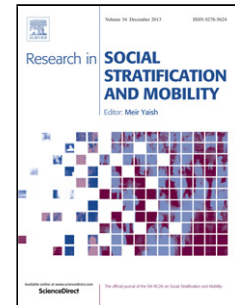


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Title:

Intergenerational Social Mobility in Spain between 1956 and 2011: The Role of Educational Expansion and Economic Modernisation in a Late Industrialised Country

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Highlights

- There is a steep increase in social fluidity in the cohort of women born in the 1970s.
- Men show high reproduction, slightly improving fluidity in the youngest cohort.
- Women's fluidity growth is partially driven by massive access into non-manual classes.
- The counterfactual analysis shows that social fluidity change is mainly channelled through educational expansion.
- The Modernisation Theory and Goldthorpe's Theory of Social Mobility are put into question.

Abstract

This article explores intergenerational class mobility patterns and the role played by education in Spain using counterfactuals. Both men and women born from 1926 to 1981 are analysed, meaning the study covers a period of profound economic and educational advances in a late-industrialised country. The results suggest that, among the cohorts born in the 1970s, men have experienced a slight increase in social fluidity, while women have experienced a substantial increase that seems partially driven by their massively increased access to routine non-manual positions independent of their social origins.

Inequality of educational opportunities and class returns to education have declined, whereas the direct effect of social origins (*DESO*) has remained constant for men and has decreased considerably for women. The counterfactual analysis shows that the slight increase in social fluidity for men is mainly driven by educational expansion. For women, the *DESO* and educational expansion account for a great share of increasing fluidity. Therefore, certain assumptions made by the *Modernization Theory* and *Goldthorpe's Theory of Social Mobility* can be put into question.

Keywords: Intergenerational mobility; Spain; Cohort analysis; Educational Expansion; Modernisation; Simulations

1. INTRODUCTION

Social background and education are generally considered to be the most important factors in explaining socioeconomic outcomes (Blau & Duncan, 1967; Hout & DiPrete, 2006). Building upon *the status attainment model* and its Origins (O) - Education (E) - Destinations (D) triangle, social background is associated with an individual's destination class both directly and indirectly. The indirect path operates via educational attainment (O-E) and social class returns to education (E-D). The direct effect of social origins (*DESO*) shapes class destination through the resources that parents can provide for their children, such as economic, social and cultural capital and other unobservable attributes (Bourdieu, 1986; Bernardi & Ballarino, 2016). New methodological developments enable the assessment of the role of education in shaping relative social mobility trends or social fluidity (Breen, 2010; Pfeffer & Hertel, 2015).

Peripheral European countries, such as Spain, tend to differ from core European countries in terms of their institutional settings due to historical particularities, along with the different timing and magnitude of their social stratification dimensions (Ishida, 2008). Given the late industrialisation and democratisation of Spain, along with the scarcity of previous research literature, the Spanish case calls for further investigation, including its examination in the wider European context (Gil-Hernández et al., forthcoming). During the last few decades, the Spanish scenario has been characterised by marked economic and occupational modernisation and a steep process of educational expansion. What implications have these processes had for social fluidity trends? What is the specific role of education in shaping social mobility (Martínez Celorrio & Marín Saldo, 2012)? Are these processes unevenly driven by gender (Salido, 2001)?

In order to explore these issues, the article is organised as follows: First, we provide an outline of the Spanish institutional context shaping long-term occupational and educational trends. Second, we briefly review the main theories and previous findings on the role

played by education and economic modernisation in social fluidity to derive the research hypotheses of this investigation. Third, the data and methods used to test the hypotheses are explained. Fourth, we discuss the results of this investigation. Finally, we present a set of conclusions, limitations and suggestions for the direction of future research.

2. SPANISH CONTEXT

Three social institutions can be considered as critical in the shaping of opportunity structures in industrialised societies: the state, the labour market and family structure (Hout & DiPrete, 2006). Therefore, it is plausible to think that different configurations of these institutions can lead to diverse social mobility outcomes (Nolan et al., 2011). In this section, we provide a comprehensive account of the historical institutional particularities shaping the Spanish modernisation process and its corresponding structural changes.

2.1. Late economic modernisation, labour market and welfare state

Dramatic political, social and economic changes have occurred in Spain in the second half of the twentieth century, in particular since the transition from a dictatorship to a democracy in the mid-1970s. From the end of the Civil War in 1939 to 1959, the country had an autarkical-and agricultural-based economy that was all but closed to international trade. From that point on, the country has experienced a deep modernisation process in which gross domestic product (GDP) per capita has steadily increased and in which membership of the European Union (EU) was achieved in 1986. From the late 1990s until the late 2000s, Spain experienced steady economic growth at higher rates than most EU countries. Figure 1 illustrates this marked economic development process over the last four decades, particularly involving the birth cohorts studied in this research (see the vertical lines).

Nevertheless, economic growth in Spain is highly dependent on the business cycle. Since the oil crisis in 1973 and the transition to a democracy in the late 1970s, three major economic crises have affected GDP growth in the early 1980s, 1992–1993 and 2007–2008. Political reforms aiming to deregulate the margins of the labour market (1984) were implemented to deal with the volatility of the Spanish economy (Bentolila & Dolado, 1994; Toharia & Malo, 2000). As a result, the Spanish labour market is characterised by a high degree of internal segmentation or dualisation (Polavieja, 2006; Miguélez & López-Roldán, 2014).

[Figure 1 over here]

Even though economic hardships existed, a Spanish welfare state was created and a tax system was formally implemented during the 1980s, leading to a boost in social spending, declining poverty rates and income inequality. Due to its particular

arrangements, Spain is considered a member of the Southern European Welfare or *familiaristic* cluster, mainly characterised by low social and family spending levels and the primacy of family provision of welfare (Ferrera, 1996). Thus, female labour force participation has been historically low. However, it should be noted that, from the mid-1980s to the late 2000s, female labour force participation increased rapidly from 30% to 70% (OECD, 2014). Furthermore, the Spanish welfare state grew during the 1980s, creating a considerable niche of public jobs in which women are overrepresented.

2.2. Occupational upgrading

In a relatively short timespan, Spain has followed a different trend from early industrialised countries in which its social structure has experienced an abrupt transition from a vast agricultural sector to a post-industrial society without going through an intermediate industrial stage¹ (Bernardi & Garrido, 2008).

[Figure 2 over here]

If we examine the Spanish social structure in terms of gender, three salient elements may be outlined that can be seen in figure 2². First, there has been a dramatic and constant decline in the farming sector (VIIb+IVc) for both men and women. Between the oldest birth cohort (1926–1936) and the youngest birth cohort (1970–1981), the agricultural sector was reduced by 20% for men and 15% for women. Second, non-manual positions (I+II and IIIab) have undergone a considerable growth of 20% for men and 55% for women. Therefore, women are overrepresented in non-manual positions. Men have also undergone a deep occupational upgrading. In the oldest cohort, the service class³ (I+II) accounts for just 10%; however, in the youngest cohort, it accounts for 25%. Third, at the same time, the male unskilled manual class (VIIa) has continued to make up a large proportion, consequently leading to an occupational polarisation between qualified and nonqualified social classes (Oesch & Rodríguez, 2011). The female unskilled manual class has plummeted in size in comparison to men⁴. As a consequence of this decline, both service class and routine non-manual (IIIab) workers account for the largest proportion of the female social structure, which can be considered as sectors with a greater proliferation of meritocratic selection procedures.

Given this particular evolution of the Spanish social structure, several differences can be highlighted with respect to other European countries (ILO, 2011). First, the service class

¹ This factor is usually related to the chronically high unemployment rates of Spain (Esping-Andersen, 1999).

² Social class is operationalised through the EGP schema. See section 4.2. for details.

³ The service class broadly corresponds to managerial (large employers) and higher and lower grade professional and technician occupations.

⁴ If the immigrant population is considered, the share of the manual unskilled classes enlarges given the substantial migration influx between 1995 and 2010 (Fachelli & López-Roldán, in press).

is considerably smaller (i.e., half the size of Germany). Second, the petty bourgeoisie stands at a high level, similar to Italy. Third, the agricultural and nonqualified manual classes represent a greater share of the social structure than other early industrialised countries.

2.3. Educational system and expansion

The degree of the indirect influence of family background on children's occupational attainment via education is also contingent on the institutional setting (Pfeffer, 2008). Our selected birth cohorts studied under two different educational systems implemented through the *Moyano Law* (ML) in 1857/1954 and the *Ley General de Educación* (LGE) in 1970, respectively. Under both educational laws, the Spanish educational system has operated with a high level of privatisation, highly influenced by the Catholic Church and the dictatorship. The ML was characterised by a high level of stratification, with tracking at 10 years old. The LGE eliminated early tracking and raised compulsory education up to the age of 14. This law contributed to the deep educational expansion in Spain.

Figure 3⁵ illustrates the impressive educational expansion in Spain during the twentieth century, one of the steepest expansions among industrialised countries. While half of the Spanish population was illiterate in the early twentieth century, the educational structure had completely changed by the 1990s. The proportion of highly educated Spaniards trebled during this period. The first phase of this growth (1980–2000) was driven by the incorporation of the *baby boom* cohorts and the feminisation of university studies. Women have outperformed men in higher education since the 1990s and show a significantly lower school failure risk. At the same time, Spain has one of the highest school failure rates among OECD countries (Fernández Mellizo-Soto & Martínez-García, 2016) and a large population of university graduates. Consequently, the Spanish educational structure resembles an hourglass among younger cohorts, as there has been a historical shortage of vocational training at the intermediate levels.

[Figure 3 over here]

3. THEORETICAL BACKGROUND & RESEARCH HYPOTHESES

3.1. Social fluidity trends

Research on relative social mobility trends over time can be grouped into two main competing interpretations: increasing fluidity *versus* stability. The *Liberal Theory of Industrialism* or the *Modernization Theory* (MT) posits that increasing social fluidity is strongly related to the degree of (post-) industrialisation and economic development of a

⁵ Educational attainment is measured through the ISCED schema. See section 4.2. for details.

nation (Treiman, 1970; Ganzeboom, Luijkx & Treiman, 1989). As a result of these processes, achievement would substitute ascription as the main selection criterion. Even though the MT has been a fruitful framework of analysis and has found recent support (Ganzeboom & Treiman, 2007; Maas & Leeuwen, 2016), it has been increasingly questioned and challenged over the last 30 years, up to the point that some authors state that it is mistaken (Hout & DiPrete, 2006:8).

The *Constant Social Fluidity* thesis by Erikson and Goldthorpe (E&G) (1992) is firmly opposed to the predictions of the MT since they found generalised stability in social fluidity trends over time except for the experiences of profound state interventions. For example, such as those interventions from Sweden and Hungary. According to the *Outline of a Theory of Social Mobility* by Goldthorpe (GT) (2007, vol. 2:160), even when change towards fluidity is detected, it does not take any direction (*trendless fluctuation*) or it just involves particular birth cohorts. In other words, in opposition to the MT, social fluidity trends are not secular or universal.

Unfortunately, international comparative research on Spain is rather lacking (Gil-Hernández et al., forthcoming), and few national studies on relative social mobility existed before 1999 (Aranda-Aznar, 1976; INE & FOESSA, 1981; Rodríguez Menés, 1993). Rodríguez Menés (1993) applied Blau and Duncan's (1967) status attainment model and concluded that the Spanish modernisation process during the 1960s and 1970s had a positive effect on fluidity. In 1999, two major studies were published (Carabaña, 1999; Echeverría Zabalza, 1999). The conclusion of both books was the same: Spain had experienced a slight change in social fluidity, one that had followed a trendless pattern. Recent social mobility research on Spanish men (Marqués-Perales & Herrera-Usagre, 2010) has shown that there were neither substantial changes nor a clear trend in social fluidity patterns during the second half of the twentieth century⁶. Drawing from more recent data, Fachelli and López-Roldán (2015) and Marqués Perales (2015) confirmed the existence of a constant trend or slight improvement for men, but found substantial increasing fluidity among the youngest women's cohorts.

We cover a longer timespan than previous research: The oldest cohort analysed was born in the 1920s, and the youngest cohort was born in the 1970s. Hence, there is more room for observing social fluidity change in a long-term period of deep modernisation changes (see section 2), namely economic liberalisation and growth, urbanisation, (post-) industrialisation, educational reform and expansion, occupational upgrading, democratisation and welfare state creation.

⁶ E&G's *Core Social Fluidity model* fits relatively well, but there are larger barriers between unskilled farm workers and the service class in comparison to other core industrialised countries.

Hypothesis 1. *Given the far-reaching economic, occupational and educational modernisation processes in Spain from the early 1960s, we expect a significant increase in social fluidity among the birth cohorts analysed.*

3.2. Decomposing fluidity trends: A joint account of the O-E-D triangle

As seen on the left side of figure 4 below, the MT offers one of the few joint and comprehensive predictions on the O-E-D triangle and its associations over time. Technological development demands the prevalence of merit-based selection (educational attainment) and educational expansion to maximise productivity (Parsons, 1951; Bell, 1972). Therefore, the O-E and (direct) O-D associations are expected to decline in a context of economic modernisation and educational expansion, while the E-D association strengthens (*education-based meritocracy*). The aggregate result of these trends is sustained increasing social fluidity over time.

[Figure 4]

As shown on the right side of figure 4, the GT (2007, vol. 2:168–185) also accounts for the specific trends over time of each leg of the O-E-D triangle. First, it argues for the persistent inequality of educational opportunities (IEO) given systematic mobility strategies followed by families from the bottom and top of the class structure (see Breen & Goldthorpe, 1997). Second, the E-D association is expected to decline as, in capitalist economies, employers do not consider just educational credentials as signals of merit; they are free to take into account ascribed factors (i.e., cultural and social resources) as valuable indicators of productivity (Jackson, Goldthorpe & Mills, 2005). Third, when education is controlled for, a strong *DESO* persists (Breen & Goldthorpe, 2001; Goldthorpe & Jackson, 2008), and it may even increase in a context of educational expansion and declining class returns. This theoretical outline and related empirical findings claim stability in social fluidity over time and profoundly challenge the *education-based meritocracy* hypothesis derived from the MT.

In contrast to the E&G (1992:367), the GT and the MT, studies such as Breen and Luijkx (2004:394–403) have found a generalised trend towards increasing relative mobility in several European societies, but one that was not related to the growth in the importance of achievement (as measured by the E-D relationship). As Pfeffer and Hertel (2015:149) stated, “theories and pieces of evidence are not easily pulled together into one coherent prediction and empirical test of the effects of educational expansion.” Likewise, no clear aggregate effect of modernisation can be deducted from the direct (O-D) and indirect (O-E*E-D) paths of the O-E-D triangle (Knigge et al., 2014:551). Nonetheless, by applying

the simulation method developed by Breen (2010), we can test what the specific role of every leg of the O-E-D triangle is in shaping the aggregate social fluidity trend, which we hypothesise to increase over time in Spain. Therefore, we can assess whether the Spanish case leans more into the macro-level regularities outlined by the MT or the GT. Indeed, given the historical arrangements and previous research of Spain, we expect that the trends of the O-E-D triangle's legs and their corresponding contributions to social fluidity change will not completely fit with either of these theories.

In the next subsections, we will review further theoretical developments and previous findings on each leg of the O-E-D triangle to derive specific hypotheses⁷, adapted to the particularities of Spain, on the role of educational expansion and the *DESO* (see centre side figure 4 above for a summary of previous findings in the European context and our parallel hypotheses on Spain).

3.2.1. Inequality of educational opportunities (IEO)

Research on the IEO has a long history in Spain (Díez Nicolás, Martínez Lázaro & Porro Minondo, 1975; Torres Mora, 1991), but most studies have been descriptive and do not provide either theoretical explanations on IEO trends or consistent conclusions on their direction over time (Fernández Mellizo-Soto, 2014). This is largely due to the heterogeneity of methods used. Internationally, the main theoretical explanations developed so far on the IEO address persistent inequality. *Social reproduction theories* remark on the importance of school and inherited cultural capital in maintaining social inequalities (Bourdieu & Passeron, 1990; Bowles & Gintis, 1976). Lerena (1976) presented that, despite an emerging educational expansion, Spain continued to be a rigid society due to the role played by the school system in reproducing class inequalities. A specific version of *social reproduction theories* (Blossfeld et al., 2015) regarding educational transitions in a context of expansion was generated by Raftery and Hout (1993). The *Maximally Maintained Inequality* (MMI) hypothesis predicts that the IEO just declines over time once upper class children have saturated a specific level (i.e., secondary); inequality then shifts to the upper educational levels. This approach has been rarely implemented in Spain and has not found consistent conclusions (Carabaña, 1999; Martínez García, 2007)⁸.

Shavit and Blossfeld (S&B) (1993) carried out the first cross-national study on the IEO and found generalised stability over time, except for the cases of Sweden and the Netherlands. In the last few decades, *rational decision-making models* have been extensively developed (Boudon, 1974; Breen & Goldthorpe, 1997; Martínez García, 2002)

⁷ This study covers fluidity trends for men and women; thus, when we expect a different trend, we will outline particular hypotheses by sex.

⁸ The *Effectively Maintained Inequality* (EMI) hypothesis (Lucas, 2001) is not adequate among the cohorts covered in this research given that horizontal inequality in the Spanish educational system is hitherto limited.

to explain the persistent IEO in terms of primary (academic performance) and secondary effects (chances of staying or leaving education given performance) of social background. Recent evidence has refuted the conclusions of S&B by replicating their analysis and showing an increase in educational equalisation⁹ in several European countries (Breen et al., 2009; 2010). In Spain, these results are in line with other evidence that rely on similar rational action explanatory mechanisms. For example, Ballarino et al. (2009) found a decrease in the IEO among the cohorts born between 1910 and 1969, linked to less salient primary and secondary effects: decreased selectivity in secondary education (particularly for the agricultural class) and greater security in parental employment (see also Fernández Mellizo-Soto & Martínez-García, 2016). Likewise, Carabaña (2013a) pointed to reduced family size and increased parental educational achievement as key factors shaping post-secondary educational equalisation in the 1980s¹⁰.

Hypothesis 2. *In line with the MT and previous research, we expect a significant reduction in the IEO due to the steep educational expansion (comprehensive educational reform) and economic betterment (less salience of primary and secondary effects) in Spain. Thus, the contribution of the O-E association to the social fluidity trend should be substantial.*

3.2.2. Class returns to education

Sociologists have only recently begun to quantify the relationship between education and social class returns. The mainstream theories accounting for this relationship (in terms of wage) have been developed by economists: *Skill Biased Technical Change* (SBTC) and *educational inflation theories*. Regarding the former, in the same vein as the MT, SBTC predicts a growing demand and supply of qualified workers thanks to technological development and automation (Acemoglu, 2002), thus increasing the absolute and relative economic returns to those with higher education in comparison to lower-educated groups.

Within the latter school of thought, the sociologist Collins (1979) coined *Credentialism* to explain how the increasing demand and use of credentials to grant access to the highest echelons of society may contribute to the inflation of their value. Other economic theories related to *Credentialism*, such as *Job Competition* (Thurow, 1976) and *Screening or Signalling* (Spence, 1973), posit that employers have imperfect information about an individual's productive skills. In this understanding, educational credentials are used in the

⁹ They relate this change to the *equalisation* of primary and secondary effects via the rise of the welfare state, the universalisation of secondary school and the decline of the direct costs of studying given smaller family size and economic growth.

¹⁰ Recent research has shown an unexpected effect of the *comprehensive educational reform* implemented in the early 1990s: School failure rates have increased due to raising the years of compulsory education (Felgueroso, Gutiérrez-Domenech & Jiménez-Martín, 2014) (up to 14 years old by *Ley General de Educación* [LGE], 1970; and 16 years old by *Ley de Ordenación General del Sistema Educativo español* [LOGSE], 1990), driving an increase in the IEO from the cohorts born in the late 1980s (Fernández Mellizo-Soto & Martínez-García, 2016). This suggests that the opportunity costs of staying in school have risen for more disadvantaged families, especially in a context of the economic boom in the unskilled construction sector. As we include birth cohorts born until 1981, the implementation of LOGSE and its relation to the increasing IEO would not affect our sample.

screening process to sift between individuals (Goldthorpe, 2014). These theories consider educational attainment as a positional good, which in a context of educational expansion would provide less and less information to employers on the potential productivity of employees. This, in turn, leads to a lowering of both the signalling power of education and its returns in the labour market.

Most international studies tend to agree with the idea of a decrease of economic and social class returns to education in the post 1990s European context of educational expansion and the decreasing IEO (Breen & Luijkx, 2004; Bernardi & Ballarino, 2014). In Spain, Carabaña (1983) estimated a wage increase of 7% per additional year of education, a similar figure to other countries (e.g., the United States and the United Kingdom) at that point in time. San Segundo (1997), analysing the Spanish labour market between 1980 and 1995, concluded that educational investments paid off in terms of stable returns, in spite of the massive influx of new students. Nonetheless, current research agrees with the understanding that there are declining returns to education (as measured by wage, social class, ISEI or overeducation) due to the sizeable expansion of higher education since the 1970s and the limited creation of highly qualified jobs (education-jobs gap) (Barone & Ortiz, 2011; Ortiz & Rodríguez-Menés, 2015; Bernardi, 2016; Felgueroso, Hidalgo & Jiménez-Martín, 2016; Marqués Perales & Gil-Hernández, 2015b).

Hypothesis 3. *In line with educational inflation theories and previous findings, we expect declining returns to education as a result of the emerging education-jobs gap. Thus, the contribution of the E-D association to the social fluidity trend may be minor.*

3.2.3. The Compositional effect of education¹¹

Previous research points out that once individuals have achieved a university degree, the influence of their social origins diminishes (Torche, 2011). Hout (1988) found an interaction effect (OD-E), the compositional effect of education, in which the origins-destinations association steadily declines over educational levels. This interaction can be understood as an effect of educational expansion, since the labour market has more university graduates for whom the effect of social origins is lower. Among the mechanisms that have been used to explain this weak association, the idea of bureaucracies as “great levellers” is a recurrent theme (Baron et al., 2007). That is, graduates are allocated in niches where meritocratic selection is more salient (i.e., the public sector and multinational corporations).

¹¹ This effect has another explanation that is complementary rather than conflicting, termed the *compensatory advantage effect* (Bernardi, 2014). This theory points to the resources that upper-class parents can provide for their children in case of low educational achievement in order to prevent downward mobility (Bernardi & Ballarino, 2016), so making the O-D association larger among lower-educated groups. However, in the context of deep educational expansion in Spain, we think that the compositional effect would outweigh the compensatory effect.

The steady process of educational expansion and occupational upgrading in the service and public sectors in Spain during the last decades sets a suitable scenario for the compositional effect of education. Even though this effect has been documented in several countries (Hout, 1988; Vallet 2004a; Breen & Jonsson 2007), there is scarce previous research in Spain. Bernardi (2016:173) found that the intergenerational association in the ISEI is weaker among those individuals attaining university education and low vocational training in comparison to other educational groups. Regarding the effect of social origins among university graduates, Carabaña (2004) concluded that a degree offered access to the same social class (service class) independent of social origins until 1991. Similar conclusions have been reached by drawing from more recent data among national and Catalan graduates (Planas & Fachelli, 2010; Fachelli & Navarro-Cendejas, 2015; Torrents & Fachelli, 2015).

Hypothesis 4. *We expect a significant and large interaction effect in the O-D association across education given the steep educational and occupational upgrading in Spain. Thus, the compositional effect of education would explain a great share of the social fluidity trend.*

3.2.4. The Direct effect of social origins (DESO)

The *DESO* and its temporal trends have been scarcely researched so far given the black-box character underlying the relationship, but recent research has shown a sizeable *DESO* in several countries (Bernardi & Ballarino, 2016), following overall stability over time. In contrast to the predictions of the MT, in a context of educational expansion and declining returns to education (Bernardi & Ballarino, 2014), the *DESO* through cultural (i.e., soft and non-cognitive skills) and social resources (i.e., networks) could strengthen as they become more important for employers in the signalling process (Jackson, Goldthorpe & Mills, 2005). Accordingly, Marqués Perales and Gil-Hernández (2015a; 2015b) and Triventi (2013) analysed the impact of social background on the probability of overeducation (access to the service class) or access to the top ISEI quartile, respectively, among a cohort of Spanish university graduates born in the 1970s and found a significant *DESO* in a context of steep educational expansion.

Furthermore, the direct transmission of property (economic resources) given the familial and small character of Spanish businesses makes the persistence of the *DESOs* rather plausible, as high and relatively stable reproduction rates for the petty bourgeoisie have been documented for Spanish men (Marqués Perales & Herrera-Usagre, 2010). For women, since the *DESO* is expected to be lower among the highly educated, it could be less persistent over time given women's marked educational and occupational change

into university and the service sector. These structural changes imply a sharp differentiation from their fathers' class (dissimilarity index over 40%), possibly making the direct transmission of resources more difficult. In Spain, there is almost no previous research on the *DESO* over time. Bernardi (2012b, 2016) documents a sizeable *DESO* (controlling for all educational levels) on the returns to education in the labour market (as measured by access to top ISEI and to the service class), following a stable trend and potential rigidity among younger cohorts for both men and women.

Hypothesis 5. *We expect a constant trend or slight decrease in the DESO for men given high reproduction rates of the petty bourgeoisie and a significant decrease for women due to their extraordinary (intergenerational) structural change. Thus, the contribution of the DESO to women's social fluidity trend may be substantial, while it may be residual for men.*

4. DATA, VARIABLES AND METHODS

4.1. Data

In order to test these hypotheses, we have pooled cross-sectional data from three nationally representative surveys: the *Socio-Demographic (SD) Survey* and two waves of the *Living Conditions Survey*, which were carried out in 1991 ($n = 159,154$), 2005 ($n = 30,375$) and 2011 ($n = 29,210$) by the Spanish Statistical Office (INE, 1993, 2008, 2013). In addition to this, these surveys are the only ones carried out by the INE that include extensive questions on the intergenerational transmission of poverty or disadvantages, while having a high degree of comparability and a large sample size.

4.2. Variables

Two standard variables from social stratification studies have been selected to assess intergenerational social mobility associations: educational attainment and social class. The former is codified into a 4-category ISCED from detailed original Spanish classifications (ISCED 0-1: *pre-primary and primary*; ISCED 2: *lower secondary*; ISCED 3-4: *upper secondary and post-secondary non-tertiary*; and ISCED 5A-6: *tertiary*). We have followed the strategy of Ortiz (2008) to harmonise the educational classifications given that, among the birth cohorts studied, two different educational systems were implemented by the ML and the LGE. Social class has been constructed for respondents through the current (employed) or last available (unemployed) occupational category, while for origins class through the occupation of the father¹² when the respondent was aged between 12 and 16. Both origin and destination classes are measured by the three-

¹² Given the extremely low labour force participation of mothers, we just consider fathers as class of origins.

digit *Zárraga Occupational Classification (COZ)* (Zárraga, 1991; Martínez García, 1999), the two-digit ISCO-88 (2005) and ISCO-08 (2011), the activity status and the supervisory role by following the EGP-schema (Erikson, Goldthorpe & Portocarero, 1979) operationalisation proposed by Ganzeboom and Treiman (1996). We have codified the 7-category EGP-schema into the 6-category version (Luijkx, 1994): *I+II* (service class: higher and lower grade managers, professionals and technicians); *IIIab* (routine non-manual workers); *IVab* (small employers and self-employed workers); *V+VI* (skilled manual workers); *VIIa* (unskilled manual workers); and *VIIb+IVc* (labourers and small farmers). Despite the historically large Spanish agricultural sector, we have implemented this version (*VIIb+IVc*) to avoid zero cell frequencies for children of the agricultural class in the younger cohorts. We have constructed five birth cohorts born in a time period spanning from 1926 to 1981¹³. As we only consider men and women¹⁴ aged 30–65 who are members of the labour force, these cohorts reached occupational maturity between 1956 and 2011. As a result, the analytical sample has up to 49,435 observations for men and 38,026 observations for women¹⁵.

4.3.1. Methodology

A two-fold empirical strategy has been carried out in the course of our research. First, given that we have selected categorical variables to measure birth cohorts (C), social origins (O), education (E) and destinations (D), we assess their degree of association with log-linear modelling in contingency tables (Hout, 1983; Luijkx, 1994). We use log-linear and multiplicative models to analyse two-way tables over a layer (birth cohort or education): (gross/observed) origin-destination association over cohort (OD-C), origin-education association or the IEO over cohort (OE-C), class returns to education (ED-C) over cohort and the origin-destination association or compositional effect of education over educational level (OD-E). Likewise, we implement four-way models for the COED table to account for change in the *DESO* (Vallet, 2004a). We are interested in testing the *Constant Social Fluidity Model*¹⁶ (*CnSF*) against the *Unidiff* or log-multiplicative model¹⁷ of change over birth cohorts or educational levels. Additionally, in order to provide a more extended view of these associations over time, different logistic regression models and derived

¹³ We have applied a sensitivity analysis to assess period effects. The inclusion of the cohort *Unidiff* parameter once the survey *Unidiff* parameter is taken into account significantly improves all models goodness of fit (OD-C, OE-C and ED-C). This test provides solid evidence on the suitability of cohort analysis to assess temporal change (Breen & Jonsson, 2007). See supplementary material for details.

¹⁴ Female labour force participation is historically low in Spain. Yet, due to the inclusion of women employed in the informal economy (cleaners-home assistants) in the active population by the *SD* survey, older cohorts' labour force participation is slightly overestimated.

¹⁵ Appendix A, table A.1. shows the detailed sample distribution by sex, survey and birth cohort.

¹⁶ The simplest constraint is the assumption that odds ratios remain constant between tables, not varying by a layer (cohorts or education).

¹⁷ This model assumes that the relationship between O and D does not equal zero ($\lambda_{ij}^{OD} \neq 0$), as well as that the pattern of association between O and D is the same. *Unidiff* constrains each odds ratio to change between any pair of layers by a uniform multiplicative scaling factor (Xie, 1992; Pisati, 2001). This factor takes values below (more fluidity) or above 1 (less fluidity), depending on the relative strength of the association between O and D by any pair of layers (C or E). It is under debate to what extent or magnitude may any statistically significant change in the *Unidiff* parameter be interpreted in substantive terms (Bernardi, Chakhiaia & Leopold, 2016).

predicted probabilities are estimated to account for the access to different social classes and educational levels by social origins.

Second, until now, no suitable methods existed to fully assess the relative role of every leg of the O-E-D triangle over time within the log-linear approach. Thanks to the development of a new counterfactual approach (see Breen, 2010 for technical details) that has been increasingly applied (Torche & Ribeiro, 2010; Pfeffer & Hertel, 2015; Breen, Luijkx & Müller, forthcoming), we are able to test the relative role of education and the *DESO* in shaping the gross/observed social fluidity trend through simulated frequency tables (COE and COED). The basic logic behind this method is as follows: How would mobility have changed over time if, for instance, just educational expansion and equalisation had occurred? In doing so, we can assess the gross origins-destination association over time under four subsequent counterfactual scenarios: the educational expansion (CE) and compositional effect of education (1), the IEO (2), class returns to education (3) and the *DESO* (4). It should be noted that this methodological approach (*path log-linear*) allows us to isolate different effects in the O-E-D triangle, but causality cannot be claimed.

4.3.2. Goodness-of fit-and model selection criteria

As main goodness-of-fit measures, we rely on the likelihood-ratio X^2 statistic (L^2 or G^2) and the dissimilarity index (Δ) (Breen, 2004:23-27). The larger the absolute value of the L^2 , the larger the discrepancy between the observed and fitted values; hence, larger values indicate a poorer fit. To choose between models (*CnSF* or *Unidiff*), “we can compare their goodness of fit by computing the X^2 value given by the difference in their respective L^2 ’s. This measure has degrees of freedom equal to the difference in the number of parameters of each (Breen, 2004:26).” Therefore, if the difference between *CnSF* and *Unidiff* is statistically significant ($p \leq 0.05$), we will choose the more complex model (*Unidiff*) as our preferred model. Despite a loss of parsimony, this would pay off in terms of a better fit (see Breen, 2004:23-27 for details). The dissimilarity index indicates the percentage of cell frequencies that should be changed in order for the distributions of the observed and fitted values to be equal. Thus, the smaller the percentage, the better the fit. Log-linear models are estimated with *LEM* software (Vermunt, 1997).

5. RESULTS AND DISCUSSION

5.1. Social fluidity trend: (Gross/Observed) OD-C association

In order to assess how the association between origins and destinations has evolved over the five birth cohorts included in this study, table 1 illustrates the goodness of fit of the models estimated. Given the significant level of the X^2 test on the L^2 differences between *Unidiff* vis-à-vis *CnSF*, we can confirm that both men and women have undergone changes over time in social fluidity. However, as shown in figure 5, men have seen a slight

12.4% reduction in the *Unidiff* parameter between the oldest and the youngest birth cohorts, while women have experienced a substantial 33.2% decline. This decline is especially pronounced among the youngest cohort.

Even though Spain has undergone deep economic modernisation and welfare state growth from the mid-1970s, the slight improvement in social fluidity found in the youngest cohorts of men may serve as a symptom of its deep-rooted social rigidity. Spanish men have undergone limited structural changes in comparison to their fathers, showing high reproduction rates of the petty bourgeoisie and the working and agricultural classes, with strong barriers to long-range mobility (Marqués Perales & Herrera-Usagre, 2010).

However, the youngest cohort of women (born 1970–1981) experienced a 23% decline in the origins-destination association. This cohort may have benefited from the steep increase in female labour force participation during the 2000s (from 50% to 70% [OECD, 2014]), the expansion of the public sector and a decade of economic growth from 1998 until the onset of the financial crisis in 2008. The high levels in the dissimilarity index between fathers and daughters in Spain (over 40%) is the result of the parallel opening of new positions in non-manual classes and a reduction in the availability of manual ones. This entails a steep process of upward mobility and, likely, an opportunity for increasing fluidity since most women have access to non-manual social classes (IIIab), with similar recruitment or inflow rates by parental class (see appendix's A figure A.1.). Therefore, as Breen and Jonsson (2005:237) have pointed out¹⁸, the association between origins and destinations may be affected by their distribution.

[Figure 5 over here]

In order to make a detailed examination of the structural context over the timespan studied, we have estimated six logistic regression models by gender and the derived predicted probabilities of accessing a social class by origins and birth cohort (interaction term), as shown in Appendix A figure A.1. In the case of men, they show a high degree of stability in the class structure and reproduction rates, with a slight reduction in the reproduction of classes I+II and IVab, but overall high rates. Concerning women, class I+II has significantly reduced its level of reproduction among younger cohorts, so less privileged social classes (i.e., IIIab and V+VI) have taken advantage of this *room at the top*. However, it seems that the massive movement of Spanish women into class IIIab

¹⁸ "It would be useful if researchers, when discussing variations in fluidity, calibrated the impact of such variation on observed mobility flows, given particular origin and destination distributions. We would not be surprised to find that apparently large differences in fluidity entailed rather little difference in observed mobility. Furthermore, the use of log-linear models, under which patterns of association are unaffected by scalar transformations of the margins, may have led mobility researchers to underestimate the degree to which structural change can affect inequality of opportunity in the real world (Breen & Jonsson, 2005:237)."

from all social origins (especially from the agricultural classes) may have had a centralising effect on the overall equalisation of opportunities.

5.2. Role of education

So far, we have paid attention to the gross O-D association without controlling for education. In order to rectify this and account for all the arrows of the O-E-D triangle, table 1 displays the goodness of fit of the models accounting for the IEO, class returns and the compositional effect of education by gender. As can be seen in table 1, the *Unidiff* models (B2; C2; D2) yield a better adjustment for the three effects of education for both men and women. Figure 5 above illustrates the temporal trends for the IEO and class returns.

5.2.1. Inequality of educational opportunities (IEO): OE-C association

The IEO has experienced an overall decline by 12% for men and 19% for women. In addition, the IEO has seen a three-stage trend for both men and women: a decline for the cohorts born between 1937–1947 and 1948–1958 (-10% for men and -16% for women), a slight increase for the cohort born between 1959 and 1969 (+3% for men and +7% for women) and a decline for the youngest cohort (-6% for men and -9% for women).

In order to shed some light on these trends, we have three logistic regression models to estimate the subsequent attainment of ISCED 2-6, ISCED 3-6 and ISCED 5-6 as a function of social origins and birth cohort (interaction term). Appendix A figure A.2. shows the predicted probabilities derived from these models. It seems that the aggregate equalisation that was undergone by the cohorts born between 1937 and 1958 may have been partially driven by the declining differences of social origins in attaining more than primary education (ISCED 2). We relate this result to decreasing differences in terms of primary and secondary effects between social classes in a context of incipient economic betterment (Ballarino et al., 2009).

The cohort born between 1959 and 1969 was the first one studying under the comprehensive *LGE* that was implemented in 1970. Contrary to our expectations, this cohort did not experience an immediate decrease in the IEO, but rather a slight increase (Carabaña, 2004). The small equalisation experienced by the youngest cohort (born 1970–1981) can be partially related to the reduced social origin differences in attaining post-compulsory education (ISCED 3-4). During the 1980s and 1990s, family size decreased and the welfare state was developed (Carabaña, 2013a), possibly driving declining selectivity. However, when we examine university education attainment (ISCED 5A-6), the overall degree of inequality has stayed relatively constant over the timespan studied, a result in line with other European countries (Breen, Luijkx, Müller et al., 2009, 2010).

5.2.2. Class returns to education: ED-C association

In contrast to the predictions of the *Modernization* and *SBTC* theories, class returns to education have steadily declined in Spain. As figure 5 illustrates, both men (-28%) and women (-30%) have experienced a linear reduction in the association between education and the social class of destination from the oldest to the youngest birth cohorts. This steep decline in the returns to education is in line with the inflation of educational credentials in a context of educational expansion. Especially considering that since the early 1990s, the highly educated have experienced a decreasing skill premium related to the overeducation or underemployment phenomenon (Felgueroso, Hidalgo & Jiménez-Martín, 2016). Additionally, we have estimated the predicted probabilities of accessing the service class by educational categories and birth cohort (interaction term), while also controlling for the survey period (results are available upon request). There is a striking decline (by approximately 20% in comparison to the cohort born 1948–58) in the likelihood of accessing the service class for the university graduates that have entered the labour market since the late 1980s (Bernardi, 2012b).

5.2.3. The compositional effect of education: OD-E association

Model D2 in table 1 below illustrates the *Unidiff* parameters for the compositional effect of education¹⁹. For men, this effect is substantial, but less steady, across educational categories than for women, accounting for a 40% decline for graduates. For women, this interaction effect displays a steady trend, declining by a remarkable 60% for the highly educated. We can say that educational expansion in terms of the numbers of those who have a university education and also the rationalisation of the labour market via occupational upgrading are the main sources of this effect (Torche, 2011). We think that women have benefited more from the compositional effect, as they gravitate towards more meritocratic sectors (i.e., the service class, the routine non-manual class and the public sector). In addition, they outperform men in university education among the younger cohorts. The overall result is that there is less of an impact of social origins among graduates.

5.3. The direct effect of social origins (DESO): (Net/Direct) OD-C association

Finally, before analysing the results drawn from the counterfactual simulations, we have several models accounting for change in the *DESO*. The three-way models shown above do not allow us to fully test fluidity trends within the O-E-D triangle due to the interdependence and interaction of its legs, but four-way models can serve as a

¹⁹ The compositional effect of education can change over time (Torche & Ribeiro, 2007). To estimate this effect, it would be necessary to allow the OD association to vary as a function of the double interaction between cohorts (C) and education (E). As this model is highly demanding in terms of observations (the whole four-way COED table is used), it does not yield a satisfactory goodness of fit (Table 1, Model D2 accounting for OD-E fits better) or statistical power enough to interpret its corresponding *Unidiff* parameters with a minimum level of representativeness. Consequently, we have decided not to present this model. (Results are available from the authors). Moreover, when we will show the contribution of the OD-E table to the gross OD trend through counterfactual simulations, OD-E cannot vary over time, since it would imply the fully saturated model that includes the COED parameter.

preliminary indication. Table 1 above shows the *Unidiff* parameters estimated from three different multivariate *Unidiff* models accounting for change in the *DESO* over time. Among the different possible combinations estimated from the four-way COED table, model 3, which accounts for uniform temporal change on the *DESO*, the *IEO* and class returns, yields the best goodness of fit for men and women, improving on model 1 and the *CnSF* model for OE, ED and OD (not shown in table 1).

According to our preferred model 3, men have experienced a relatively constant two-fold trend. First, there was an 11% decline in the *Unidiff* parameter for the cohorts that were born in the 1950s. Second, there was a 10% increase for the cohorts born in the 1970s. As we explained above, men have experienced limited structural change into service sector positions, displaying high reproduction rates in the petty bourgeoisie, skilled and unskilled working classes and the agricultural sector, where the *DESO* is more prominent.

[Table 1 over here]

The results for women tell a different story. They have experienced a steady decline in the *DESO* of 39% from the oldest cohort to the youngest cohort. Our interpretation of this important change towards fluidity is similar to the one that we have previously outlined on the compositional effect and structural change. The effect mediated by education is stronger among women, as they tend to access the social classes in which formal credentials are more in demand (I+II and IIIab) and where the *DESO* is of less influence. Furthermore, given the fact that women are underrepresented in the petty bourgeoisie (IVab), where the direct transmission of familial resources is more prominent, we can see a declining effect of the *DESO* for women and an important role in explaining social fluidity variation over time.

5.4. Counterfactual simulations

Figures 6 and 7 show the *Unidiff* parameters for the (gross) O-D association over time under four different simulated scenarios. Regarding men, 92% of the slight increase in social fluidity experienced by the cohorts born between 1937 and 1947 (-3%) and 1948 and 1958 (-4%) can be explained by the decline in the *DESO*. For the cohort born between 1959 and 1969, social fluidity levels out as a result of the increasing association in the *DESO*, thus offsetting the positive contribution to fluidity of the model accounting for the educational expansion and the compositional effect. The youngest cohort of Spanish men has experienced the sharpest decline in the association between origins and destinations (-6% with respect to the previous cohort and -12% to the oldest cohort). This decline can be explained mainly by the impact of the educational expansion and the compositional effect. That is, if the educational expansion and the compositional effect alone had

occurred, this effect would account for 76% of the area between the baseline and the observed model. By including the effect of the IEO, 80% of the area would be covered. Finally, if we allow for changes in the class returns to education as well, 92% of the area would be explained. It should be noted that explaining such a small improvement in social fluidity comes at the price of low statistical power.

Next, we can look at the case of women. In figure 7 below, a similar trend to men can be seen from the oldest cohort (1926–1936) until the third cohort (1948–1958). While the observed trend declines by 5%, the lines accounting for the effects of education increase over the baseline (mainly the educational expansion and the compositional effect). In other words, the only trend that can explain the social fluidity trend is the *DESO*. Among the younger cohorts born from 1959–1969 to 1970–1981, increasing social fluidity (-33% from 1926–1936 to 1970–1981 and -23% from 1959–1969 to 1970–1981) is mainly driven by the educational expansion and the compositional effect. However, there is a substantial proportion of unexplained variation in the youngest cohort (1970–1981). This remaining share can be explained by the declining association of the *DESO*. For this youngest cohort, the educational expansion and the compositional effect model accounts for 50% of the area between the baseline and the observed trend, the IEO model for 52%, the class returns to education model for 56% and the *DESO* model for the remaining 44%.

[Figure 6 over here] [Figure 7 over here]

5.5. Discussion

What implications do these results have for our hypotheses and the macro-level predictions of the MT and the GT? There are grounds to put into question some postulates of both theories, but also some partial findings consistent with them. To be specific, if we focus just on economic development and modernisation, social fluidity did not secularly increase during the process of the (late) industrialisation of the 1960s and the democratisation of the late 1970s. However, it did during the decade of sustained economic growth between the mid-1990s and late-2000s. This was a period when social fluidity underwent the largest improvement for men and women. Thus, social fluidity neither increased in a secular fashion in parallel to the modernisation process, nor did it remain constant.

Despite the fact that the *Constant Social Fluidity Model* does not yield a better fit than the *Unidiff* model on temporal change, the results for men cast doubt on *hypothesis 1* and the MT. They have experienced a minor improvement in social fluidity by 12%, especially marked for the youngest cohort, during a long-term period of profound modernisation processes. Regarding the particular associations within the O-E-D triangle, the results

drawn from the counterfactual simulations contradict the suppositions of the MT. First, even if the MT and previous research (Ballarino et al., 2009; Carabaña, 2013a) showed that the IEO declined in a context of economic betterment and educational reform, it did not have any sizeable effect on social fluidity (*hypothesis 2 rejected*). Second, consistent with *educational inflation theories* and the GT, the association between education and class destination steadily declined and did not drive social fluidity change (*hypothesis 3 accepted*), possibly offsetting the observed educational equalisation. Third, in line with previous findings (Bernardi & Ballarino, 2016) and the GT, the *DESO* remained relatively unchanged (men show high reproduction rates in social classes where the direct transmission of resources is more salient [i.e., petty bourgeoisie]), not considerably contributing to social fluidity change (*hypothesis 5 accepted*). Fourth, it is the compositional effect of education via educational expansion that explains the largest share of fluidity change (*hypothesis 4 accepted*).

Conversely, in the results for women, despite not being secular, they have experienced an extensive decline in the intergenerational association by 32% over a period of intense labour force participation and economic growth that confirms *hypothesis 1*. Decomposing the O-E-D triangle's legs, the impact of both the IEO and the *DESO* has weakened in agreement with our hypotheses and the MT. However, the central prediction of the MT on increasing class returns to education (*education-based meritocracy*) has not been met. Indeed, drawing from the counterfactual simulations, we find further contradictory regularities with the MT. Social fluidity change was not affected by the observed decline in the IEO (*hypothesis 2 rejected*) or by declining class returns to education (*hypothesis 3 accepted*). They may have cancelled each other out. Instead, social fluidity was mainly driven by the structural change of Spanish society in terms of occupational upgrading and educational expansion and its corresponding compositional consequences. Firstly, more meritocratic selection criteria among graduates, or the compositional effect of education (*hypothesis 4 accepted*). Secondly, more *room at the top* for those women coming from manual working and agricultural classes alike (detaching from their origins) for whom the direct transmission of familial resources (*DESO*) became less salient (*hypothesis 5 accepted*).

In other words, the empirical analysis shows the difficulties for the macro-level regularities predicted by the MT and the GT on fluidity trends and the role of education to account for the complex interactions and associations within the O-E-D triangle. As shown by the Spanish case and previous research (Breen, 2004; Breen et al., 2009; 2010; Breen,

2010; Torche & Ribeiro, 2010; Pfeffer & Hertel, 2015)²⁰, these associations and their corresponding aggregate social fluidity trend are not secular, but tend to weaken over time and may differ according to the historical particularities of each country (i.e., educational reform, economic policies and balance between educational and occupational structures). We find evidence in opposition to a constant trend in social fluidity, as well as to an increasing *education-based meritocracy*, in Spain.

6. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

6.1. Conclusions

Spain has undergone a far-reaching economic and occupational modernisation and a steep process of educational expansion from the second half of the twentieth century. For this reason, Spain poses an excellent setting to assess social fluidity trends and the role of education in a long-term period of profound institutional changes, in particular considering that there is scarce previous research in late industrialised European countries.

Both men and women have experienced a significant increase in social fluidity over time. For men, this increase is modest, accounting for a 12% decline in the intergenerational association between the oldest cohort born in the 1920s and the youngest cohort in the 1970s. For women, it is substantial, accounting for a 33% decline. This equalisation of opportunities was not secular and did not coincide with the process of the (late) industrialisation and economic liberalisation of the 1960s and the democratisation of the late 1970s. Mostly, it took place during the decade of sustained economic growth from the mid-1990s to the late-2000s. We predicted an overall increase in social fluidity in a context of deep modernisation processes. Thus, we confirm *hypothesis 1* for women, while for men their slight change in fluidity casts doubts.

On the one hand, we pay special attention to the evolution over time of each association in the O-E-D triangle, along with an interaction effect across education. First, we conclude that the inequality of educational opportunities (O-E) has slightly declined (at primary and secondary levels) over time for both men and women in a setting of economic betterment (reducing the direct and indirect costs of schooling) and educational reform (see Ballarino et al., 2009). Second, in line with *educational inflation theories*, class returns to education (E-D) have steadily and substantially declined as a result of the emerging education-jobs gap in the Spanish labour market. Third, the direct effect of social origins (O-D) has remained almost unchanged for men given that they show high reproduction rates in social classes where the direct transmission of resources is more salient (i.e., the petty

²⁰ The following are the main contributors to social fluidity in previous research: Breen, 2010: Great Britain (compositional effect); Germany (compositional effect); Sweden (IEO); Torche & Ribeiro, 2010: Brazil (*DESO* and class returns); and Pfeffer & Hertel, 2015: USA (compositional effect).

bourgeoisie); however, this direct effect has suffered a large decline for women, as they have detached from their origins by accessing the service sector. Fourth, the interaction term known as the compositional effect of education (OD-E) shows that, in a context of steep educational expansion, the intergenerational class association is lower among university graduates, especially for women, since they tend to access labour market niches where more meritocratic selection is applied.

On the other hand, given these associations, we have disentangled different pathways of social fluidity change by applying the decomposition method developed by Breen (2010). This method relies on counterfactual simulations to isolate the contribution of each leg of the O-E-D triangle to the observed social fluidity trend. In doing so, we can test our hypotheses on the role of education driving social fluidity and evaluate the MT and the GT more carefully. For men, the slight increase in social fluidity for the youngest cohort born in the 1970s was mainly driven by educational expansion and its corresponding compositional effect, confirming *hypothesis 5*. In opposition to the MT but in line with the GT and our *hypotheses 3 and 4*, respectively, class returns to education progressively declined and the *DESO* remained constant, none of them contributing to social fluidity change. Likewise, the observed reduction in the IEO did not have any influence on fluidity, a result at odds with *hypothesis 2* and the MT. For women, in line with the MT, the sharp improvement in social fluidity in the youngest cohort was primarily driven by a declining *DESO* and educational expansion, thus validating *hypotheses 4 and 5*, respectively. However, given the fact that the observed declining IEO did not contribute to social fluidity, it is in conflict with *hypothesis 2* and the MT. Besides, the substantial decline in class returns to education and its trivial contribution to social fluidity change is at odds with the *education-based meritocracy* envisaged by the MT, validating *hypothesis 3*.

All things considered, the macro-level regularities predicted by the MT and the GT are not suitable enough to account for the complexity of associations in the O-E-D triangle. We find evidence in opposition to a constant social fluidity trend and to the secular upcoming of an *education-based meritocracy* linked to economic modernisation. From the Spanish case follows that we should be cautious when interpreting any increase in social fluidity in substantive terms when it comes as an *artefact* more related to compositional effects of the educational structure (expansion) and even recruitment by social origins in expanding non-manual classes, than to the effect of intended social reform (i.e., educational reform; redistribution to reduce economic differentials). Therefore, following the suggestion of Breen and Jonsson (2005:237), more attention should be paid to the occupational and educational margins, as the Spanish case sets a good example on how social fluidity can be shaped by deep structural change.

6.2. Limitations and future research

This research paper has three main limitations. First, the harmonisation of educational categories from two different educational systems and classifications is imperfect. Second, the low (overestimated in the SD survey) and unequal female labour force participation among older cohorts could be slightly biasing the composition of the sample analysed. Third, given that we draw data from three surveys carried out since 1991, period effects accounting for the deep economic, political and social changes underwent in Spain since the early 1960s cannot be adequately captured.

To conclude with a suggestion for an avenue to open new research, when education is measured as a positional good or in relative terms, we may find different associations over time in both the IEO and class returns to education, so possibly leaning towards more persistence in social fluidity than found up to now in previous research (Bukodi & Goldthorpe, 2016; Goldthorpe, 2016).

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APPENDIX A

[Table A.1. over here]

[Figure A.1. over here]

[Figure A.2. over here]

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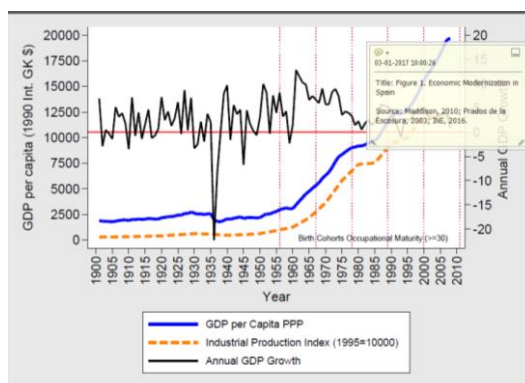
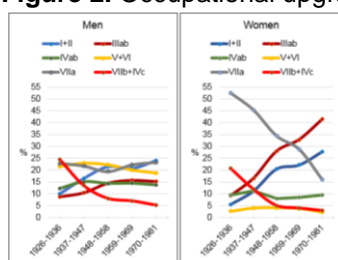
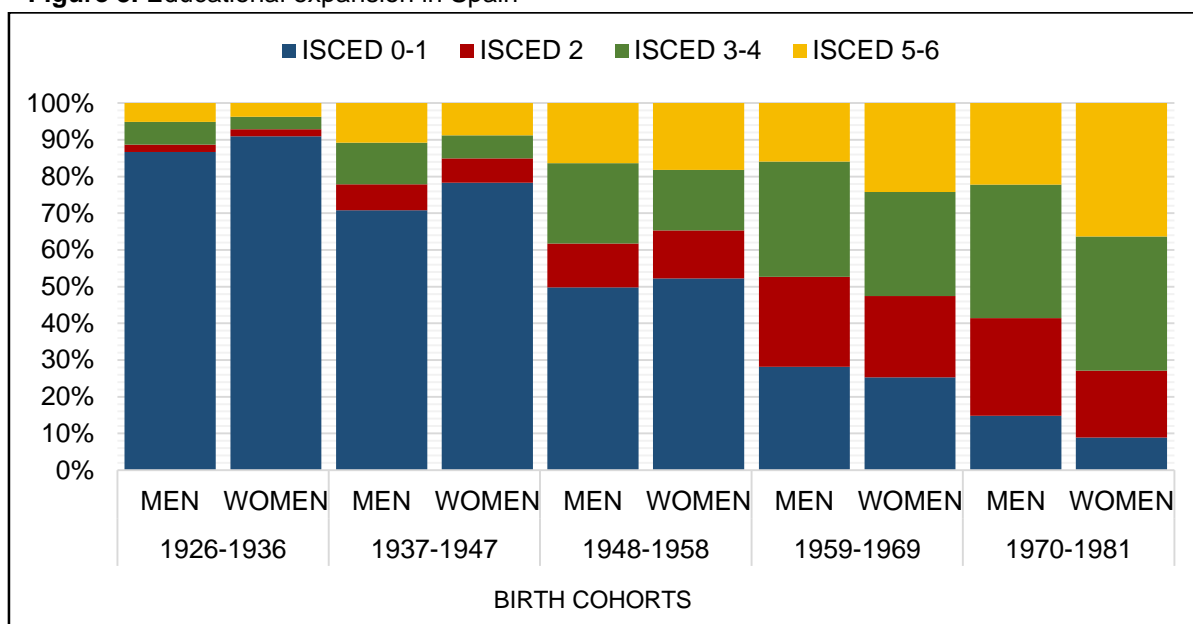
Figure 1

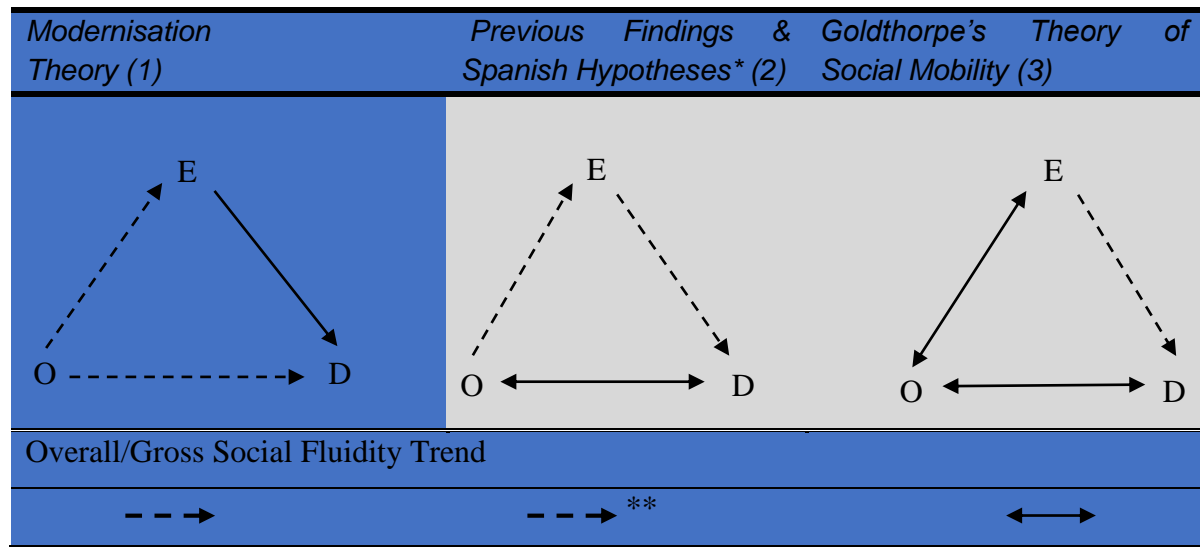
Figure 2. Occupational upgrading by birth cohorts and gender

Source: Own elaboration based on ESD-1991; ECV-2005 and ECV-2011 (INE).

Figure 3. Educational expansion in Spain

Source: Own elaboration based on ESD-1991; ECV-2005 and ECV-2011 (INE)

Figure 4. Modernisation Theory, previous research and Spanish hypotheses, and Goldthorpe's *Theory of Social Mobility* on the O-E-D triangle associations

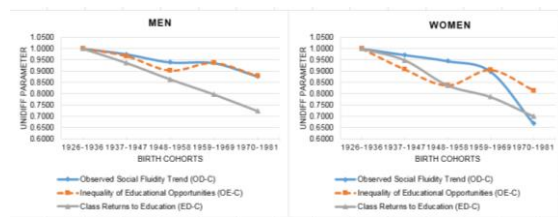


Notes: (a) O=Origins; E=Education; D=Destinations; (b) *Different hypotheses for the direct O-D association by gender in Spain: constant association for men and decreasing association for women

- Rising association
- ↔ Constant association
- - → Decreasing association

Sources: **(1)** Treiman (1970); **(2)** *Europe*: **Breen & Luijckx (2004): (Gross) Social Fluidity Trend; Breen et al. (2009; 2010): OE; Breen & Luijckx (2004); Bernardi & Ballarino (2014): ED; Bernardi & Ballarino (2016): OD. *Spain*: Fernández Mellizo-Soto (2014); Ballarino et al. (2009): OE; Bernardi (2012b; 2016): ED, OD; **(3)** Goldthorpe (2007).

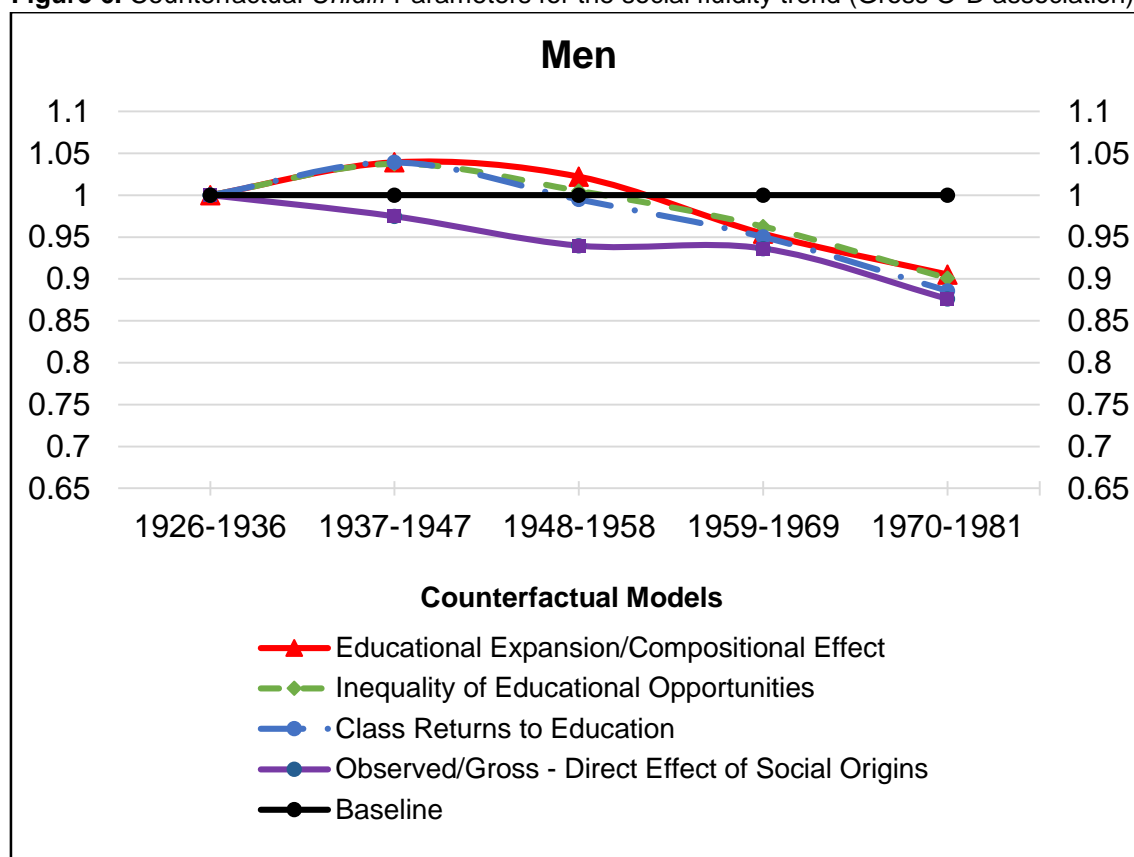
Figure 5. Observed trends over birth cohorts and by gender: Observed (gross) social fluidity trend (OD-C), inequality of educational opportunities (OE-C) and class returns to education (ED-C)



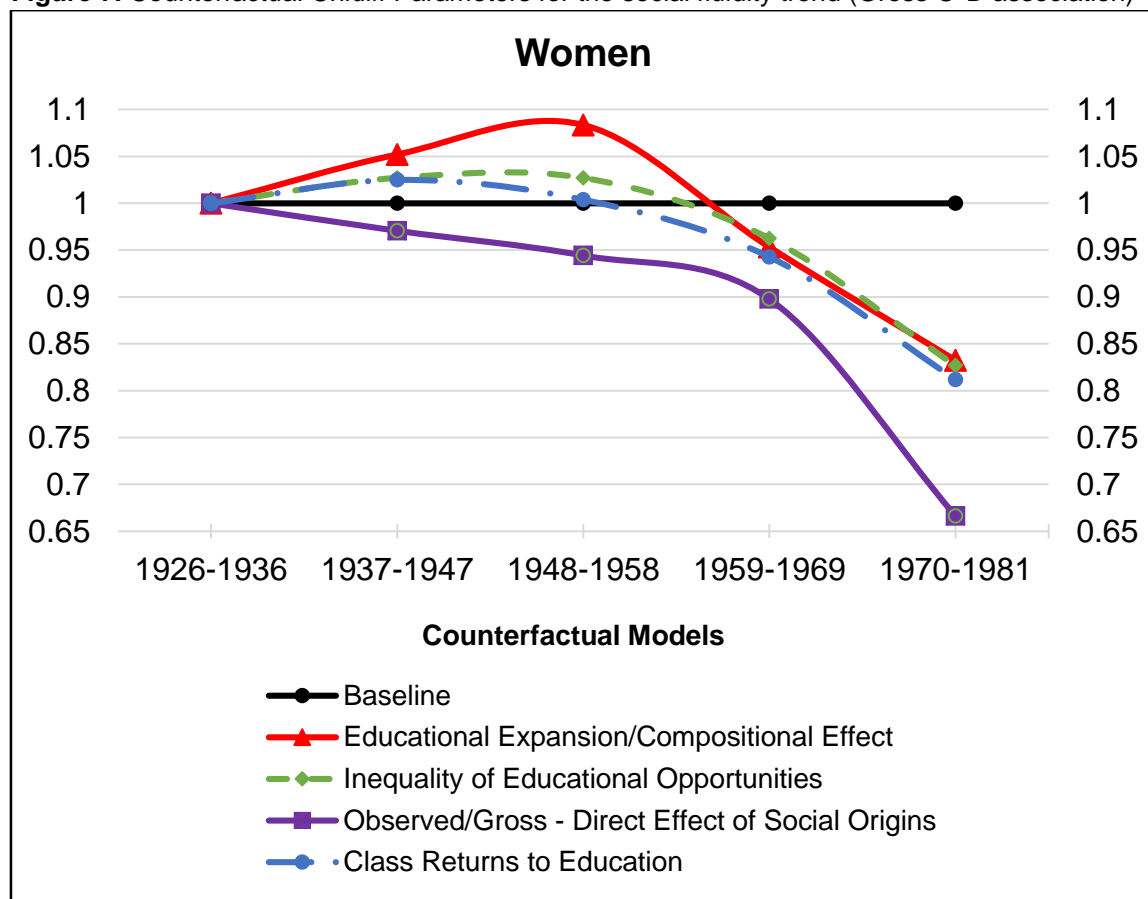
Source: Own elaboration based on ESD-1991; ECV-2005 and ECV-2011 (INE);

Notes: Unidiff parameters from table 1 models. See table 1 for further information on fit statistics

Figure 6. Counterfactual *Unidiff* Parameters for the social fluidity trend (Gross O-D association)



Source: Own elaboration based on ESD-1991; ECV-2005 and ECV-2011 (INE)

Figure 7. Counterfactual *Unidiff* Parameters for the social fluidity trend (Gross O-D association)

Source: Own elaboration based on ESD-1991; ECV-2005 and ECV-2011 (INE)