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Article — Published Version

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Intereconomics

Suggested Citation: Raitano, Michele (2009) : When family beats welfare: Background effects in EU15 country clusters, Intereconomics, ISSN 1613-964X, Springer, Heidelberg, Vol. 44, Iss. 6, pp. 337-342, <https://doi.org/10.1007/s10272-009-0313-z>

This Version is available at:

<https://hdl.handle.net/10419/66169>

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When Family Beats Welfare: Background Effects in EU15 Country Clusters

Studies on social mobility examine the link between individual outcomes and the features of social and family background, assessing, from several points of view, whether and to what extent socio-economic inequalities persist in subsequent generations. From a policy perspective an increase in mobility – i.e. a weakening of the intergenerational connection between social positions – is usually regarded as positive for reasons of both equity and efficiency since it can improve equality of opportunity and the way human resources are allocated to their best use.

The intergenerational transmission of advantages can be assessed with regard to several dimensions showing the persistency between the status of parents and their children: educational attainment, occupation, wages and family income are usually considered the main ones.¹ Inequality transmission across generations is governed by a complex mechanism affecting different phases of an individual's life; the transmission takes place through several channels interacting with one another.² The main channels are: i) economic, concerning the direct impact of household income and wealth on the education choices and occupational opportunities of children; ii) cultural/familiar, concerning the role of the parental environment in shaping the choices and preferences of children; iii) social, refer-

ring to how abilities, preferences and opportunities are influenced by social networks.³

Similar to a complex path with many steps, the outcomes of which significantly affect subsequent steps, the intergenerational reproduction of inequalities is considered to be a cumulative process in which small effects on every single individual outcome can engender a large cumulative final effect, able to exert a deep influence on future individuals' chances, depending on their origins.⁴

Studies on social mobility follow two main approaches: the sociological approach identifies individual status according to social class (defined in terms of jobs and occupation) and examines similarities in occupations among parents and children; the economic approach assesses social position by means of monetary indicators and focuses on the transmission of income inequalities to subsequent generations. Studies carried out by both sociologists and economists show an influence of family background on individual opportunities in all developed countries, pointing out, however, that the association between parents' and children's outcomes is usually lower in Nordic countries while it is higher in the USA and UK.⁵

Anyway, detailed international comparisons of intergenerational economic inequalities are still lim-

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¹ Other observed dimensions of intergenerational advantages (that can also affect future outcomes in terms of education and wages) are weight at birth, infant mortality risks, health status, individual disposition and behaviour; see S. Mayer: *The Influence of Parental Income on Children's Outcomes*, New Zealand Ministry of Social Development Report, 2002. Moreover, many studies show a strong link between family background and the competences of individuals aged 15 measured by PISA tests carried out by the OECD; see D. Dankova, M. Raitano: *Family background and students' performances: an international comparison using PISA data*, presented to AISSEC Annual Conference 2009; T. Fuchs, L. Woessmann: *What accounts for international differences in student performance? A re-examination using PISA data*, CESifo Working Paper, No. 1235, 2004.

² J. Meade: *The Inheritance of Inequality: Some Biological, Demographic, Social, and Economic Factors*, in: *The Proceedings of the British Academy*, Vol. 59, 1973; A. C. d'Addio: *Intergenerational transmission of disadvantage: mobility or immobility across generations? A review of the evidence for OECD Countries*, OECD Working Paper, No. 7, 2007; M. Franzini, M. Raitano: *Intergenerational transmission of income inequality: channels, methods, evidence and policy implications*, CRISS working paper, No. 31, 2008.

³ Economic literature often focuses on a further channel, the genetic one, i.e. the possibility that individual outcomes depend on the genetic inheritance of abilities; on the debate about *nature and nurture* see A. Bjorklund, M. Janniti, G. Solon: *Influences of nature and nurture on earnings variation: a report on a study of various sibling types in Sweden*, in: S. Bowles, H. Gintis, M. Osborne Groves (eds.): *Unequal chances: family background and economic success*, New York 2005, Russell Sage. However, in this paper we do not refer to genetics for a couple of reasons: i) no study has proved with certainty the existence of an inherited link between parents' and children's IQ; see G. Ballarino: *Sistemi formativi e mercato del lavoro*, in: M. Regini (ed.): *La sociologia economica contemporanea*, Bari 2007, Laterza; ii) to the extent that genetic inheritability of ability does not vary systematically among countries, it cannot influence cross-country variation in mobility, which is the focus of this paper.

⁴ J. Meade, op. cit.; T. DiPrete, G. Eirich: *Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments*, in: *Annual Review of Sociology*, Vol. 32, 2006; S. Jenkins, T. Siedler: *The intergenerational transmission of poverty in industrialized countries*, CPRC Working Paper, No. 75, 2007.

⁵ R. Breen (eds.): *Social mobility in Europe, 2004*, Oxford University Press; M. Corak: *Do poor children become poor adults? Lessons from a cross country comparison of generational earnings mobility*, IZA Discussion Paper, No. 1993, 2006.

ited because of the lack, until recently, of homogeneous datasets and of comparable cross-country data on wages, especially for parents.⁶ Consequently, the role played by national policies in shaping the social mobility process, especially in terms of education and welfare state institutions, has been almost completely neglected so far in both theoretical and empirical studies.

The first wave of EU-SILC (carried out in 2005) – the new homogenised panel survey covering EU countries – allows this limitation to be partially overcome as it includes a specific section on intergenerational mobility, in which many aspects of family background (e.g. family composition, parents' educational attainments and occupations) are recorded retrospectively (i.e. by collecting information on the family background in the period when the interviewed person was about 14 years old). EU-SILC data enable us to make an international comparison of the association of several individual outcomes (primarily incomes) and background variables.⁷ It does not allow the computing of intergenerational income elasticities because parents' incomes are not collected (to this end longitudinal data recording parents' and children's incomes over a time-span of thirty years are needed).

In this paper, we use EU-SILC data to analyse the link between parental background and children's outcomes in EU15 countries. Countries will be clustered according to the usual four-groups geographical classification of the "welfare regimes" literature,⁸ in order to point out whether differences among Nordic, Continental, Anglo-Saxon and Southern countries also emerge with regard to the intergenerational persistence of advantages.

In particular, we shall study the association between children's educational attainments, labour incomes and family background, using parents' occupations as

the main proxy variable for the origin status. Actually, this variable is related to several aspects (e.g. family income, households' preferences and lifestyles, parents' social prestige and power, reference social networks) that can influence children's prospects, thus engendering the aforementioned intergenerational income correlation.

Theoretical and empirical models usually assess the link between background features and children's incomes without making a clear distinction as to the effects that family background may have, firstly, on the level of educational attainment and, secondly, on income earned in the labour market, independently of education. Following the "human capital view" inspired by Becker and Tomes' seminal papers,⁹ the persistency of income inequality is mostly imputed to the role played by liquidity constraints, which, if capital markets are not perfect, limit investment in the human capital of individuals coming from disadvantaged backgrounds (thus reducing future wages, given the positive returns on such investment).

In contrast, we believe that, apart from an indirect impact mediated by educational attainments, there may be a further direct influence of family status on children's wages. It therefore seems to be very important to estimate both these effects from a policy perspective, too. For this purpose two-step analysis will be carried out in the following pages, focusing on the comparison among the four clusters of EU15 countries, in order to distinguish the two ways through which family background can affect children's incomes: i) influencing educational attainments; ii) affecting children's wages even once the educational path has been completed.¹⁰ We shall conclude with some policy suggestions.

The Influence of Family Background on Educational Attainments

Education is usually considered the better tool for improving social mobility and reducing the persistence of intergenerational inequality. Due to positive wage returns on years of education, it is often stated that widening educational opportunities should allow individuals to separate their perspectives from family background. However, even though in all developed

⁶ The main synthetic index of economic inequality persistence is the intergenerational income elasticity β , which measures how much of parents' income gap persists among their children (e.g. $\beta=0.5$ tells that, on average, half of the gap in parents' incomes persists among their children).

⁷ International comparisons using the section on intergenerational transmission in EU-SILC have been carried out so far by M. Franzini, M. Raitano: Persistence of inequality in Europe: the role of family economic conditions, in: *International Review of Applied Economics*, Vol. 23, No. 3, 2009; and by O. Causa, A. Johansson: Intergenerational Social Mobility, OECD Economics Department Working Papers, No. 707, 2009.

⁸ We consider the following four groups of countries: Nordic (Denmark, Finland, Sweden), Continental (Austria, Belgium, Germany, France, Luxembourg, Netherlands), Anglo-Saxon (Ireland and UK) and Southern (Greece, Spain, Portugal and Italy). For a survey of the debate on welfare state typologies see W. Arts, J. Gelissen: Three worlds of welfare capitalism or more? A state-of-the-art report, in: *Journal of European Social Policy*, Vol. 12, No. 2, 2002.

⁹ G. Becker, N. Tomes: An equilibrium theory of the distribution of income and intergenerational mobility, in: *Journal of Political Economy*, Vol. 81, 1979; G. Becker, N. Tomes: Human capital and the rise and fall of families, in: *Journal of Labor Economics*, Vol. 4, 1986.

¹⁰ A similar methodology - i.e. separating direct and indirect impacts of family background on individual wages - is followed by M. Franzini, M. Raitano, op. cit.; and by O. Causa, A. Johansson, op. cit.

countries (at least) mandatory education is provided free of charge by the public sector, a positive and usually strong correlation between parents' and children's educational attainments can be observed everywhere.¹¹

Using EU-SILC (2005) microdata, the relationship between educational attainment and family background in the four EU15 country clusters is analysed using an ordered probit model (Table 1).¹² The background is synthesised by four variables: two for family composition (number of siblings and a dummy that takes the value 1 if the subject interviewed lived with both parents when young), one for "cultural capital" (the highest educational attainment of father or mother; this can be taken as a proxy for family preferences and for the non-monetary values assigned to education) and one for "socio-economic capital" (the highest occupation of father or mother).¹³

With reference to every geographical cluster, nearly all background variables are significant at the 99% level (the main exception being parents' educational level in Nordic countries where compared to the reference category – primary education – only children of parents with a tertiary education have a significant advantage) and show the expected sign, i.e. the probability of attaining a higher education is positively related to a better background. It is thus confirmed that family composition,¹⁴ parents' educational attainments and their occupations affect children's educational levels everywhere.

In particular, taking parents' occupations as a proxy for permanent family income, the role of family eco-

¹¹ T. Hertz, T. Jayasundera, P. Piraino, S. Selcuk, N. Smith, A. Veraschangina: The inheritance of educational inequality: international comparisons and fifty-year trends, in: *The B.E. Journal of Economic Analysis and Policy*, Vol. 7, No. 2, 2007. S. Gabriele, M. Raitano: La trasmissione intergenerazionale dei titoli di studio nell'Unione Europea, in: *Rivista delle Politiche Sociali*, No. 2, 2008, using EU-SILC data, show that in all Southern European countries the Spearman correlation index between parents' and children's educational levels is above the EU27 average.

¹² The regressions carried out below refer to the sub-sample of individuals aged 35-49, because, as suggested by the literature, the process of intergenerational transmission fully displays its effects only for middle-aged individuals; see M. Corak, *op. cit.*

¹³ Variables with the "Par." prefix refer to parents' features. Education is recorded by means of four categories (primary; lower secondary; upper secondary and post-secondary non-tertiary; tertiary), while occupations (recorded in EU-SILC according to ISCO-88 codes) are grouped in four categories: managers (high-skilled non-manual workers), white collars (non-manual low skilled workers), blue collars (manual skilled workers) and elementary occupations. For details on how to build these occupational groups from the EU-SILC survey, see Equalsoc: Data Quality Issues in the EU-SILC Intergenerational Modules, mimeo, 2009.

¹⁴ In line with the empirical literature findings, living with both parents increases educational level, while the number of siblings decreases it. On these issues see A. C. d'Addio, *op. cit.*

Table 1
Predicted Marginal Effects (Percentage Points)
of the Probability of Attaining a Tertiary Degree,
by Groups of Countries (Estimated by an Ordered
Probit on ISCED Levels), Individuals aged 35-49

	Nordic	Continental	Anglo-Saxon	Southern
Female	0.0727***	-0.0487***	0.0272*	-0.0011
Age	-0.0012	-0.0013	-0.0030*	-0.0039***
Immigrant	0.0155	-0.0427***	0.0504*	0.0511***
Both parents	0.1069***	0.0726***	-0.0293	0.0488***
Siblings	-0.0106*	-0.0272***	-0.0335***	-0.0271***
Par. lower secondary	-0.0066	0.1906***	0.1548***	0.1267***
Par. upper secondary	0.0414	0.2723***	0.1717***	0.2331***
Par. tertiary	0.2436***	0.4873***	0.3494***	0.4735***
Par. blue-collar	0.0824***	0.0020	0.0646**	0.0287***
Par. white-collar	0.1200***	0.0579***	0.1180***	0.1290***
Par. manager	0.2095***	0.1090***	0.1608***	0.1593***
Predicted probability	0.3333	0.3237	0.3753	0.1520
Observations	4,461	21,023	5,469	23,920

* p<0.05; ** p<0.01; *** p<0.001.

Source: Elaborations on EU-SILC (2005) data.

nomical background as a tool to offset capital market failures (which can limit the financing of the direct and indirect costs of investment in human capital) is confirmed in all groups of countries, as clearly shown in Table 1, which indicates that, in percentage points, the probability of attaining a tertiary degree is significantly higher everywhere for students coming from a better occupational background than for those whose parents had an elementary job (the omitted category).

The estimated association between children's educational levels and "cultural" and "occupational" family background could be taken as evidence that the intergenerational incomes correlation is mainly due to mechanisms acting during the educational period. In other words, the transmission of intergenerational inequalities – i.e. lower wages earned by workers coming from more disadvantaged households – would only depend on the strong role played by "cultural" and liquidity constraints in affecting educational outcomes (and this role seems to be similar in all EU15 geographical areas). Consequently, proper measures for improving social mobility should refer simply to educational policies (e.g. enrolment in pre-primary education, postponing the tracking between vocational and general programmes, financing loans for students from a disadvantaged background in order to increase their participation in tertiary education). In order to assess this statement we have to verify whether a further direct effect of family background is observed.

The Influence of Family Background on Wages

We now examine whether, independently of the effects on educational attainment, family background – identified by dummies for the highest occupation of father or mother – directly affects wages earned once employed. For employees aged 35-49 we have therefore estimated wage equations¹⁵ for each group of countries, including among the independent variables the dummies for parents' occupations (elementary occupation is the reference modality; cf. Table 2).

In order to assess whether family background has a direct impact on wages or its effect is mediated by educational attainments and/or occupations, three different models have been estimated. In model 1 only parents' occupations and children's nationality, gender and age (seniority is not recorded in all EU countries) are included as independent variables, in order to measure the entire background effect. In models 2 and 3, respectively, individual educational attainments and occupations are added (reference modalities are "no more than a lower secondary degree" and "elementary jobs"); thus, the coefficients of parents' occupation dummies identify the direct effect of background on wages once controlled for children's achievements in terms of degrees and jobs.

By focusing on the size and statistical significance of dummies for parents' occupations, sensitive differences between groups of countries emerge. Without controlling for the impact of human capital on wages, being the child of non-manual workers (i.e. parents = managers or white collar) is associated with significantly higher wages, with the exception of the Nordic countries, where only the children of managers have a significant advantage (the size of which is smaller than in the other three groups of countries).

Consistently with the correlation between family background and educational attainments shown above, the size of the estimated coefficients largely diminishes when dummies for education are included (model 2). However, with the exception of the Nordic countries, for which it is not statistically significant at the 95% level, a considerable direct effect of parents' occupation on wages emerges; it is in fact very large in Anglo-Saxon and Southern countries where, *ceteris paribus*, the children of managers earn a wage premium of nearly 25% compared to the children of

parents performing elementary jobs.¹⁶ Furthermore, in these two groups of countries, a significant direct wage premium (about 15%) for employees coming from the most advantaged background can be observed, even once dummies for individual job qualifications are also included (model 3).

This analysis of the ability to "protect" wages from family background once in the labour market shows that countries seem to conform to the traditional welfare state regimes classification.¹⁷ Actually, Nordic countries – where, once controlled for educational attainment, wages are not related to family background – are at one extreme, and the Southern countries – where an improvement of parents' occupation is always associated with higher wages, also when controlling for individuals' education and occupation – at the other. Continental countries' experiences are similar to those of the Nordic ones (the estimated wage premium for people coming from a better background is weak when education dummies are included and disappears when jobs dummies are also included) while in the Anglo-Saxon cluster, as in the Southern one, a wage premium for the children of highly skilled non-manual workers emerges even when controlling for education and jobs.

The evidence of a direct effect of background on wages in Nordic and Continental countries which is lower than in Anglo-Saxon and Southern ones (or not significant) suggests that the size of intergenerational inequality could be correlated to cross-sectional inequality, i.e. income dispersion, which is much lower in the first two groups of countries.¹⁸ Furthermore, this evidence is consistent with the empirical findings on intergenerational income elasticities, the estimated values of which are the lowest in Nordic countries and the highest in Italy and the UK, while Continental countries rank in the middle.¹⁹

Conclusions and Policy Suggestions

The empirical evidence shown in this paper confirmed for all EU groups of countries the role, usually stressed by the economic literature, played by income and wealth on overcoming the obstacles that imper-

¹⁵ We take the logs of gross annual wages, apart from the Southern countries, for which wages are considered net of taxes.

¹⁶ In Southern countries, in EU-SILC (2005) incomes are recorded net of taxes. Because of the progressivity of personal income taxes, the estimated coefficients would have been higher if data on gross incomes had been available.

¹⁷ W. Arts, J. Gelissen, *op. cit.*

¹⁸ OECD: *Growing unequal?*, Paris 2008.

¹⁹ M. Corak, *op. cit.*; P. Piraino: Comparable estimates of intergenerational income mobility in Italy, in: *The B.E. Journal of Economic Analysis and Policy*, Vol. 7, No. 2, 2007.

Table 2
OLS Wage Equations (Logs of Employee Yearly Gross Income; Net in Southern Countries)
Individuals aged 35-49

	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Nordic countries			Continental countries		
Female	0.0727***	-0.3161***	-0.3252***	-0.6836***	-0.6719***	-0.6509***
Age	0.0118**	0.0122***	0.0098**	0.0159***	0.0174***	0.0160***
Immigrant	-0.3519***	-0.3634***	-0.3103***	-0.1616***	-0.1311***	-0.0633***
Upper secondary		0.0881	0.0495		0.2088**	0.0735***
Tertiary		0.3663***	0.1211*		0.6130***	0.2856***
Blue-collar			0.2095**			0.4093***
White-collar			0.3564***			0.4595***
Manager			0.6341***			0.8104***
Par. blue-collar	-0.1077	-0.1409	-0.1306	0.0090	-0.0178	-0.0810***
Par. white-collar	-0.0073	-0.0584	-0.0929	0.1369***	0.0533*	-0.0354
Par. Manager	0.1542*	0.0458	0.0044	0.1999***	0.0364*	-0.0819***
Constant	9.7772	9.6597	9.4733	9.5629	9.2592	9.0015
Observations	4,147	4,147	4,078	17,100	17,100	16,900
	Anglo-Saxon countries			Southern countries		
Female	-0.5968***	-0.6119***	-0.5337***	-0.4186***	-0.4517***	-0.4426***
Age	0.0005	0.0023	0.002	0.0127***	0.0152***	0.0147***
Immigrant	-0.049	-0.0804*	-0.0697*	-0.1987***	-0.2136***	-0.1112***
Upper secondary		0.3241***	0.1757***		0.3841***	0.2508***
Tertiary		0.6895***	0.3298***		0.6342***	0.3843***
Blue-collar			0.3167***			0.3344***
White-collar			0.2132***			0.4165***
Manager			0.7875***			0.6586***
Par. blue-collar	0.0572	0.0194	0.0215	0.1638***	0.1164***	0.0661***
Par. white-collar	0.2187***	0.1358**	0.0639	0.3268***	0.1639***	0.1018***
Par. Manager	0.3885***	0.2383***	0.1358***	0.4976***	0.2449***	0.1481***
Constant	10.2872	9.8707	9.6390	8.8770	8.6212	8.3758
Observations	4,281	4,281	4,273	15,000	15,000	14,900

* p<0.05; ** p<0.01; *** p<0.001.

Source: Elaborations on EU-SILC (2005) data.

fect capital markets pose to education and human capital accumulation. However, the fact that family background can also exert a direct effect on children's wages, independently of education, defies the explanatory capacity of what we can call the "human capital view" of inequality persistence.

Moreover, concerning this direct effect, we have highlighted significant differences across geographical clusters, confirming in the so far unexplored field of inequality transmission the traditional grouping of EU15 countries: in most Nordic countries this effect is very small whereas the opposite holds in Anglo-Saxon and, mostly, Southern countries. Differences that emerged when comparing groups of countries could thus offer interesting insights for shaping an effective policy against inequality persistence.

In particular, the direct influence of parents' occupations (a proxy for several factors acting at the family

level: incomes, preferences, reference social networks) on individuals' wages could depend on the following aspects (that can act together):

- a positive effect of family living standard on some individual features that significantly influence income perspectives (keeping attained educational qualifications constant), e.g. health status and soft skills (e.g. individual behaviour, disposition and relational capital),²⁰

²⁰ Recent studies emphasise the impact of family models on the development of children's non-cognitive traits – the so-called soft skills, i.e. elements shaping social and relational competences such as risk aversion, extroversion, the willingness to work in a team, the sense of discipline or leadership, as well as factors which are at least partially genetically inheritable, such as height, weight and beauty – on which labour market success seems to depend. See S. Bowles, H. Gintis: The inheritance of inequality, in: *Journal of Economic Perspectives*, Vol. 16, 2002; J. Goldthorpe, M. Jackson: Education-based meritocracy: the barriers to its realization, in: A. Laureau, D. Conley (eds.): *Social class: how does it work?*, New York 2008, Russell Sage Foundation.

- a different quality, real or perceived, of the attained educational qualifications: well-off students can have access to better schools and universities and this will increase their future wages;
- a higher opportunity cost of searching for the best job, which induces less rich individuals “to be satisfied” with the first job they find, without waiting for the one providing the best perspectives;
- the role of social networks which could be correlated to parents’ occupations: individuals coming from more disadvantaged backgrounds may belong to social networks less suitable for finding a good job through informal relationships.

Therefore, factors that could cause a direct effect of family background on wages – beyond the indirect one via educational attainments – suggest the need for a deeper analysis of the mechanisms in each country regulating access to the job market and the subsequent career, also in order to highlight the main factors explaining the different performances of different country groups. In other words, improving educational equality of opportunities may not be enough to foster social mobility.

Furthermore, a correlation between current and intergenerational inequality emerged:²¹ where current

²¹ Cf. A. C. d’Addio, *op. cit.*

income inequality is higher there is also a greater influence of parents on their children’s wages. A full explanation of this phenomenon is not available. Many economic institutions could be influenced by the degree of current inequality via the education system, however, making them more amenable to the intergenerational transmission of advantages. In particular, in line with the aspects previously pointed out, labour market outcomes could be influenced by current inequalities, providing better opportunities for people coming from more advantaged social and family backgrounds.

Hence, the main channel through which policies can influence social mobility may be that of current inequality, since it is strongly related to intergenerational mobility.²² If current inequality influences, in its turn, mechanisms inside the intergenerational transmission process, then focusing only on equality of opportunities, without worrying too much about current inequalities, could result in a policy strategy doomed to failure.

²² On these aspects see O. Causa, A. Johansson, *op. cit.* They argue that labour market institutions which tend to compress wage dispersion (higher degree of unionisation or a greater coverage of collective wage agreements) are associated with a looser link between background and wages.