. Also, fsQCA appears to be most appropriate for the analysis of small number of cases such as the presented selection of EU member states. In addition, fsQCA addresses the issues associated with the measurement of causal complexity in policy analysis in which explanatory variables come in combinations that could be compared. This makes fsQCA suitable in the explanation of complex social outcomes such as social exclusion.

The core of the analysis will be the explanation of necessary and sufficient conditions leading to a social exclusion outcome. After the careful calibration, the analysis proceeds with the identification of necessary conditions or, more specifically, the conditions that must be present for the outcomes to occur. For example, inequality of income distribution is considered by some to be a necessary condition for the occurrence of poverty. But, the presence of income inequality does not guarantee that poverty will occur. The necessity test will be passed each time the analysis demonstrates that instances of the outcome Y constitute a subset of instances of a condition X (Ragin 2000). The consistency that indicates necessity could be formally expressed as:

$$\text{Consistency } (Y_i \leq X_i) = \sum(\min(X_i, Y_i))/\sum (Y_i))$$

According to this formula, a score of 1.0 i.e. the consistency would be equal to 1.0 if all outcome values are less than or equal to their corresponding relevant condition values.

Additionally, the paper aims at presenting a two-step fsQCA approach as a tool for dealing with causal complexity related to the defined social exclusion outcomes. The two-step fuzzy set variant is applied in this analysis for the purpose of reducing the number of potential explanatory factors to the three or four most relevant conditions. This appears to be of significant methodological importance in the fuzzy set analysis of only ten country cases. Inherent in this kind of analysis, the first step of fsQCA consists of the investigation of outcome-enabling contextual conditions, or, more precisely, the analysis of necessity with regard to these conditions. The second analytic step involves finding a combination of proximate factors within the given context that leads to the outcome. The second step is that fsQCA combines remote and proximate conditions that pass consistency and sufficiency tests set by the researcher. Therefore, next in the analysis is to conduct the fuzzy set truth table procedure, which is in essence the analysis of sufficiency. In the fuzzy set analysis, truth table rows represent 2^k causal arguments based on logically possible combinations of conditions involved in the analysis. In any logically possible combination, each case can have only one membership score greater than 0.5 which indicates that the case is more in than out of the causal combination.

The remaining analytic step involves the assessment of each combination's consistency, namely identifying causal combinations of X that are subsets of the outcome Y. The corresponding formula is:

$$\text{Consistency } (X_i \leq Y_i) = \sum(\min(X_i, Y_i))/\sum (X_i))$$

This consistency shows the degree to which one set is contained within another (Ragin 2000). When the values of X_i are less than or equal to their corresponding Y_i, then X_i is contained within Y_i, and the consistency score is 1.0. Further assessment is conducted for all the combinations i.e. truth table rows that meet the frequency threshold, or, in the presented analysis, at least one case with greater than 0.5 membership and the consistency threshold of 0.85.

Once the cut off values have been determined the analysis proceeds with the process of reducing complex set-theoretic relations into a minimal formulae. The process is commonly referred to as minimization procedure which gives the end output of the analysis – the solution term indicating which combination of conditions explains the outcome and at what consistency and coverage levels. The coverage explains the size of the set of sufficient condition in relation to the size of the outcome. In other words, while consistency values describe how many cases deviate from the subset pattern condition 'X' subset of outcome 'Y', coverage levels give a percentage of how much of outcome Y that needs to be explained is covered by condition X.

Discussion of results

To bypass the detailed discussion on definition and conceptualization of social exclusion and for the purpose of this research, outcome Y, or in this case social exclusion, is defined as high at-risk-of-poverty rate and low work intensity among the poor social assistance recipients. As presented in Table 6 (Annex 3), 8 out of 10 cases are more in than out of the set of countries with high poverty rates (scores higher than 0.5 membership score). Notice, however, that rather small countries, belonging at the same time to the group of transitional economies, such as Estonia and Slovenia are more out than in the set of countries with high poverty rates.

Within a set of rather developed countries, we notice a significant level of diversity in terms of values of their gross domestic products and shares of expenditures on social protection, while the differences in the levels of social safety net development and income distribution are somewhat less expressed. These conditions have created a model for the sufficiency test in the first step of fsQCA. The aim of the first step analysis was to reduce the complexity of the initial statement i.e. to find a combination of conditions that best represent the information given in the data.

The solution in the first step analysis, which logically implies a simple but less precise solution term, led to the conclusion that none of the remote conditions was sufficient for relative poverty to occur. In combination with other remote conditions each of these conditions is a necessary condition, however, at very different consistency thresholds. In line with theoretical and empirical expectations, the level of social safety net development passed the necessity test at the consistency level of 0.91, while the other three conditions gave a rather inconsistent result. This confirms that social exclusion occurs in the context of developed social safety nets. However, in line with the preceding discussion on necessity it would be important to note here that the presence of developed social safety nets is not a sufficient condition for the occurrence of social exclusion. The conclusion on sufficiency comes out of the analysis of the combination of sufficient conditions leading to the social exclusion outcomes entailed in the second step analysis.

Dealing with the remote indicators, the model is under-specified in the first step. The aim of the first step fsQCA is to moderate inconsistency (Schneider and Wagemann 2006). One way to analyze the fit of social exclusion outcomes to societal contexts is to look at the contexts but also the institutions framing the policies around the socially excluded recipients of welfare. The goal in the second step is to combine an institutional feature of a cash benefit program and a remote condition with high consistency level – in this case the indicator of social safety net development (*bti_w*). The second step analysis is expected to increase the consistency of the solution terms as the added proximate factors make the conjunctional solution terms more specific.

The indicator of development of social safety nets was retained for the joint analysis with proximate conditions and a subsequent discussion of intermediate solutions of the minimization process.[12] At the same time, social protection spending as share of GDP has been replaced with the spending on social exclusion benefits as share of overall social protection spending (*se*) - the expenditure indicator more precisely related to financing of social assistance benefits. The main institutional feature added in the second step analysis concerned governments' activation and socio-professional integration policies as stated in their legislation (*a*). The fuzzy set treatment of these variables yields the configurations displayed in the truth table below.

Table 2. Truth table

Relevant conditions				**Outcome**
bti_w	**se**	**A**	**Number of cases in causal combination >0.5**	**rp**

[12] When a necessary condition is included in the truth table analysis it is important to ensure its inclusion in the solution terms that involve logical reminders (Rioux and Ragin 2009).

1	1	1	5	0
1	0	1	2	1
0	0	1	1	0
1	0	0	1	1
1	1	0	1	1
0	0	0	0	-
0	1	0	0	-
0	1	1	0	-

The benchmarks for passing the sufficiency test involve the consistency value threshold of 0.85 and at least one case with a membership score higher than 0.5 in the conjunction. All the conjunctions that pass the established consistency test are viewed as sufficient causes for social exclusion with an outcome value of 1. On the contrary, conjunctions that are inconsistent have been assigned 0 outcome value. Values denoted with "-" represent logical reminders, i.e. the cases that are not empirically observed. The application of these steps is aimed at obtaining consistent solutions explaining the interplay between the given context and the social assistance program's characteristics. In the second step, the complexity of causal configurations is reduced based on the available empirical information, producing the following minimal formula:

MODEL 1

BTI_W*a + BTI_W*se → RP

	raw coverage	unique coverage	consistency
BTI_W*a+	0.379458	0.189729	1.000000
BTI_W*se	0.3 33809	0.144080	0.876405
solution coverage: 0.523538			
solution consistency: 0.917500			

where, **SE** stands for 'spending on social exclusion as share of total social protection expenditures', **BTI_W** for 'BTI safety nets and equal opportunities score', **A** for 'activation and socio-professional integration', while **RP** denotes 'at-risk-of-poverty rate among the poor social assistance recipients'. The capital letters indicate a high membership in the set of countries while the small letters denote low membership scores.

In the presented Model 1, there are two solution paths that display consistency values of 1 and 0.87 respectively, meeting the criteria set for the analysis. As with many other social phenomena, causation is conjunctional and equifinal[13]. This leads us to the conclusion

[13] Causation is conjunctional when it is a combination of relevant conditions that generates the outcome. It is equifinal when different causal paths lead to the same outcome.

that it is the combination of relevant factors that impacts on poverty among the social assistance beneficiaries; it is not the isolated variables. Also, these relevant factors combine in different ways creating two solution paths leading to the same poverty outcome.

The interpretation of the empirical results is done in the light of the expectations set earlier in the paper and within a given welfare production framework. For the remote conditions, it is argued that social exclusion, measured as a high poverty rate and low work intensity among the poor benefit recipients, occurs in developed welfare states that score very high on the social safety nets and equal opportunity index. All the countries included in the analysis have rather developed social safety nets which in a way presents a necessary condition for the discussion on social exclusion of this kind. Therefore, the result of the analysis showing high membership in the set of countries with developed social safety nets as necessary condition with high consistency level should not be viewed as being odd. At the same time, when set in the context of the overall countries' social protection systems and in the presented constellation of factors, the social exclusion outcomes seem to depend on the level of total social protection spending. However, earlier findings have confirmed that only a small share of social protection expenditures finances cash benefit for social assistance recipients (Neubourg de C. et al. 2006, World Bank 2007).[14] While the level of overall social protection expenditure matters, this analysis has treated only the spending on social assistance benefits as share of social protection spending, as it affects the lives of these recipients the most. This in turn yields more consistent results.

For the proximate condition configuration, it is found that none of the relevant conditions is sufficient for the outcome to occur. This confirms that social exclusion needs to be approached from different perspectives simultaneously. Furthermore, a combination of low spending on social exclusion and little attention paid to activation and socio-professional integration of social assistance beneficiaries within the developed social safety net contexts leads to higher social exclusion. This appears to be the case for both outcomes: at-risk-of poverty rates – RP (Model 1) and work intensity among the poor social assistance beneficiaries - WI (Model 2 below). In both analyses, the consistency thresholds were set at the level of 0.85. The solution consistency values turned out to be rather high in both models (above 0.90).

MODEL 2

BTI_W*SE*a+ BTI_W*se*A → WI

	raw coverage	unique coverage	consistency
BTI_W*SE*a+	0.234568	0.234568	1.000000
BTI_W*se*A	0.352734	0.352734	0.858369
solution coverage: 0.587302			
solution consistency: 0.909836			

[14] Total social protection spending is in the range of 20 to 30 percent of GDP with majority of it financing pensions and health care (Neubourg de C. et al. 2006).

However, it is important to note that the coverage in the both models' solution terms, 0.52 and 0.58 respectively, as well as the raw coverage is rather low. This could partially be explained by the stringent use of very high consistency thresholds set by the researcher. This presents a typical trade off faced by the researcher in this type of analysis.[15]

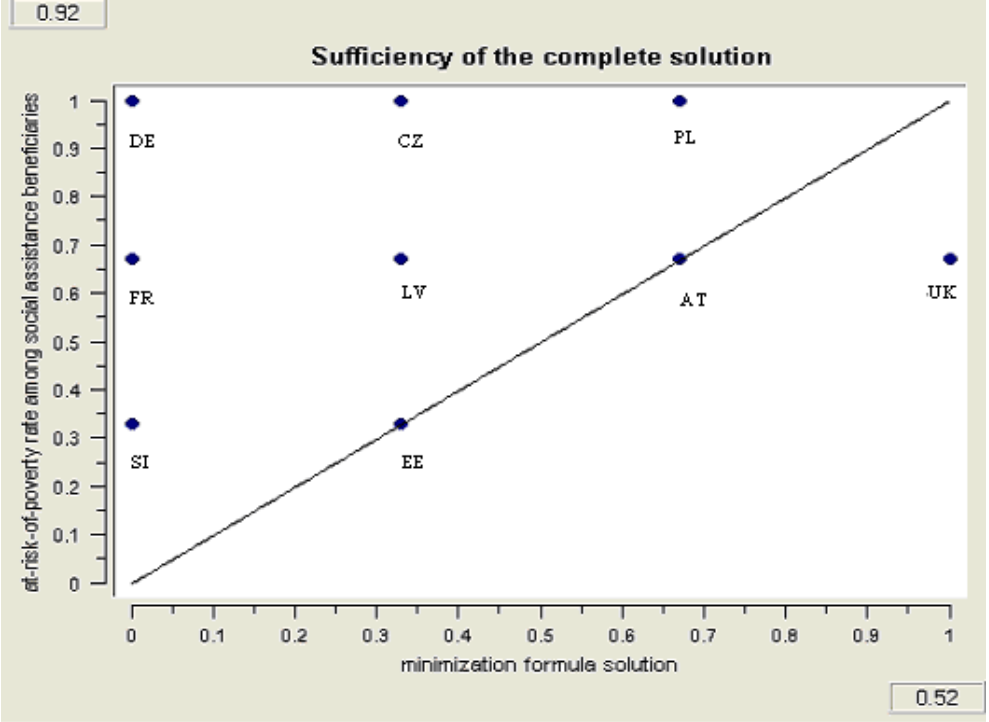
From both theoretical and empirical perspectives, the solution terms presented in Model 1 and Model 2 find enough support in the argument that not insisting on activation policies and lower spending on cash assistance programs yield higher social exclusion for social assistance beneficiaries. In both models, it is always a combination of high level of development of social safety nets and a low membership in either the set of countries with highly developed activation polices or in the set of countries with high social assistance spending that leads to higher social exclusion outcomes. However, as the second solution path in Model 2 (BTI_W*se*A) confirms, even the presence of activation and socio-professional integration polices in some cases produces low levels of work intensity for the analyzed group of people. Notably, the analyses of necessary conditions and the complete solution term suggest that activation and socio-professional integration policies play more a important role in the analysis of work intensity than in the case of poverty rates (Annex 4). While the presented fsQCA supports the role for these policies, it would be also legitimate to conclude that insisting on activation and socio-professional integration in isolation and only in terms of adopted legislation does not necessarily inprove social exclusion outcomes.

The x-y plot[16], created to visualize the sufficiency of complete solution for the outcome (Model 1), revealed that the case of the U.K. contradict the subset relation in the outcome (Figure 1).

Figure 1. Sufficiency of the complete solution (Model 1)

[15] If relaxed and brought down to the consistency level of 0.78, the analysis gives a different solution term in which the high level of development of social safety nets and equal opportunities appears to be both necessary and sufficient condition for the incidence of poverty. In addition to its low consistency, this is also a rather nonsensical result from the theoretical perspective, which does not allow for further discussion on causal combinations of conditions and will be disregarded as such.

[16] The dots in the x-y plot may represent more than one country cases.



At first sight, the analysis of the complete solution term (Model 1) suggests that there are no particular differences among the groups of countries. Contrary to the expectations, the five Central and Eastern European (CEE) countries do not create a distinctive group of countries. The combination of conditions in the complete solution term (*developed social safety net in combination with both low spending on social assistance and little attention to activation policies lead to higher poverty results*) showed a consistent result for all the country cases except for one. It follows that membership in the fuzzy set combination of these conditions is a subset of membership in the fuzzy set 'high social exclusion'. In other words, this combination of conditions is proven to be sufficient for the outcome to occur. However, it would be wrong to conclude that the same combination of conditions is necessary for the occurrence of the outcome as social exclusion may occur even in the case of non-existence of such combination of relevant factors.

A more insightful analysis of two solution paths (BTI_W*a and BTI_W*se) that comprise the complete solution term in Model 1 signals that the treated CEE country cases undergo certain changes in these different paths (Figure 2., Annex 6). While Estonia and Slovenia appear to be consistent throughout the analysis, Poland, Czech Republic, and Latvia change their positions when it comes to the discussion of the roles of activation measures and spending on social assistance separately. The presented fsQCA analysis does not allow for any firm conclusions on why this is the case but provides a good basis for in-depth analyses of country cases and their anti-poverty and employment policies.

The same applies to the isolated case of the U.K. An insight in the characteristics of the U.K. guaranteed minimum income scheme reveals that some of the able-bodied working age individuals are entitled to cash support based on jobseekers' allowance rather than income support program tested here, which might skew the result. This could be one of the explanations; hence, additional reasons could be numerous and ranging from program implementation characteristics to possible mistakes in the data or the analysis. To gain detailed insights on all of these particular cases it would be necessary to go back to the country cases or even involve in deeper case study analyses. When making causal

inferences, QCA in general is very useful in a combination with conventional case studies (Wagemann and Schneider 2007).

Conclusion

In this paper we started the discussion with the argument that social exclusion is a complex social phenomenon. Complex causal statements in terms of necessary and sufficient conditions were framed using set relations that were brought out by Ragin (2000). The paper explores a combination of relevant conditions leading to the social exclusion outcomes. The analysis is done in two steps. In the first analytic step, attention was paid to the need to contextualize causal statements i.e. to formulate the general enabling environment in which social exclusion occurs. The second step introduced proximate factors, or, more precisely, certain program and institutional features in the explanation of the outcomes.

The findings confirm that it is the combination of different level factors that causes social exclusion. The analysis across ten country cases with developed social safety nets has demonstrated that it is a low spending on social assistance benefits accompanied with limited activation and socio-professional integration policies that have a negative impact on poverty and work intensity among welfare beneficiaries. In line with the expectations about the affirmative role of activation and socio-professional integration policies, the presented fuzzy set analysis has confirmed that government commitment to these policies matters. They appear to be a necessary condition and a sufficient condition but in combination with other conditions. These policies alone are not sufficient to improve the outcomes. Moreover, by simply insisting on the legislation does not always yield positive outcomes and further insights in the implementation of such and related policies across selected country cases is needed.

These results have several theoretical and empirical implications. In line with Atkinson's (1998) argument, social exclusion is the product of different events in society. Government designed welfare polices and institutions play a role in fighting social exclusion. However, these policies do not impact on social exclusion outcomes in isolation but rather as a part of the overall social policy environment as suggested by Hill and Bramley (1986). The arguments presented are in an effort to construct one integrated approach for treating the combined effect of relevant structural and proximate conditions on social exclusion outcomes.

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Annex 1

Table 3. Share of social assistance beneficiaries and the general population living in relative poverty (defined at 60% of the median income) and absolute poverty (defined at 10 euro/day), by country

Country	Relative poverty rate		Absolute poverty rate	
	Social assistance beneficiaries	General population	Social assistance beneficiaries	General population
Austria	37	13	0	0.7
Czech Republic	48	10	22	23
Germany	54	14	34	0.8
Estonia	14	22	32	37
France	37	14	0.4	0.8
Latvia	32	24	74	58
Poland	64	19	67	38
Sweden	33	10	2	1.4
Slovenia	22	12	2	1.4
United Kingdom	35	20	0.4	1.2

Source: Own calculation based on EU-SILC2005 data.

Annex 2

Degrees of work intensity among social assistance beneficiaries

Work intensity is a variable defined by the EU-SILC and coded for the four categories to reflect different degrees of work intensity in the income reference period. If a person did not involve in any work activity in the year preceding the survey (WI=0) he or she is assigned the code of 1:

- WI = 0 Code = 1
- 0 < WI< 0.5 Code = 2
- 0.5 ≤ W< 1 Code = 3
- W = 1 Code = 4

Table 4. Work intensity among poor social assistance beneficiaries (weighted numbers and percentages)*

	Work intensity				
Country	**1**	**2**	**3**	**4**	**Total**
	19,393	8,788	28,728	16,190	73,098
Austria	26.53	12.02	39.3	22.15	100
	54,213	18,355	27,341	9,034	108,943
Czech Republic	49.76	16.85	25.1	8.29	100
	242,934	53,542	62,290	43,660	402,425
Germany	60.37	13.3	15.48	10.85	100
	2,092	1,779	3,474	7,326	14,671
Estonia	14.26	12.12	23.68	49.93	100
	249,183	107,232	147,797	157,703	661,915
France	37.65	16.2	22.33	23.83	100
	34,165	11,919	35,888	47,069	129,041
Latvia	26.48	9.24	27.81	36.48	100
	282,982	180,303	177,396	50,106	690,787
Poland	40.97	26.1	25.68	7.25	100
	71,901	19,745	39,201	37,929	168,776
Sweden	42.6	11.7	23.23	22.47	100
	217,507	263,116	529,001	200,775	1,210,399
Slovenia	17.97	21.74	43.7	16.59	100
	688,441	80,106	301,963	670,361	1,740,871
United Kingdom	39.55	4.6	17.35	38.51	100

Source: Own calculation based on EU-SILC2005 data.
*Total number of observations is 6,140.

Table 5. Work intensity among non-poor social assistance beneficiaries (weighted numbers and percentages)*

	Work intensity				
Country	**1**	**2**	**3**	**4**	**Total**
	617,929	210,226	1089059	1724514	3,641,728
Austria	16.97	5.77	29.91	47.35	100
	459,113	91,801	658,873	1510648	2,720,436
Czech Republic	16.88	3.37	24.22	55.53	100
	2369987	484,478	3224644	5078624	11,157,733
Germany	21.24	4.34	28.9	45.52	100
	369,547	172,620	750,180	1245869	2,538,216
Estonia	14.56	6.8	29.56	49.08	100
	1120168	325,267	1929162	3797807	7,172,404
France	15.62	4.53	26.9	52.95	100
	356,552	109,115	651,306	1050158	2,167,131
Latvia	16.45	5.04	30.05	48.46	100
	2532212	1322178	3895602	4320327	12,070,319
Poland	20.98	10.95	32.27	35.79	100
	303,753	182,151	1012227	2505118	4,003,249
Sweden	7.59	4.55	25.29	62.58	100
	766,828	460,795	1858099	2999214	6,084,936
Slovenia	12.6	7.57	30.54	49.29	100
	1148654	194,671	1311147	5292682	7,947,154
United Kingdom	14.45	2.45	16.5	66.6	100

Source: Own calculation based on EU-SILC2005 data.
*Total number of observations is 150,844.

Annex 3

Direct method of calibration

The fuzzy sets presented here reflect degree of membership in the outcome, i.e. the sets of high at-risk-of-poverty rate and low work intensity among poor social assistance recipients. They also depict degrees of membership in the sets of various contextual and social assistance program related factors, the so called relevant conditions. The discussion of each of these follows here.

At-risk-of-poverty rate among social assistance recipients. The analysis uses the official EU poverty threshold adjusted for household size. Using the direct method for calibrating fuzzy sets, 30 percent which is double the average poverty rate in the EU is taken as the cross over point (0.5). This is explained by the fact that the probability of being poor for households receiving social assistance is on average 2-3 times higher compared to the corresponding probability for all other households (EU-SILC 2005). The poverty rate in the European Union varied between 9 and 21 percent in 2004 (*Eurostat*). Anything close to these rates would constitute the natural thresholds for full exclusion and full membership in the set of countries with high poverty rates. While 10 percent is kept as the threshold for full exclusion (0), the threshold for full membership has been moved beyond 50 percent for the reasons of high relative risk of poverty as explained earlier.

Absolute poverty rate among social assistance recipients. An attempt has been made to carry out additional fuzzy set analysis with the same relevant conditions but with absolute poverty rate as the outcome indicator. The divergence of absolute poverty is very high across the countries and much greater than the one of relative poverty. At 10 euro a day, poverty rate is below 2 percent in half of the country cases. Absolute poverty turns out to be very high in Central and Eastern Europe excluding Slovenia. According to the results, more than two thirds of the social assistance recipients in Latvia and Poland lived in absolute poverty. This implies that incomes of the socially excluded might be significantly below the standard relative poverty threshold and as such should be highlighted in the analysis. However, this polarization of countries on those with very low levels of absolute poverty and those that have very high absolute poverty rates does not resonate well with the calibration principles. The outcome indicator cannot be dichotomized, which in this case would be a natural procedural step, making it impossible to undertake a proper calibration and later analysis.

Work intensity. As previously indicated, low work intensity indicates the share of the population of poor social assistance beneficiaries without work (Code 1, *see* Annex 2) in the income reference period in a given country. If a country case shows that more than a half of the poor social assistance recipients are inactive, the case would be treated as fully in the set of countries with low work intensity and will be assigned a fuzzy score of 1. If this proportion is less than 10 percent, the membership score in the set would be equal to 0. The cross over point (0.5) has been established at the share of one third of inactive beneficiary population which, interestingly, approximates the average proportion of the fully inactive poor welfare beneficiaries in the EU countries.

Level of social safety net transformation and development. To measure to what extent social safety nets exist to compensate for poverty and other risks such as unemployment and to what extent equality of opportunity exists in a given country, the study uses the welfare regime variable from the BTI (The Bertelsmann Transformation Index 2006). To

qualify for full membership in the set of developed country a case needs to score 9.5 or higher on the welfare regime. The score of 8 is determined as a cross-over point while the threshold for full non-membership is set at 7.

Activation and socio-professional integration. A careful calibration effort was made with respect to the qualitative variable on activation and socio-professional integration. The calibration was done based on the expert interviews and literature review. Activation and socio-professional integration refers to the range of policy designs such as mandatory registration with public employment services (PES), individualized approaches to beneficiaries activation and integration, increased income incentives (including topping up of their benefits), and availability of employment opportunities and other activation programs. Degree of membership in the set of countries with more or less developed activation and socio-professional integration is assessed in the range of 0.0 (full non-membership in the set) to 1.0 (full membership). To qualify for the membership of 1.0, a country is expected to have a fully developed system of activation policy which includes various incentive and care mechanisms. In most cases activation policy is limited to beneficiaries' obligation to be registered with PES and make themselves available for work and training activity which is treated as a cross-over point (0.5) in the presented analysis. In some countries such policies are accompanied with individualized approaches to activation. Very few countries combine these sorts of polices with additional earnings incentives or topping up of social assistance benefits, which all together constitutes the membership score of 1.0. A complete absence of the listed government policies and measures would result in the membership score of 0.0. The countries with activation policies that go beyond mandatory registration with PES and provide individual approach complemented with certain forms of incentives, have been assigned the score of 0.67 ("mostly" but not "fully" in the set of members). Accordingly, if the country cases have mandatory registration with PES but do not enforce it, or do not have general scheme nor mandatory registration with PES, but the persons must be available for work, training or socio-professional integration, they would score 0.33 in the set. These criteria for the calibration of measures present a quantitative assessment of degree of set membership in a rather qualitative area of research.

Social exclusion as share of total social protection spending. According to the Eurostat definition, social benefits involve transfers by social protection schemes to households and individuals "to relieve them of the burden of a defined set of risks or needs". In the official EU statistics (Eurostat), expenditures on social exclusion as share of total social protection spending have over time converged around the level of 1.2 percent. This point has been used as a cut-off point for the dichotomization of this condition where value 1 is associated with positive levels of spending on social exclusion and vice versa. Contrary to the calibration of other relevant conditions, only binary data (0 and 1) are used in this set.

GDP per capita (in PPPs). GDP adjusted for difference in purchasing power is used in empirical analysis as indicator of development across countries. Despite extensive discussions and analyses, the knowledge base for the definition of full membership in the set of developed countries has not yet been developed in social sciences (Ragin 2008). The direct calibration of the set of developed countries will, thus, rely on the substantive issues at hand. Again, the direct method of calibration of the set of this group of developed countries involves three important qualitative anchors. The cross-over point (0.5) is the value of the interval-scale variable that raises maximum ambiguity with regard to whether the case is more in or more out of the set. For the purpose of this analysis, a GDP per capita income of $18,000 is used as the cross over point. The threshold of full membership in the target set is $30,000, while the cases with GDP per

capita of $15,000 or lower are consider fully out of the set of countries at the very high level of development.

Social protection as a percentage of GDP. The direct method of calibration here follows the logic presented by Veugelers and Magnan (2005) in which the decision on qualitative anchors is based on the knowledge about specific representatives of groups of country cases. Full membership in the set of countries with a high social protection spending is set at 20 percent or greater. This level approximates the level of public expenditure of Slovenia, one of the leading examples of successful economic transition, but also of the old EU member state and the liberal welfare type representative such as the United Kingdom. Full non-membership is assigned to cases that fell on or below 12 percent of public expenditure on social protection to allow for deliberation about low-level spending cases for which only provisional values approximating this percentage have been provided in the EU statistics. The qualitative crossover point is set at 18 per cent of expenditure on social protection, the spending level of transitional economies, but, also of the low spenders in the old EU. Veugelers and Magnan A. (2005) use qualitative anchors for social protection expenditure calibration that differ in few percentage points. This mainly reflects the differences among the country cases included in the analyses.

Inequality of income distribution. To measure inequality of income distribution, the analysis makes use of the Eurostat data on the ratio of total income received by the 20% of the population with the highest income to the one received by the 20% of the population with the lowest income. The cross-over point is set between 4.5 and 4.8 which is in the range of the average EU level. Cases with the ration below 3 are fully out of the set with a high inequality of income distribution. On the other hand, those with the ratio of 6 or more are treated as fully in the set of countries with high inequality of income distribution.

Table 6. Calibration of outcomes and relevant conditions

	RELEVANT CONDITIONS						OUTCOMES	
Country	**High GDP per capita (PPPs)** ***GDP***	**High inequality of income distribution** ***I***	**High BTI welfare variable - safety nets and equal opportunities score** ***BTI_W***	**High spending on soc.protection as share of GDP** ***SP***	**High spending on soc.exclusion as share of total soc.protection expenditures** ***SE***	**High activation and socio-professional integration** ***A***	**High at-risk-of-poverty rate among social assistance beneficiaries** ***RP***	**Low work intensity among social assistance beneficiaries** ***WI***
Czech Republic	0,67	0,5	0,67	0,67	1	0,67	1	0.67
Estonia	0,33	1	0,33	0,33	0	0,67	0,33	0.33
Latvia	0	1	0,67	0,33	1	0,67	0,67	0.33
Poland	0	1	0,67	0,67	0	0,67	1	0.67
Slovenia	0,67	0,33	1	1	1	1	0,33	0.33
Austria	1	0,33	0,67	1	0	0,33	0,67	0.33
Germany	1	0,33	1	1	1	1	1	1
France	0,67	0,33	1	1	1	1	0,67	0.67
Sweden	1	0,33	1	1	1	0,33	0,67	0.67
United Kingdom	1	0,67	1	1	0	1	0,67	0.67

Annex 4

Two-step Fuzzy-set Qualitative Comparative Analysis

MODEL 1: RP = f(BTI_W, SE, A)

Analysis of Necessary Conditions (FIRST STEP – REMOTE CONDITIONS)

Outcome variable: **RP (at-risk-of poverty rate among social assistance beneficiaries)**

Conditions tested:

	Consistency	Coverage
gdp	0.714693	0.790221
~gdp	0.426534	0.816940
bti_w	**0.905849**	**0.792759**
~bti_w	0.235378	0.829146
sp	0.857347	0.751250
~sp	0.236805	0.830000
i	0.687589	0.828179
~i	0.547789	0.918660

where, **RP** denotes 'at-risk-of-poverty rate among the poor social assistance recipients', **gdp** stands for GDP per capita, **bti_w** for 'BTI safety nets and equal opportunities score', **sp** for 'spending on social protection as share of GDP', while **i** stands for 'inequaltiy of income distribution', and "**~** "sign denotes negation.

Analysis of Necessary Conditions (SECOND STEP – PROXIMATE CONDITIONS)

Outcome variable: **RP (at-risk-of poverty rate among social assistance beneficiaries)**

Conditions tested:

	Consistency	Coverage
bti_w	0.905849	0.792759
~bti_w	0.235378	0.829146
se	0.619116	0.723333
~se	0.380884	0.667500
a	0.808845	0.772480
~a	0.379458	1.000000

where, **se** stands for 'spending on social exclusion as share of total social protection expenditures', **a** for 'activation and socio-professional integration.

--- **INTERMEDIATE SOLUTION** ---
frequency cutoff: 1.000000
consistency cutoff: 0.858369
Assumptions:

	raw coverage	unique coverage	consistency
BTI_W*a+	0.379458	0.189729	1.000000
BTI_W*se	0.333809	0.144080	0.876405

solution coverage: 0.523538
solution consistency: 0.917500

MODEL 2: WI = f(BTI_W, SE, A)

Analysis of Necessary Conditions

Outcome variable: **WI (work intensity among poor social assistance beneficiaries)**

Conditions tested:

	Consistency	Coverage
bti_w	1.000000	0.707865
~bti_w	0.291005	0.829146
a	0.940035	0.726158
~a	0.409171	0.872180
se	0.647266	0.611667
~se	0.352734	0.500000

--- **INTERMEDIATE SOLUTION** ---
frequency cutoff: 1.000000
consistency cutoff: 0.858369
Assumptions:

	raw coverage	unique coverage	consistency
BTI_W*SE*a+	0.234568	0.234568	1.000000
BTI_W*se*A	0.352734	0.352734	0.858369

solution coverage: 0.587302
solution consistency: 0.909836

Annex 5

Table 7. Guaranteed minimum income scheme statutory basis and resources taken into account, by countries

Country	Program name and applicable statutory basis	**Resources taken into account** (Claims to other benefits must first be exhausted)
Czech Republic	**Social Assistance Benefit (Dávky sociální péče).**Act No 463/91 on Minimum Living Standard (Zákon o životním minimu).Act No 482/91 on Social Need (Zákon o sociální potřebnosti).	Income from gainful activity, any revenue from capital after tax and social security contributions, social security benefits, and any other regular income.
Germany	**Sozialhilfe**.Federal Social Assistance Act (Bundessozialhilfegesetz) of 23 March 1994.Social Code (Sozialgesetzbuch), Book XII, by the Act to integrate social assistance legislation into the Social Code (Gesetz zur Einordnung des Sozialhilferechts in das Sozialgesetzbuch) of 27 December 2003.	All income, including other social benefits such as, for example, child benefit (Kindergeld) (exceptions: see "exhaustion of other claims"). Assets are to be used, too, with the exception of certain exonerations.
Estonia	**Subsistence benefit (toimetulekutoetus)**.Social Welfare Act (Sotsiaalhoolekande seadus) 1995.	All income including taxable income, pensions and State benefits (with the exception of lump sum State benefits, housing expenses within established limits and social benefits for disabled persons) are taken into account when determining entitlement and benefit amount.
France	**Revenu Minimum d´Insertion (RMI)**.Social action and Family Code (Code de l´action sociale et de la famille), articles L. 262-1 and following.	Resources of any nature, including family allowances: Earnings from activities, revenue procured from movable or immovable property, etc.; some special social allowances granted to cope with a specific requirement and not considered as providing resources contributing to the global solvency of the recipient of said allowances.
Latvia	**Guaranteed Minimum Income Benefit (Pabalsts garantētā minimālā ienākuma līmeņa nodrošināšanai).**Law on Social Services and Social Assistance (Sociālo pakalpojumu un sociālās palīdzības likums) of 31 October 2002.	All person´s and family members as well as household members income and other material resources are taken into account.

Country	Program name and applicable statutory basis	**Resources taken into account** (Claims to other benefits must first be exhausted)
Austria	**Sozialhilfe.**Different acts of the 9 Länder.	In principle total income. Exceptions, e.g. support by independent welfare organisations, care-related financial benefits, educational allowances.
Poland	**Social Assistance (Opieka społeczna).**Law on Social Assistance (Ustawa o pomocy społecznej) of 12 March 2004.	All income and resources, whatever their nature or origin.
Slovenia	**Financial Social Assistance (denarna socialna pomoč).**Social Protection Act (Zakon o socialnem varstvu) (Official Gazette of the Republic of Slovenia, no. 36/04).	"Income" includes inheritance, gifts and all wages and earnings of an individual or his family members which are subject to income tax, as well as non-taxable personal earnings, with the exception of:benefits received for assistance and care;benefits received for care by people living with other families or foster families;Child Benefit (otroški dodatek) and childcare allowance; scholarships;income received by disabled people in institutional care, for occasional work, which does not qualify as regular employment;
Sweden	**Ekonomiskt bistånd**.Law of January 2002.	As a rule, all resources, regardless of their nature and origin.
United Kingdom	**Income Support.**Income Support (General) Regulations, 1987. Social Security Administration Act 1992.	Most income resources, most social security benefits and pension are taken fully into account. Benefits generally ignored include: Housing Benefit, Council Tax Benefit and non-contributory disability benefit.

Source: MISSOC, 2004.

Table 8. Guaranteed minimum income scheme activation and socio-professional integration characteristics, by countries

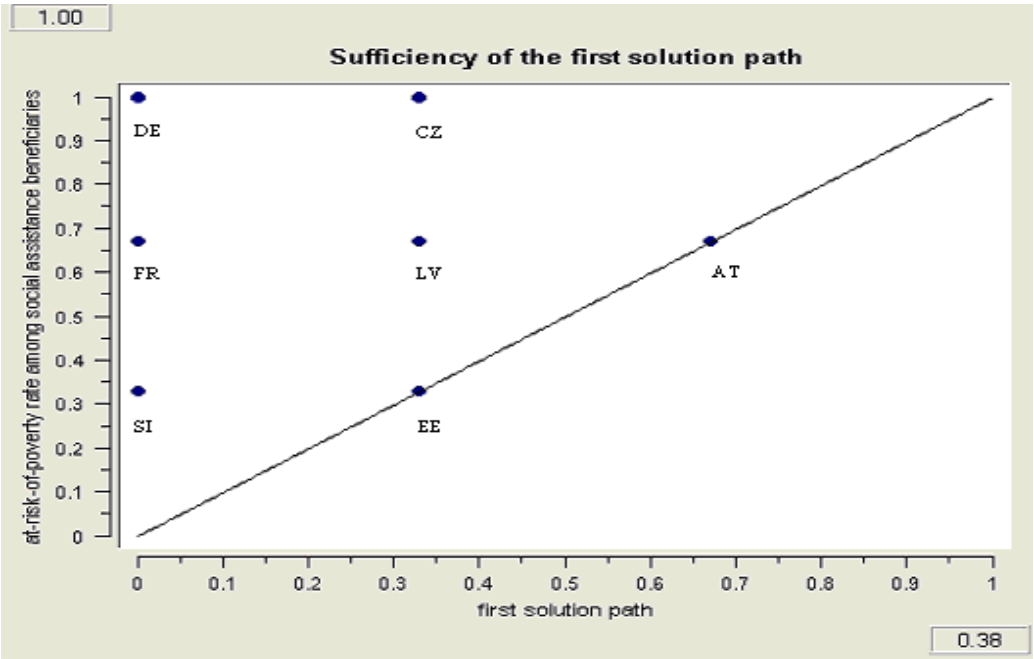
Country	Willingness to work	Activation and socio-professional integration
Czech Republic	Condition for entitlement, with the exception of children under 18 and adults over 65 years (recipients of the pension).	Social work with individuals or families precedes the grant of benefit.
Germany	Persons capable of working must be prepared to carry out all work offered to them, within reason.	A part of the earnings from work is not taken into account for the calculation of social assistance payments.It is possible to pay a benefit for 12 months to recipients of social aid who take up an employment as an encouragement for them to take up a new job.Back to work assistance (Hilfe zur Arbeit):In order to encourage people to take up work it is possible to offer an employer allowance or other appropriate means (e.g. hiring-out of labour or temporary employment contracts).Creation of jobs as regular employment relationships (employment contracts which are liable to social insurance - social assistance fund may cover the costs), creation of additional jobs and jobs which are of benefit to the public (employment relationships subject to social insurance legislation or compensation for additional expenditure without employment contract). Co-operation with the labour offices. In case the beneficiary refuses to take up reasonable work, the standard rate (Regelsatz) allowance shall be reduced imperatively by 25% and further reductions to follow.Counselling and support should help to prevent and overcome the need of social assistance.
Estonia	Persons of working age who are without a job must be registered as unemployed at the labour market office. They must accept a suitable job offer or participation in rehabilitation or education programmes arranged by the local municipality.	Rehabilitation or education programmes arranged by the local municipality.
France	Must be available for training, integration, or employment activities on the basis of an integration contract. The person concerned undertakes to participate in social integration activities proposed by the Département.	Integration contract (Contrat d´insertion) and Guaranteed minimum resources (Revenu Minimum d´Insertion, RMI): During the contract period, the person concerned receives minimum income (SMIC) corresponding to the number of hours worked. During the whole contract period, this person continues to receive the Guaranteed minimum resources (Revenu Minimum d´Insertion, RMI) from which the aid paid to the employer is deducted (amount guaranteed only for a single).
Latvia	Unemployed beneficiaries capable of work are obliged to register at the State Employment Service, seek work and accept suitable offers of work.	Acceptance of medical treatment and rehabilitation (for example in the case of alcohol or drug abuse) and participation in measures promoting employment (for example retraining, paid temporary community jobs etc). If the recipient has started to work, the benefit is granted for further 3 months (from the following month after the person has informed about getting a job) with a decreasing rate of 75%, 50% and 25% of the granted amount.

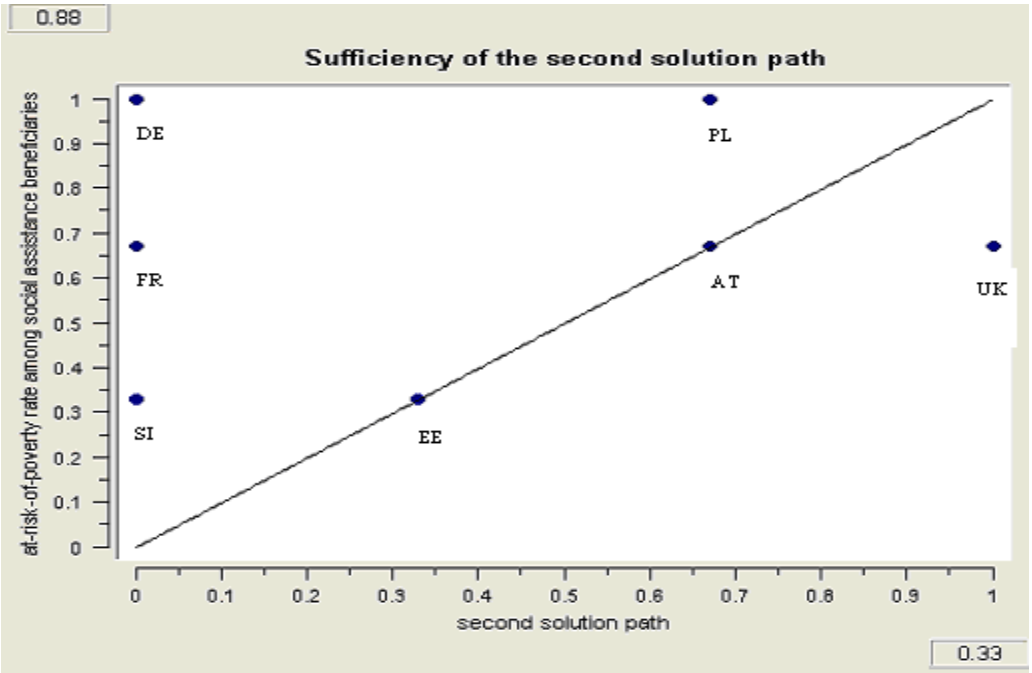
Country	Willingness to work	Activation and socio-professional integration
Austria	Persons capable of work must be willing to perform reasonable work.	No general scheme, but linked to active labor market policies.
Poland	All those capable of work must be available for work, training or socio-professional integration and be registered with the labour office.	A small number of special measures.
Slovenia	In principle everyone is obliged to support him or herself through work. Participation in an active employment programme must be considered before granting assistance benefit. Entitlement maybe linked to signing a contract with the Social Work Centre (Center za socialno delo), which places obligations on the beneficiary to resolve his/her social problems (rehabilitation, health treatment, etc.).	Counselling and support in order to help prevent and overcome the need for social assistance (Social assistance services). A contract may be signed between the Social Work Centre (Center za socialno delo) and the beneficiary in which the beneficiary agrees to actively resolve his social problems. Persons entitled to Financial Social Assistance (denarna socialna pomoč) have a preference of inclusion in active employment policy programmes. The employer is entitled to the subvention of 12 x Basic Minimum Income = SIT 546,288 (€ 2,290), if employ for an indefinite period persons who was entitled to Financial Social Assistance (denarna socialna pomoč) at least 24 months in last 3 years.
Sweden	Everybody is bound to support him- or herself first, and must try to get a job with a sufficient salary at all times, as long as he/she is able to work.	No general scheme. Social assistance for persons at the labour market disposal is connected to active measures in order to achieve gainful employment.
United Kingdom	Not a condition for Income Support. Personal Advisers meetings are compulsory (see "Measures stimulating social and professional integration"). Persons capable of working are entitled to income based Jobseekers´ Allowance (see table X "Unemployment") rather than Income Support.	Income disregards: In calculating Income Support, earnings of GBP 5 (€ 7.41) per week for single claimants and GBP 10 (€ 15) per week for couples are disregarded. Certain groups qualify for a higher disregard of GBP 20 (€ 30) per week e.g. lone parents, the sick and the disabled.New Deal for Lone Parents:Personal Adviser meetings are compulsory for lone parents. They are also compulsory for existent claimants. Service provides advice and help to find lone parents work.Other measures:Development of the tax and benefit systems aims to ensure that people are better off working and are not discouraged from increasing earnings. Income Support ("run-on") is paid to lone parents for two weeks after beginning work if they have moved off benefit. Also Housing Benefit and Council Tax Benefit are extended for 4 weeks. For claimants of IS/JSA receiving help with mortgage interest, there is a run-on of 4 weeks. The Working Tax Credit - an in-work tax credit aimed at making work pay for people and families with or without children. Other measures include help with rent through Housing Benefit (HB) and Council Tax Benefit (CTB) once the person is in work if they are on low pay.

Source: MISSOC, 2004.

Annex 6

Figure 2. Model 1: Sufficiency of the first (BTI_W*a) and the second (BTI_W*se) solution paths





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