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Is professional regulation a highway to social immobility at top? Social closure and gendered outcomes in Italy

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Abstract

This article examines how processes of social closure promote persistence at the top of the occupational hierarchy and how it varies by gender. We focus on the link between professional closure strategies and intergenerational immobility in professional employment in Italy. Since Italian professions display the highest levels of service market regulation across Europe and are the largest occupational group within the upper class, analyzing the link between professional closure and social inequality is crucial. ISTAT´s survey on Italian graduates (SPL, 2011), the Origin-Destination association is investigated at big-, meso- and micro-level with log-linear nested models. This sample offers in analyzing social mobility at the beginning of professionals' careers and provide in-depth explanations of micro-level dynamics of social reproduction. The analyses indicate that children of regulated professionals have a higher propensity to follow in their parents' footsteps (micro-classes). Self-employment functions as an independent dimension, which strongly increases intergenerational immobility at top similarly for professionals and larger entrepreneurs (meso- and micro-classes). Finally, it demonstrates that the combination of specific parental resources strongly facilitates professionals' children to avoid social demotion (big-classes).

Keywords: social closure, social mobility, upper class, micro-classes, professional regulation, self-employment, Italy

Introduction

Previous literature has documented that social immobility at the top of the social strata is high in many European countries. Children of professionals have disproportional chances of persistence in the upper class, and this persistency varies by gender (Ruggera and Barone 2017). In this article, we examine how social closure among professional occupational groups affect the intergenerational immobility of the upper class in Italy. Social closure refers to the ability of a group to influence recruitment so that it favours the children of those already in the group, limiting access of others defined as outsiders (Murphy 1988). Social mobility studies have extensively documented the low level of social fluidity in Italy, mostly in favour of men (e.g. Schizzerotto 2002). This is likely due to the professional occupations within the upper class: the level of service market regulation among these occupations is the highest in Europe, and these occupations are the largest occupational group within at top of the occupational ladder. Thus, the country and institutional settings make social closure among professional occupations as a likely explanation for low level of social mobility.

Traditional social mobility studies have been criticized to be inherently descriptive and missing many explanatory and often gendered mechanisms of socioeconomic inheritance that can only be observed at occupational level (Grusky and Sorensen 1998). To overcome these limitations, a suggested approach has been to focus on so-called micro-classes (Weeden and Grusky 2005, 2012). While the added value of this approach has sometimes been questioned (e.g. Goldthorpe 2002), it should be particularly beneficial when analyzing professional occupations. First, the advantages often associated more broadly with the upper social classes are often limited only to professional occupations (Johnsson et al. 2009). Second, the long-term trend of gender desegregation of the labour markets seem to be largely explained by influx of women into the professional occupations where the persisting labour-market obstacles, which still hinder women's achievements, are considerably less obstructive than those in other occupational groups (Grusky and Levanon 2008, Grusky and Charles 2001). Third, professional associations and unions are often professional occupation specific and have incentives to compete over advantages with other occupational groups belonging to the same broader social class (Grusky and Sorensen 2001). Thus, we stress the importance of

professional regulation and self-employment as crucial dimensions undermining the strong heterogeneity in the professional employment (Patterson et al. 2003)

We analyze social closure at big-, meso- and micro-class levels, with log-linear models using ISTAT´s survey on Italian graduates (SPL, 2011). This sample offers a unique opportunity to analyze social mobility at the beginning of professionals´ careers and provide in-depth explanations of micro-level dynamics of social reproduction. For a better understanding, it is necessary to clarify the different conceptualization of social classes within the upper class (specifically the Higher Service class), which basically lies on three approaches of operationalization of social classes. First, standard and micro-occupational class approaches to social mobility emphasize differently the role played by specific-occupation resources transmitted from parents to children (Erikson and Goldthorpe 1992; Grusky 2005; Jonson et al. 2009; Ruggera and Barone 2017). A micro-class is defined as 'a grouping of technically similar jobs that is institutionalized in the labour market through different means, such as an association or union, licensing or certification requirements, or widely diffused understanding regarding efficient or otherwise preferred ways of organizing production and dividing labour' (Grusky 2005, p. 66). Accordingly, micro-classes embody mechanisms (e.g. closure) and traits (e.g. culture) that are often attributed to big-classes (Jonsson et al. 2009). The standard big-class approach is traditionally used in many social mobility studies in Italy and Europe due to different institutional reasons, such as a long tradition of trade unions between both manual and non-manual workers and the large proportion of employees associated with a trade union (according to the Erikson, Golthorpe and Portocarero class scheme). Afterwards, attention is also given to broader set of occupation, such as professional employment. We consider meso-classes as further social class specifications within the upper class (see Erikson and Goldthorpe 1992). Meso-classes are defined as an extension of the EGP (I) social class scheme: larger entrepreneurs, higher-level managers, and higher-level professionals within the higher service class.

Analytically we proceed as follows. First, the level of intergenerational immobility is decomposed into four distinct mechanisms operating at different levels (big-, meso-, micro-) of social classes. Professionals' rigidities are further specified into employed and self-employed professionals. Second, gender variation is assessed at each analytical level, and finally, the link with the level of professional regulation and the role of self-employment in these professions is examined at both meso- and micro-level for both men and women.

Why are sons and daughters of professionals inclined to become professionals themselves?

The children of professionals are more likely to assume professional positions themselves than non-professional positions of equivalent standing, which are defined as managerial positions within the service class (Weeden 2002; Grusky and Sorensen 2001). According to Jonsson *et* al. (2009), the intergenerational transmission of occupation-specific economic, cognitive, cultural, and social capital foster micro-class immobility in the professional employment. Occupational specialized skills transmitted by families to their children are particularly relevant in competing for a specific profession. For example, technical professions, such as engineers and architects, take care of the transfer of technical skills, such as drawing, playing with *Lego* to build houses, bridges, etc. These children are also advantaged in specific subjects in school, and they enroll more often to courses training on technical skills training. These skills are part of a broader socialization connected to the exposure of children to the occupational culture of their professional parents, resulting in the transmission of professional-specific aspirations, values, and ethics. Thus, parallel to on-the-job-skills, children of professionals also develop specific personality characteristics and proactivity appreciated by employers in the corresponding fields. For example, the occupational culture of lawyers celebrates argumentation and rhetoric, and children of these professionals tend to appreciate the characteristics of this profession (Ruggera and Barone 2017).

According to Jonsson *et* al. (2009), professional cultures are formed and maintained around two main conditions: a training regimen that transmits a set of values and way of life and some types of closure processes that ensures that professional members interact principally with one another. Similarly, lawyers undergo intensive training within law school and frequently interact with each other in relatively closed workplaces (i.e. the closure condition), thus creating and sustaining an occupational culture. Therefore, even if professionals' children are exposed to a *wider class culture* that likewise prepares children for professional destinations (i.e. abstract argumentation), when considering specific professions, it is possible to underlie occupation-based transmission of cultural and cognitive resources. Social capital matters on-the-job social networks and contacts of the parents provide children with information about employment opportunities and assistance on practical job-related matters over time. When considering economic

resources, the inheritance of property within self-employment (also defined as fixed-resources) is an exemplar factor able to encourage social class immobility at micro-level, as in the case of children of larger entrepreneurs (meso-class), reflecting the endeavour to avoid social demotion (Breen and Goldthorpe 1997). If following the rational choice perspective, the safest strategy for children of professionals to ensure that objective is to rely on the competitive advantages related to the occupation-specific resources of the family of origin (Jonsson et al. 2009).

These micro-dynamics of professional social reproduction - the transmission from parents to children of cultural, social, cognitive, and economic resources - can be studied applying the micro-class approach to social mobility. It entails an analytical shift from the focus on the overall amount of family resources available to children to more qualitative advantages. The micro-class approach assumes that labour market is divided into occupational groups rather than only larger scale classes, and that each occupational group shares specific socio-cultural resources and social identities. These groups can and do act to further their collective economic interests (Sorensen 2000; Murphy 1988). This is accomplished by closing off opportunities to outsiders, who belong to other social classes and creating conflict between professional groups (Parkin 1979). The prediction does not specify gender differences in the closure processes (Larson 1977).

Sørensen (2000) argues that regulated professions create artificial monopoly in service labour market, limiting the level of internal competition and consequently generating rents to insiders: advantages deriving from rents concern all members of professions; for example, by sometimes disregarding gender inequalities. These processes involve professional associations, which operate as interest organizations and direct their action to policy-makers. Professionals associations impose restrictions based on credentials requirements (educational titles, training, and licenses), shrinking the pool of candidates, and code of conducts, legitimizing artificial professional monopolies (Collins 1971,1979).

On the one hand, credentials increase competitive struggles with other professional groups over market niches, on the other hand, the restrictions promote equalitarian values within a micro-class, implying a replacement of social exclusion based on ascribed criteria (Abbott 1988; Weeden and Grusky 2011). For example, in studies on earning inequality, those who can be defined as insiders - both men and women - benefit from collective action strengthening their economic rewards and social prestige (Bol and Weeden 2015, Weeden 2002). Thus, we should expect gender differences in mobility to

be smaller among professionals, and that daughters of these professionals tend to reproduce the micro-class of their fathers as much as men do.

H1: Both sons and daughters of highly regulated professionals are more incentivized to follow in their parents´ footsteps than children of other social classes.

Closure strategies drive social reproduction in specific professions, fostering transmissions of family occupational resources to their sons and daughters. Parents who are members of regulated professions tend to inculcate values, way of life, and cultures to their children because they can be potential new members of the same occupational groups. Indeed, we argue that both sons and daughters are socialized in the professional world of their parents since a very young age, lowering gender differences through specific cultural capital transmission (Bourdieu 1979; Murphy 1988).

It is well known that sociocultural gender differences exist, with class-specific socialization patterns and cultural beliefs about gender leading to different expectations, educational pathways, and occupational careers for men and women (e.g. Barone 2011). Research applying micro-*educational* stratification approach, covering also the fields of studies that lead to the professions we are considering in this study, asserts that occupational community and social closure theories (at micro-level) explain better educational choices of men than that of women (Ruggera 2016). Women seem to be endowed with more class-wide generic skills through family socialization, leading their educational pathways and occupational careers to be better explained at big- and meso-level (cf. Andrade and Thomsen 2017). Thus, the micro-class and micro-education research suggest that these mechanisms contribute to gender differences in opposite ways, enhancing them in education but reducing in occupational attainment.

According to Erickson and Goldthorpe (1992), property is a main characteristic of larger entrepreneurs, whereas professionals are defined by other means of closure, such as reliance on educational credentials and knowledge (meso-classes). Previous research on social mobility in Italy has shown that property inheritance tends to be more important for men than women (Schizzerotto 2002). Moreover, research at international level assessed women's low presence in the highest levels of corporate power (Gursky and Charles 2001).

However, the inherited wealth may be particularly important for social reproduction of some groups of professionals as well, and even more so for women. Fixed economic resources, such as those of a law firm, are often accessible to the children of self-employed professionals, who also have good chances to inherit the business along with a

client portfolio (see Pellizzari and Orsini 2012). For regulated professions, this type of inherited wealth may be important as it may enhance the rewards followed from the social closure. According to rational action theory, when families make children's attainment related decisions, they tend to prioritize avoiding social demotion before upward mobility (Breen and Goldthorpe 1997). For the children of professionals, the safest strategy to achieve this is to rely on the competitive advantages related to the occupation-specific resources of the family of origin (Jonsson et al. 2009). If the other professional occupations are less accessible for women than men, inherited business wealth may be important for status maintenance of women among professionals. Thus, we expect that:
H2: Social immobility is higher for self-employed regulated professionals than unregulated professions for both men and women.

Micro-classes are not the sole mechanism of social immobility at the top of the occupational hierarchy (Ruggera and Barone 2017). Furthermore, Goldthorpe (2002) emphasised that not all children of doctors want to become a doctor; they probably do not develop aspirations and preferences for that specific professions. Accordingly, a rich literature has demonstrated that professionals as a broader meso-class differ from managers and entrepreneurs in terms of value orientations, political attitudes, and lifestyles (Grusky 2005). Professionals associate more often with members of other professional groups (Larson 1977), who also can act as network resources for their children. Skills and cultural resources of the family also play a crucial role; even if children do not graduate in the same professional domain of their parents, parental background and cultural proximity will help them exploit educational credentials to remain in the same meso-class, rather than moving into other positions within the upper class (managers and entrepreneurs).

There is little evidence on gender inequality in the professionals' social reproduction (Chiesi 1997, Checchi 2010). This is true when maintaining a meso-class position is considered as part of a more general strategy of intergenerational immobility at the top, functioning as *safety nets* for those children who leave their micro-class of origin. It is plausible to expect that gender differences immobility are higher at other parts of the occupation ladder than in the upper class because of two main reasons. First, regulated professionals are incubators of gender equalitarian values; the broader meso-class of professional should act as *safety nets* similarly for sons and daughters of professionals. Second, attaining tertiary education is the main compulsory entry barrier to licensed

professions, and both men and women can exhaust profession-specific parental resources to access that. Thus, we expect

H3: in professional employment, parental resources for those who leave their micro-class of origin increase persistence at the top boosting big-class rigidities similarly for both men and women.

Professional closure in Italy

Regulation in the professional employment increases rewards and advantages in the labour market, which in turn affect intergenerational mobility within the upper class. Thus, the relevance of micro-class structuration at the top reflects the strength of the relationship between education and labour market and varies accordingly across countries (Ruggera and Barone 2017). German and Danish educational systems, even if at different degrees, emphasize occupational specificity and access to occupations is tightly related to the possession of specific vocational certificates along the entire occupational ladder. Moreover, these countries also have a well-established tradition of professional associations that have managed to impose and preserve strict access. At the opposite extreme, Sweden has a more comprehensive educational system in which vocational training is undeveloped and professional regulation is weak. Italy can be placed in the middle of these two extremes. First, Italy has a comprehensive educational system in which vocational training is not as well developed as in Sweden. Second, Italy also has strong professional associations that impose access restrictions to professions, such as educational credentials, that reminds us of the occupational specificity of Germany or Denmark (Ruggera 2016). However, as shown in Table 1, the level of professional regulation in Italy is even higher than that of in Germany. Hence, Italy is an exceptional case where professional regulation, increasing rewards in the labour market, strongly incentivises intergenerational immobility at the top.

Table 1. The index of entry-market regulations by country and profession (2013).

	Engineers	Architects	Legal professions	Accountants	Pharmacists*	Doctors**
Denmark	0.0	0.4	3.7	1.9	2.3	3.5
Germany	2.7	4.1	5.2	5.8	1.6	3.7
Sweden	0.0	0.0	0.0	2.2	6.0	3.5
Italy	3.9	3.9	4.0	4.1	4.8	4.3

Source: OECD sector indicators of regulatory conditions in professional services (see: product market regulation – service market at http://stats.oecd.org/).
* Index for pharmacists is calculated by Patterson *et* al. in (2003). ** Authors' own calculation.

The OECD's index is a useful way to summarize the entry-market professional regulation, reflecting access restrictions and their relative importance. Professions taken into consideration are engineers, architects[1], accountants, lawyers, pharmacists, and doctors. The index does not cover the so-called new professions, such as social workers or nurses. These occupations generally belong to the lower service class in the EGP social class scheme. Similarly, scientific and social sciences professions are not covered by this index because the level of regulation is virtually absent. OECD's index ranges from 0 to 6, where 6 reflects the maximum level of professional legal closure. This index is based on entry requirements accounting for 40 per cent of the overall amount, including duration of university courses or other higher degrees needed to access the profession, duration of compulsory practice, number of professional exams, and number of entry routes to each profession. Licensing counts for another 40 per cent of the index score, defined as the number of exclusive and shared tasks in each professional field. Whereas the remaining 20 per cent concerns the existence of quotas for each profession.

While entry-restrictions increase the value of occupation-resources of the family of origin, excluding outsiders, they lower gender inequality, functioning as gender equality incubators for insiders. Thus, as theorized by closure theorists, exclusion based on educational credentials is further reinforced by other barriers leading to a licensing system (e.g. compulsory training and state exams).

Data, variables, and methods

For the main analyses, we used 'Italian graduates' labour market outcomes' survey collected by ISTAT (SPL, 2011). It is targeted to graduates four years after graduation, thus proving a large sample of graduates - 37.460 valid cases - at the beginning of their professional careers with detailed information on their education, family background, and self-employment. However, because the data are to some extent biased towards upper class offspring (Schizzerotto 2002), in our robustness analyses, we extended our scope to

1 Since engineers and architects display the same level of entry-market regulation, they can be classified, more generally, as technical licensed professions.

full population using Longitudinal Survey on Italian Families – surveys (ILFI, 1997/2005), providing nationally representative sample containing 7,167 observations for the origin-destination association. The robustness of the results obtained with SPL (2011) is confirmed by considering professionals in ILFI data (1997/2005).

We used EGP-class scheme[2] to analyze differences between social classes in both datasets. The class groupings are defined as follows: higher service class (I), lower service class (II), routine non-manual workers (IIIab), self-employed workers (IVab) and farmers (IVc), skilled manual workers (V-VI), and unskilled manual workers (VII). The three meso-classes of entrepreneurs (with at least 9 employees), high-level managers (supervising at least 9 employees), and high-level professionals comprise the higher service class (Erikson and Goldthorpe 1992). Micro-classes of professionals are classified as follows:

a) technical professions (architects and engineers);
b) professionals in life sciences (including pharmacists);
c) medical doctors;
d) legal professions (lawyers, judges, and notaries);
e) professionals in economics (including accountants[3]);
f) non-regulated professionals, including social scientists and professionals in scientific fields[4].

These micro-class distinctions match with the same occupational categories of the OECD index of professional regulation, as reported in Table 1.

We fit a sequence of log-linear models that allowed us to control for the marginal distributions of origins and destinations to estimate relative immobility propensities. We model immobility with topological log-linear models (Xie 1992), differentiating the diagonal cells of the mobility table at each 17 levels. Since our research questions focus on immobility within the higher service class, parameters for the other parts of our table are fitted by controlling margins at the big-class level.

[2] Distributions of frequencies are reported in the appendix section A and B.

[3] According to ILFI data (among graduates), accountant fathers in the professional group of economics are more than 85%, pharmacists and veterinarians are more than 70% in the life science group, and lawyers, judges, and notaries fathers are more than 75% in the legal professions. When considering self-employed professionals all of them are licensed professionals (defined as liberal professionals in the survey).

[4] According to ILFI data (among graduates), psychologist fathers account for less than 8% of this micro-class; indeed, they are not representative of this professional group. Moreover, they are represented by a professional association within a licensure system since 1989; and the level of regulation is not high, because they do not perform any exclusive tasks (since only psychiatrists perform tasks with exclusivity).

To test our hypotheses on immobility, first, we fit models using a design matrix that distinguished differences between immobility (that is, separating estimates for the diagonal cells) at the big-class level. This and other design matrices for immobility are reported in the Online Appendix (see Section A). We then fit models further differentiating immobility within service class at the meso-level, thus differentiating immobility among entrepreneurs, managers, and professionals. Subsequently, we fit models that distinguished immobility at each level of micro-classes. Finally, to asses our hypotheses on the importance of regulation as a means of closure and self-employment, we fit an additional set of models where we, first, distinguished the regulated service class occupations and then the self-employed, separately at meso- and micro-class levels. The nested structure is useful to analyze professionals' social immobility because we assessed the heuristic value of the three analytical approaches and the effect of self-employment dimension.

All models were fitted twice to assess gender differences. Immobility is defined as *homogeneous* when gender differences are held constant; whereas they are *heterogeneous* when they include gender interaction.

Finally, to complete the analysis related to the third hypothesis, logistic regression was employed to estimate the chances of remaining in the higher service class by micro-, meso-, and big-class of origin. The propensity of persisting at the top of the occupational hierarchy was calculated by social class of origin conceptualized at different level (e.g. meso and micro-classes) net of social and demographic control variables.

Results: Gender differences in the micro-class social reproduction at the beginning of the professional careers

Table 2 reports the fit indices of the above-described sequence of log-linear models using SPL (2011) survey. For comparisons among the nested models (e.g. big-class structure net of meso- and micro-classes), we used likelihood ratio tests (column 4) that can be used to contrast models in terms of their fit (expressed by the deviance in column 1) and parsimony (degrees of freedom in column 2). Further, we report the dissimilarity index (column 3), that is, the percentage of cases misclassified by each model.

Panel A in Table 2 considers differences in mobility at big-, meso- and micro-class levels, with and without assuming gender differences. Panel B reports the models considering our hypotheses on professional regulation and self-employment, at both meso- and micro-class levels, once again considering gender differences.

Table 2. *Fit indices of log-linear models of quasi perfect mobility with Big-, Meso- and Micro-class rigidities with regulation and self-employment specification (N. 37.460)*

Model description	**L^2**	**d.f.**	**Δ**	**Significance**
Panel A				
0. Conditional independence	3683.2	512	0.084	-
Big-class rigidities				
1a. + big-classes (Homogeneous)	2033.8	425	0.042	0.000 (M.0)
1b. + big-classes (Heterogeneous)	1863.2	338	0.023	0.000 (M.1b)
Big- and meso-class rigidities				
2a. 1b + meso-classes (Homogeneous)	1663.5	335	0.022	0.000 (M.1a)
2b. 1b + meso-classes (Heterogeneous)	1660.2	332	0.022	0.347 (M.2a)
Big-, meso-, micro-class rigidities				
3a. 2a + micro-classes (Homogeneous)	650.3	329	0.014	0.000 (M.2a)
3b. 2a + micro-classes (Heterogeneous)	645.1	323	0.014	0.636 (M.6a)
Panel B				
4a. 2a + regulated prof. (Homogeneous)	711.0	333	0.015	0.000 (M.2a)
4b. 2a + regulated prof. (Heterogeneous)	710.2	331	0.015	0.997 (M.4a)
Big-, meso-class and self-employed professionals rigidities				
5a. 2a + self-employed prof. (Homogeneous)	748.0	333	0.014	0.000 (M.2a)
5b. 2a + self-employed prof. (Heterogeneous)	746.0	331	0.014	0.367 (M.5a)
Big- and meso-class, regulated and self-employed prof. rigidities				
6a. 4a + self-employed & regulated prof. (Homogeneous)	503.5	329	0.011	0.000 (M.2a)
6b. 4a + self-employed & regulated prof. (Heterogeneous)	492.6	323	0.011	0.092 (M.6a)
Big-, meso-, micro-class, + self-employed prof, (setting self-emp. and employed professionals per each micro-class)				
7a. 3a + self-employed prof. (Homogeneous)	438.1	317	0.010	0.000 (M.3a)
7b. 3a + self-employed prof. (Heterogeneous)	424.7	305	0.009	0.346 (M.7a)

Data: SPL (2011)

The baseline model of conditional independence assumes – unrealistically – that there is no association between social origins and destinations. We used it only for the comparison of the fit indices for the rest of the models, specifically for the first two models regarding the standard big-class models to social mobility. Models la and 1b are yardstick models assuming standard immobility for the higher service class relevant for us to add further model distinctions at meso- and micro-class levels. The design matrix fits each cell of upward, downward mobility and immobility at the big-class level; the cells belonging to the higher service class are collapsed. Thus, it assumes that immobility in service class is the same across the meso- and micro-class groups within it. If Model 1a is compared to the fit statistics of the baseline model, one can see that the reduction of the dissimilarity index is substantial (from 0.84 to 0.42) because the model now captures all social

(im)mobility at the big-class level. Unsurprisingly, the comparison between Models 1a and 1b confirms gender differences at the big class level: assuming gender differences in Model 1b further improves the dissimilarity index to 0.023. This is further confirmed with the chi-squared test reported in the fifth column ($\mathbf{L^{2=}}$2033.8-1863.2=179,6; df =425-338=87; p=0.000).

Models 2a and 2b differentiate immobility within service class at the meso-level. Model 2a fits considerably better than 1a, thus suggesting that it is important to differentiate service class immobility at the meso-level. However, comparison of Models 2a and 2b suggests that at this level, gender differences in immobility are not important: the fit of Model 2b is not significantly higher than Model 2a ($\mathbf{L^{2=}}$1663.5-1660.2=3.3; df =335-332=3; p=0.347). Model 3a further differentiates micro-class rigidities within the meso-class of professionals, while holding gender constant whereas Model 3b allows for gender differences. Again, assuming micro-class differences improves model fits (comparing Models 2a and 2b with Models 3a and 3 ab), when moving from Model 3a to 3b confirms that gender differences are significant ($\mathbf{L^{2=}}$650.3-645.1=5.2; df =329-323=6; p=0.636).

This first set of models allowed testing our first hypothesis. Our interpretation of these results is straightforward. First, the importance of micro-classes for explaining social immobility in the higher service class is evident, in line with previous research (e.g. Ruggera and Barone 2017). Second, the relevant differences in immobility by gender in Italy are related to the distinctions between occupations when moving from big-class level to the meso-classes (in line with Checchi 2010), whereas at both meso- and micro-class levels, social reproduction follows the same pattern for both men and women. To our knowledge, this is the first research comparing micro-class immobility at the top of the occupational hierarchy separately for men and women in Italy; however, for the origin-education association, Ruggera (2016) suggested a lowering gender differences in the professional employment by considering related fields of study at higher tertiary education. Similarities at micro-class level across gender are illustrated in Figure 1. First, these results correspond with the main prediction of the social closure theory (cf. Parkin 1979). Social reproduction among micro-classes in the regulated professions is higher than that for unregulated professionals (Checchi 2010). Second, gender differences are not significant. Both sons and daughters of professionals have better chances to access regulated professions than children of other social classes, thus suggesting for a higher level of gender equality for members of these professions (Murphy 1988).

Figure 1. Micro-class parameters for social immobility in the higher service class across gender. Beta coefficients with confidence intervals extrapolated from Model 3b.

Figure 2 graphically shows the association between professional regulation and micro-class intergenerational immobility by relating the index of service market restrictiveness of each professional group as reported in Table 1 with beta coefficients extrapolated from Model 3b.

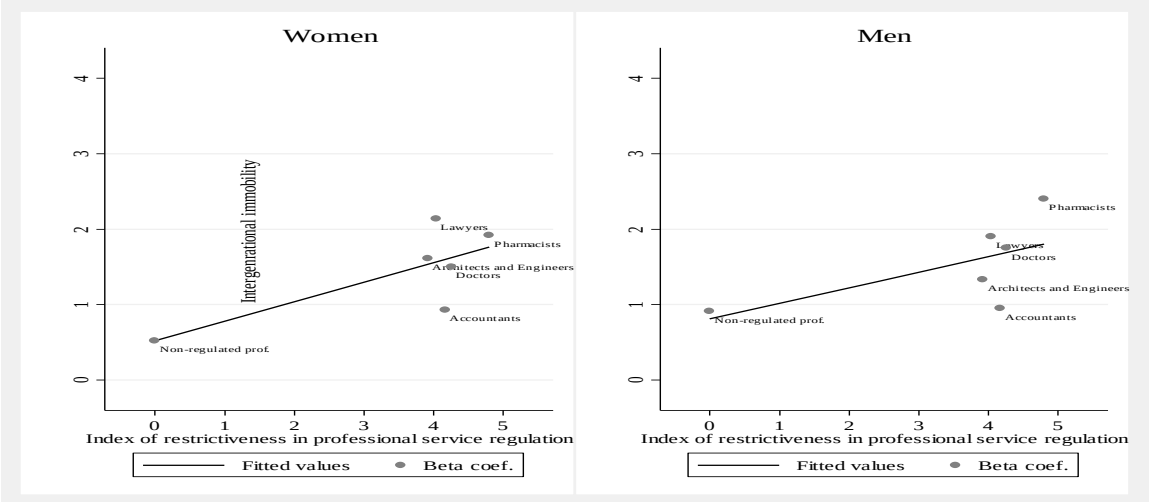

Figure 2. Correlation between entry market regulations in professional occupations (reported in Table 1) and immobility parameters for each micro-class extrapolated from model 3b.

Results in Figure 2 are not meant to prove a genuine causal relationship between regulation and social dynamics, but they highlight that the association between regulation and intergenerational immobility is positive for both men and women, at least at the

descriptive level. Essentially, Figure 2 suggests the main distinction between regulated and unrelated professions, which is tested in the next two models.

Models 4a and 4b differentiate micro-class professionals only according to whether the occupations are regulated or not, instead of differentiating them altogether from each other, like was done in Models 3a and 3b. This distinction improves the model fit significantly when compared to Models 2a and 4a (M2a vs M4a: $\mathbf{L^{2=}}$1663.5-711.0=952.5; df =335-333=2; p=0.000), assuming no differences beyond the meso-level classes in the higher service class. Again, gender differences do not improve the model fit (Model 4a vs. Model 4b).

Similarly, we considered the distinction of the micro-class occupations between self-employed and employed professional. Likewise, Models 5a and 5b fit significantly better than Models 2a and 2b regarding only meso-class distinctions (M2a vs M5a: $\mathbf{L^{2=}}$1663.5-748.0=915.5; df =335-333=2; p=0.000). However, the improvement in the goodness of the fit between Models 2a and 5a was slightly smaller than that of Models 2a and 4a, considering the importance of professional regulation. This leaves us with two options: one concerning the combination of self-employment and regulation (2x2 dimension interaction) as in Models 6a and 6b and one in which the effect of self-employment is detected within each micro-class and hence at different levels of restrictiveness of the service market, as in Models 7a and 7b. Since Models 6b and 7b concern gender differences that were widely proved not significant in the previous models, we concentrated the attention on Models 6a and 7a. Indeed, previous models allowed testing our second hypothesis, confirming that gender interaction is not significant, neither when self-employment is included in the model.

Model 6a displays a higher significance in the goodness of fit model with respect to the previous ones (Models 4a and 5a). Figure 3 provides a clear graphical representation of results from Model 2a (at the top of the figure) on meso-class rigidities and Model 6a (at the bottom of the figure).

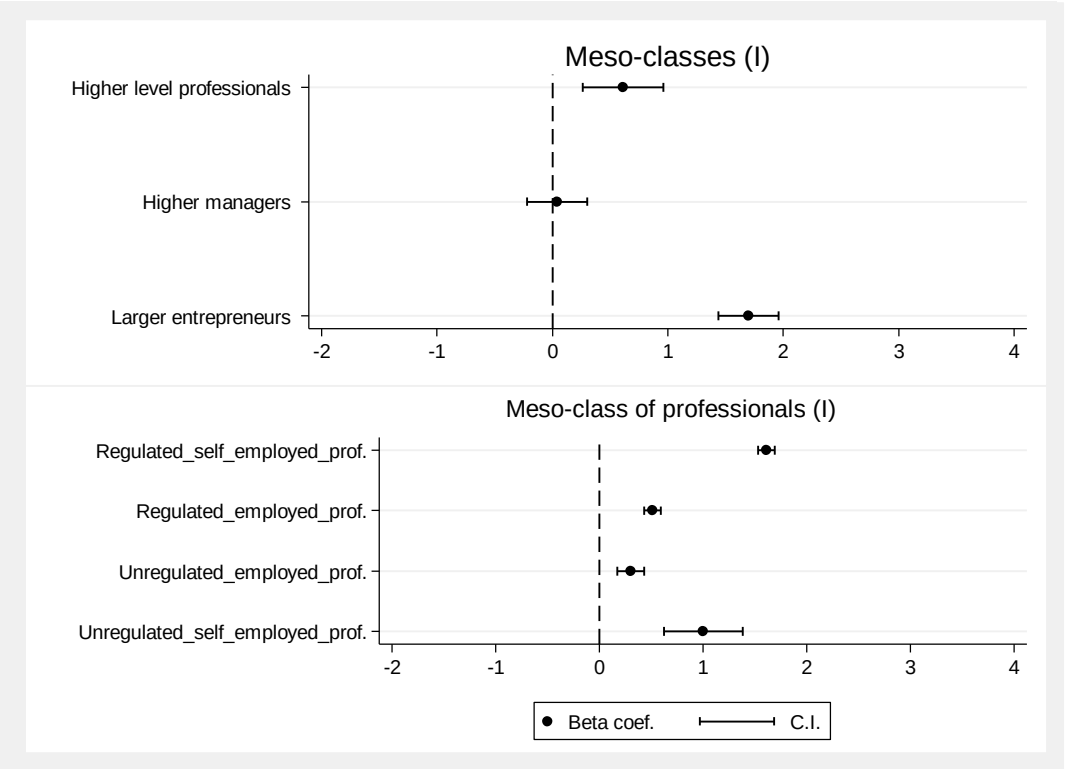

Figure 3. Beta parameters for social immobility for meso-classes and the additional interaction between self-employment and regulation at meso-level. Beta parameters with confidence intervals from Models 2a and 6a.

The comparison of social class conceptualizations represented in Figure 3 shows a clear pattern in terms of meso-class rigidities. While larger entrepreneurs' intergenerational immobility is significantly higher than professionals, the social reproduction of the professionals is not significantly higher than that of higher managers. When differentiating professionals in terms of self-employment and regulation, the picture changes. Despite the means to strengthen professionals' advantages from social closure, only the self-employed professionals in regulated jobs achieve the similar level of immobility as larger entrepreneurs.

A clarification at this point must be made. As reported in the appendix (section C on ILFI data analyses), meso-classes' immobility within the higher service class have been calculated using two different designed surveys. Results obtained in ILFI a sample representative of the entire population – strictly correspond with our main analysis conducted on the large sample concerning only Italian graduates (SPL 2011). This means that the robustness of our analyses is confirmed.

Our log-linear analysis concludes with two models concerning the role of self-employment within each micro-class. It simply means that occupations covered in Figure 1 are further differentiated by the employment situation. Models 7a and 7b improve the goodness of fit at the highest level, but Model 7a is accepted over Model 7b (as already mentioned above in the gender differences discussion). However, by comparing Models 7a and 3a (on micro-classes), we gain 212.2 of L^2, losing 12 degrees of freedom, and by comparing Models 7a and 6a, we gain 65.4 L^2, losing the same degrees of freedom.
Figure 4 shows some examples of this micro-classes' further distinctions extrapolated from Model 7a.

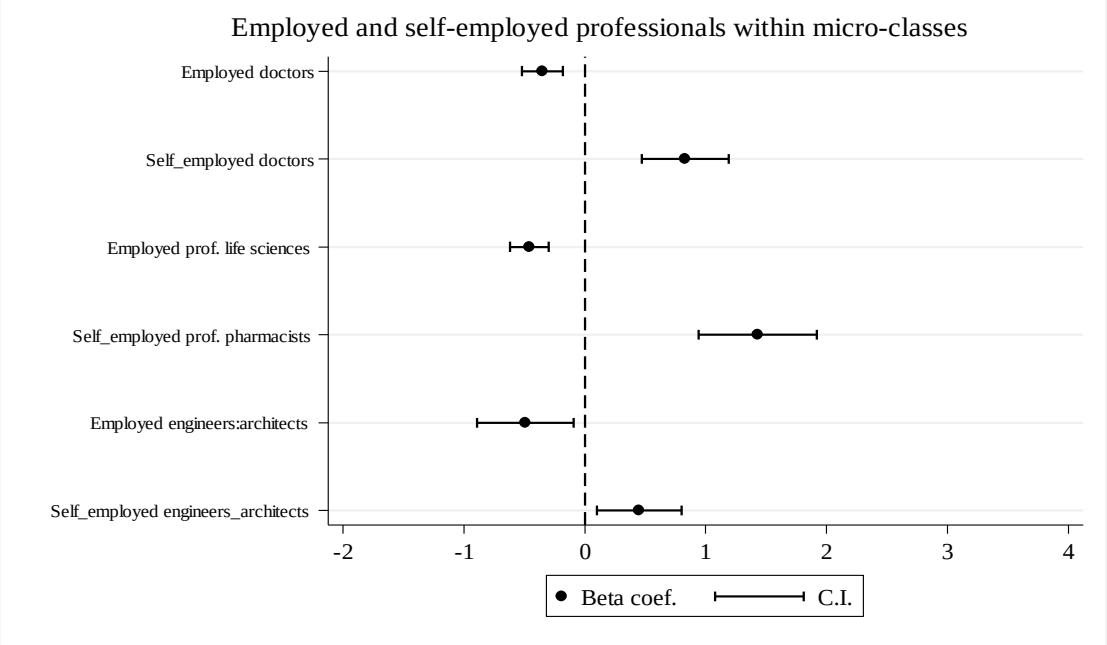

Figure 4. Beta parameters for micro-class social immobility specifying between self-employed and employed within each micro-class. Beta parameters with confidence intervals are extrapolated from model 7a.

In Figure 4, the effect of self-employment on micro-class immobility is clear and consistent with respect to simply employed professionals. On the one hand, these results confirm previous findings, suggesting that self-employment is an independent dimension of social immobility that maintains its own significance even after controlling for micro-level rigidities. Thus, the transmission of fixed economic resources increases the level of intergenerational immobility of various factions within the higher service class (see also Barone and Schizzerotto 2011). On the other hand, business with related client portfolio for professionals are relevant for both genders.

Before proceeding to test our third hypothesis, let us conclude the finding based on the log-linear models. In terms of dissimilarity index and L^2, Models 7a and b to provide best overall fit. Even so, in the whole log-linear analysis, by comparing the accepted model on big-classes that includes gender differences (Model 1b) with the best fits of Models 7a and Model 6a, their L^2 reductions reach 77% and 19 degrees of freedom and 73% and 9 degrees of freedom, respectively. Moreover, the L^2 reduction of Model 3a, even if using the same degrees of freedom as in Model 6a, reaches only the 65% compared to Model 1b. Thus, we argue that based on fit statistics of our log-linear analysis, Model 6a seems to be the best compromise. It shows the most parsimonious and effective way to understand mechanisms of social immobility at top of the occupational hierarchy in Italy, which is produced by the interaction of two crucial dimensions: professional entry-market regulation and self-employment.

Results: Gender differences and professional children's safety nets for social immobility at the top

To test our third hypothesis, we employed logistic regressions models using different specifications of social origins. We studied the role of meso- and micro-classes of origin as a safety net for children of the upper class. In other words, we considered the chances of persistence at the top, as a big-class of destination[5], by differentiating into details of social origins also in terms of self-employment. Results are graphically summarized in Figure 5.

[5] The outcome is dichotomous variable that differentiates the higher service class from all the other classes (see the online appendix section B).

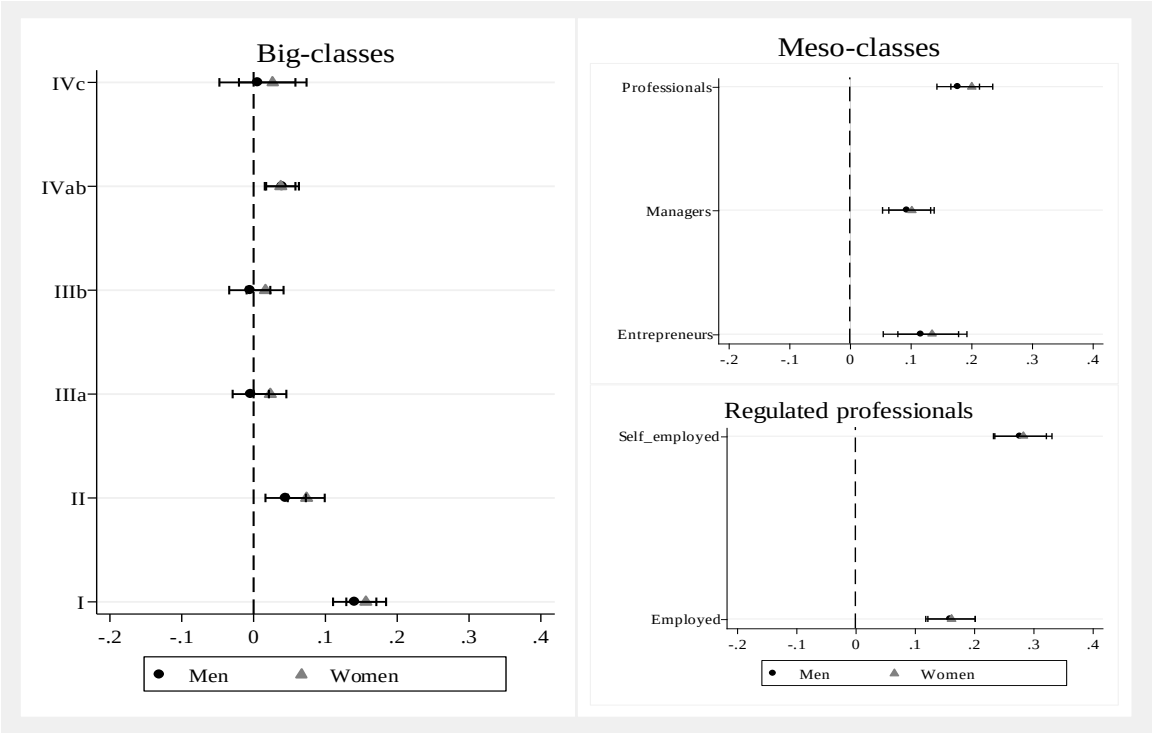

Figure 5. Average marginal effects from logistic regression models for the probability of being in the higher service class by gender and according to big-, meso-classes, and regulated employed and self-employed professionals (ref. cat. working-class V-VII). Estimates are at net of controls (age, parental education, nationality, geographical area). Black dots denote the AME of social classes for men and the grey triangle for women, and black lines denote 95% confidence intervals. Legend: higher service class (I), lower service class (II), white collars (IIIa), routine non–manual workers (IIIb), petite bourgeoisie (IVab), farmers (IVc). Source: ISTAT- Sbocchi professionali dei laureati (SPL,2011).

First, we assessed big-class rigidities. Children of the higher service class displayed greater chances to avoid social demotion than other social classes; specifically, AME reached 14 and 15.6 percentage points for men and women, respectively[6]. Second, we considered meso-classes within the higher service class: professionals' social immobility at the top is not significantly different with respect to that of large entrepreneurs, but it is slightly higher than that of higher mangers. Third, we added two main distinctions in the professional employment concerning regulation and self-employment, as suggested by log-linear Model 6a in the previous section. Our results show that safety nets work even better for children of self-employed professionals[7] than for children of larger entrepreneurs; indeed, even after leaving the specific micro-class of origin, children of regulated professionals have a higher propensity to remain in the higher service class. The greatest chance to remain in the higher service class concerns both sons and daughters of

[6] Significant probabilities are also found for children of the lower service class (4.4 and 7 for men and women, respectively) and children of the petite bourgeoisie (almost 4 percentage points for both men and women).
[7] Results for the analysis of self-employment and regulation are also examined separately, as reported in the online appendix section D.

self-employed regulated professionals (almost 28 percentage points for both genders), and it is even higher than that of children of larger entrepreneurs.

Comparing results from Figures 3 and 5, we derive two main considerations. First, meso-class of professionals as a broader set of occupations shows a limited heuristic value in evaluating professions' mechanisms of social immobility at the top because it does not allow catching the two distinctions in the professional employment related to regulation and self-employment, which are the crucial combination to avoid social demotion (e.g. Barbagli and Schizzerotto 1997). Second, there are no significant gender differences in the safety nets functioning, especially considering the efficient role played by property and regulation for the intergenerational immobility at the top.

Conclusive considerations

This article proves the fruitfulness of social closure predictions by explaining social immobility. It shows that closure works through two main dimensions, self-employment and the concept of property, professional business, and client portfolio, which defined both larger entrepreneurs and professionals at the top of the occupational ladder. On the one hand, processes of social reproduction come to light evidently when employed a non-standard approach to social mobility: the heuristic value of micro-class was proven useful to show the correlation between regulation and professional social immobility even if our results were only suggestive of genuine causal relationships; in fact, only bivariate association were detected. On the other hand, social closure beneficially addresses a higher level of gender equality within micro-class with stronger level of professional regulation, for which education, knowledge, and cognitive resources are more important for intergenerational immobility than ascribed characteristics as gender.

Regulation in the professional employment linked to self-employment enhances economic rewards of members of professions, and thus specific transmission of parental resources takes place by closing off opportunities to outsiders. It has proven that outsiders are not only children of the lower classes but also those children or unregulated professions who are not provided with occupation-specific resources, such as cognitive, cultural, social, and fixed economic resources. Implications for policy interventions can be easily linked to social exclusion and equality of opportunity. Our considerations of this article's results relate to a more equal regulation in the professional employment, specifically regarding entry-market regulation. Incentives to enter highly regulated

professions for children of lower classes rise in the first place by lowering down the costs of failure, not only at educational level but also by succeeding in the steps that regulate the access to professions. Licensing systems are articulated by long and expansive steps after education that only when occupation-specific resources are in played seem to incentivise children to follow the winding path related to Italian licensed professions. However, if professions promote the use of credentials and licensing as main occupational closure strategies, they can also serve as a flywheel for gender equality. Social policy implications emerging from this study concern regulations that act as a lever for gender egalitarian values promotion, whereas increases social exclusion for children of other social classes. Hence, since a general expansion of education is not in discussion, a more equal distribution of regulation in professional employment must be considered undoubtedly relevant to increase gender equality and decrease social inequality based on family resources.

Our suggestions for further research on this topic are not only to consider a micro-class approach to underlie processes of social exclusion and related implications for policy interventions and evaluations, but also to consider regulation and self-employment as meso-class level specifications for both men and women. Even if micro-classes are beneficial in capturing professional's social immobility, combining self-employment and regulation at meso-class level improves understanding and captures processes of immobility at the top in a very parsimonious way. Finally, further studies should consider the role of mothers' occupational positions in detail, by employing other surveys also in a comparative perspective, at least at meso-class level and related specifications as suggested in this article.

References

Abbott, A. (1988) *The system of professions: an essay on the division of expert labour*, Chicago, Chicago University Press.

Barbagli, M. and Schizzerotto A., (1997) 'Classi, non caste. Mobilità tra generazioni e opportunità di carriera in Italia' *il Mulino*, 46: 547-557.

Barone, C. and Schizzerotto, A. (2011) 'Career mobility, education, and intergenerational reproduction in five European societies' *European Societies*, 13: 377-400.

Bourdieu, P. (1979) *La distinction: Critique sociale du jugement*, Paris, Minuit; trad. it. La distinzione: Critica sociale del gusto, Bologna, Il Mulino, 1983.

Breen, R. and Goldthorpe, J.H. (1997) 'Explaining educational differentials: towards a formal rational action theory' *Rationality and Society*, 9: 275-305.

Bol T. and Weeden K. (2015) 'Occupational closure and wage inequality in Germany and the United Kingdom' *European Sociological Review*, 31: 354–369.

Checchi, D. (2010) *Immobilità diffusa: perché la mobilità intergenerazionale è così bassa in Italia*, Bologna, Il Mulino.

Chiesi, A.M. (1997) *Lavori e professioni. Caratteristiche e mutamenti dell'occupazione in Italia*, Roma, La Nuova Italia Scientifica.

Collins, R. (1975) *Conflict Sociology: Toward an Explanatory Science*, New York, Academic Press.
(1979) *The Credential Society: An Historical Sociology of Education and Stratification*, Orlando, Academic Press.

Erikson, R. and Goldthorpe, H. (1992) *The Constant Flux*, Oxford: Oxford University Press.

Fabbri, F. and Rossi, N. (1997) 'Caste, non classi. Una società immobile' *il Mulino*, 1: 110-116.

Goldthorpe, J. H. (2002) 'Occupational Sociology, Yes: Class Analysis, No: Comment on Grusky and Weeden's Research Agenda' *Acta Sociologica*, 45: 211-217.

Grusky, D. B. (2005) *Foundations of a Neo-Durkheimian Class Analysis*, in Approaches to Class Analysis, (eds.) E. O. Wright (pp. 51–81). Cambridge, Cambridge University Press.

Grusky, D. B., and Charles, M. (2001) *Is There a Worldwide Sex Segregation Regime?*" Pp. 689-703 in Social Stratification: Class, Race, and Gender in Sociological Perspective (Second Edition), edited by David B. Grusky. Boulder: Westview Press.

Grusky, D. B., and Levanon, A. (2008) *Four Gloomy Futures for Sex Segregation*, Pp. 812-25 in Social Stratification: Class, Race, and Gender in Sociological Perspective, 3rd edition, edited by David B. Grusky, Manwai C. Ku and Szonja Szelényi. Boulder: Westview Press.

Grusky, D. B., and Sørensen, J. B. (1998) 'Can Class Analysis Be Salvaged?' *American Journal of Sociology*, 103:1187–1234.
(2001) *Are There Big Social Classes?* in Social Stratification: Class, Race, and Gender, (Ed.) D. B. Grusky, (pp. 183–194). Boulder, Westview Press.

Grusky, D. B. and Weeden, K. A. (2011) *Is Market Failure Behind the Takeoff in Income Inequality*? The Inequality Reader: Contemporary and Foundational Readings in Race, Class, and Gender, Boulder, Westview.

Jonsson, J. O., Grusky D. B., Di Carlo M., Pollak R. and Brinton M. C. (2009) 'Microclass Mobility: Social Reproduction in Four Countries', *American Journal of Sociology*, 114: 977-1036.

Larson, M. S. (1977) *The Rise of Professionalism*, Berkeley, University of California Press.

Murphy, R. (1988) *Social Closure: The Theory of Monopolization and Exclusion*, Oxford, Clarendon Press.

Parkin, F. (1979) *Marxism and Class Theory: A Bourgeois Critique*, New York, Columbia University Press.

Patterson, I., Fink, M. and Ogus, A. (2003) 'The economic impact of regulation in the field of liberal professions in different Member States', Regulation of Professional Services. *Study for the European Commission*, DG Competition, www.ec.europa.eu.

Pellizzari, M. and Orsini, J. (2012) *Dinastie d'Italia: Gli ordini tutelano davvero i consumatori*?, Milano, Università della Bocconi Editore.

Ruggera L. (2016) 'Professioni licenziate e lauree conseguite' *Polis*, 1: 61-86.

Ruggera, L. and Barone, C. (2017) 'Social closure, micro-class immobility and the intergenerational reproduction of the upper class: a comparative study' *British Journal of Sociology*, 68: 194-214.

Schizzerotto, A. (2002) *Vite ineguali. Disuguaglianze e corsi di vita nell'Italia contemporanea*, Bologna, Il Mulino.

Sørensen, A. B. (2000) 'Toward a sounder basis for class analysis' *American Journal of Sociology*, 105: 1523–1558.

Weeden, K. A. (2002) 'Why do Some Occupations Pay More than Others? Social Closure and Earnings Inequality in the United States' *American Journal of Sociology*, 108(1), 55-101.

Weeden, K. A. and Grusky D. B. (2005) 'The Case for a New Class Map' *American Journal of Sociology*, 111: 141-212.
2012 'The Three Worlds of Inequality' *American Journal of Sociology*, 117: 1723-1785.

Xie, Y. 1992 'The Log-Multiplicative Layer Effect Model for Comparing Mobility Tables', *American Journal of Sociology*, 101: 950–92.

Supplementary materials

Online appendix

Section A

Frequency distributions of social origins and destinations

Table 1A. *Distribution of frequencies of social class of origin considering self-employment within micro-classes of professionals – EGP scheme*

EGP	%
High level entrepreneur (I)	1.4
High level manager (I)	4.7
Non-regulated prof. employed(I)	5.6
Non-regulated prof. self-employed (I)	1.0
Eng. arch. employed (I)	4.0
Eng. arch. self-employed (I)	2.4
Prof. in Life sciences – as pharm. emp. (I)	4.6
Prof. in Life sciences – as pharm. self-emp. (I)	1.2
Medical doctor – self-employed (I)	1.1
Medical doctor – employed (I)	0.4
Economics employed	3.6
Economics self-employed (account.)	1.0
Legal Professionals emp. (I)	0.4
Legal Professionals self emp. (I)	1.4
Low service class (II)	13.9
Routine non-manual (III)	23.8
Working class (V-VII)	37.55
Total (N)	100
	(37.460)

Source: SPL, ISTAT 2011

Table 2A. *Distribution of frequencies of social class of destination considering self-employment within micro-classes of professionals – EGP scheme*

EGP	%
High level entrepreneur (I)	0.2
High level manager (I)	1.2
Non-regulated prof. employed (I)	1.7
Non-regulated prof. self-employed (I)	0.2
Eng. arch. employed (I)	1.4
Eng. arch. self-employed (I)	1.3
Prof. in Life sciences – as pharm. empl. (I)	0.4
Prof. in Life sciences – as pharm. self-empl. (I)	0.2
Medical doctor – self-employed (I)	3.0
Medical doctor – employed (I)	1.3
Economics prof. employed (I)	1.3
Economics prof. self-employed -accountants (I)	0.5
Legal Professionals emp. (I)	0.3
Legal Professionals self emp. (I)	0.8
Low service class (II)	10.4
Routine non-manual (III)	27.9
Working class (V-VII)	2.0
Total (N)	100
	(37.460)

Source: SPL, ISTAT 2011

Design matrix for different approaches and dimensions

Tab 3A Big-classes in Model 1a and 1b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Entrepreneurs	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	5	6	7
2. Managers	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	8	9	10
3. Arch. engin. empl.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	11	12	13
4. Arch. eng. self-emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	14	15	16
5. Life sc. empl.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	17	18	19
6. Life sc. self-emp	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	20	21	22
7. Doctors emp	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	23	24	25
8. Doctors self emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	26	27	28
9. Econ.prof. empl.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	29	30	31
10. Account. self-emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	32	33	34
11. Legal pr. emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	35	36	37
12. Legal pr. self-emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	38	39	40
13. unreg prof emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	41	42	43
14. unreg prof self-emp.	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	44	45	46
15. II	51	52	53	54	55	56	57	58	59	60	61	62	63	64	2	47	48
16. III	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	3	49
17. IV-VII	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	4

Legend: II: lower service class; III routine non-manual workers; IV-VII: self-employed and skilled unskilled manual workers.

Table 4A Meso-class rigidities – Model 2a and 2b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Entrepreneurs	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Managers	1	**3**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3. Arch. engin. empl.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
4. Arch. eng. self-emp.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
5. Life sc. empl.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
6. Life sc. self-emp	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
7. Doctors emp	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
8. Doctors self emp.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
9. Econ.prof. empl.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
10. Account. self-empl.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
11. Legal pr. emp.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
12. Legal pr. self-emp.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
13. unreg prof emp.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
14. unreg pr. self emp.	1	1	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1	1	1
15. II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16. III	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17. IV-VII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Legend: II: lower service class; III routine non-manual workers; IV-VII: self-employed and skilled unskilled manual workers.

Table 5A Meso-class rigidities – Model 3a and 3b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Entrepreneurs	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Managers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3. Arch. engine. empl.	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1
4. Arch. eng. self-emp.	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1
5. Life sc. empl.	1	1	1	1	**3**	**3**	1	1	1	1	1	1	1	1	1	1	1
6. Life sc. self-emp	1	1	1	1	**3**	**3**	1	1	1	1	1	1	1	1	1	1	1
7. Doctors emp	1	1	1	1	1	1	**4**	**4**	1	1	1	1	1	1	1	1	1
8. Doctors self-emp.	1	1	1	1	1	1	**4**	**4**	1	1	1	1	1	1	1	1	1

9. Econ.prof. empl.	1	1	1	1	1	1	1	1	**5**	**5**	1	1	1	1	1	1	1
10. Account. self-empl.	1	1	1	1	1	1	1	1	**5**	**5**	1	1	1	1	1	1	1
11. Legal pr. emp.	1	1	1	1	1	1	1	1	1	1	**6**	**6**	1	1	1	1	1
12. Legal pr. self-emp.	1	1	1	1	1	1	1	1	1	1	**6**	**6**	1	1	1	1	1
13. Unreg .pr. emp.	1	1	1	1	1	1	1	1	1	1	1	1	**7**	**7**	1	1	1
14. Unreg. pr. self-emp.	1	1	1	1	1	1	1	1	1	1	1	1	**7**	**7**	1	1	1
15. II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16. III	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17. IV-VII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Legend: II: lower service class; III routine non-manual workers; IV-VII: self-employed and skilled unskilled manual workers.

Table 6A Regulated and unregulated professionals – Model 4a and 4b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Entrepreneurs	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Managers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3. Arch. engine. empl.	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1
4. Arch. eng. self-emp.	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1
5. Life sc. empl.	1	1	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1	1	1
6. Life sc. self-emp	1	1	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1	1	1
7. Doctors emp	1	1	1	1	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1
8. Doctors self-emp.	1	1	1	1	1	1	**2**	**2**	1	1	1	1	1	1	1	1	1
9. Econ.prof. empl.	1	1	1	1	1	1	1	1	**2**	**2**	1	1	1	1	1	1	1
10. Account. self-empl.	1	1	1	1	1	1	1	1	**2**	**2**	1	1	1	1	1	1	1
11. Legal pr. emp.	1	1	1	1	1	1	1	1	1	1	**2**	**2**	1	1	1	1	1
12. Legal pr. self-emp.	1	1	1	1	1	1	1	1	1	1	**2**	**2**	1	1	1	1	1
13. Unreg .pr. emp.	1	1	1	1	1	1	1	1	1	1	1	1	**3**	**3**	1	1	1
14. Unreg. pr. self-emp.	1	1	1	1	1	1	1	1	1	1	1	1	**3**	**3**	1	1	1
15. II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16. III	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17. IV-VII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Legend: II: lower service class; III routine non-manual workers; IV-VII: self-employed and skilled unskilled manual workers.

Table 7A Employed and self-employed professionals – Model 5a and 5b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Entrepreneurs	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Managers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3. Arch. engin. empl.	1	1	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4. Arch. eng. self-emp.	1	1	1	**3**	1	1	1	1	1	1	1	1	1	1	1	1	1
5. Life sc. empl.	1	1	1	1	**2**	1	1	1	1	1	1	1	1	1	1	1	1
6. Life sc. self-emp	1	1	1	1	1	**3**	1	1	1	1	1	1	1	1	1	1	1
7. Doctors emp	1	1	1	1	1	1	**2**	1	1	1	1	1	1	1	1	1	1
8. Doctors self emp.	1	1	1	1	1	1	1	**3**	1	1	1	1	1	1	1	1	1
9. Econ.prof. empl.	1	1	1	1	1	1	1	1	**2**	1	1	1	1	1	1	1	1
10. Account. self-em.	1	1	1	1	1	1	1	1	1	**3**	1	1	1	1	1	1	1
11. Legal pr. emp.	1	1	1	1	1	1	1	1	1	1	**2**	1	1	1	1	1	1
12. Legal pr. self-emp.	1	1	1	1	1	1	1	1	1	1	1	**3**	1	1	1	1	1
13. Unreg prof emp.	1	1	1	1	1	1	1	1	1	1	1	1	**2**	1	1	1	1
14. Unreg pr. self-emp.	1	1	1	1	1	1	1	1	1	1	1	1	1	**3**	1	1	1
15. II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16. III	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17. IV-VII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Legend: II: lower service class; III routine non-manual workers; IV V-VII self-employed workers and skilled unskilled manual workers.

Table 8A Employed and self-employed professionals – Model 5a and 5b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Entrepreneurs	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Managers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3. Arch. engin. empl.	1	1	**2**	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4. Arch. eng. self-emp.	1	1	1	**3**	1	1	1	1	1	1	1	1	1	1	1	1	1
5. Life sc. empl.	1	1	1	1	**4**	1	1	1	1	1	1	1	1	1	1	1	1
6. Life sc. self-emp	1	1	1	1	1	**5**	1	1	1	1	1	1	1	1	1	1	1
7. Doctors emp	1	1	1	1	1	1	**6**	1	1	1	1	1	1	1	1	1	1
8. Doctors self emp.	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1	1	1	1
9. Econ. prof. empl.	1	1	1	1	1	1	1	1	**8**	1	1	1	1	1	1	1	1
10. Account. self-emp.	1	1	1	1	1	1	1	1	1	**9**	1	1	1	1	1	1	1
11. Legal pr. emp.	1	1	1	1	1	1	1	1	1	1	**10**	1	1	1	1	1	1
12. Legal pr. self-emp.	1	1	1	1	1	1	1	1	1	1	1	**11**	1	1	1	1	1
13. Unreg prof emp.	1	1	1	1	1	1	1	1	1	1	1	1	**12**	1	1	1	1
14. Unreg pr. self-emp.	1	1	1	1	1	1	1	1	1	1	1	1	1	**13**	1	1	1
15. II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16. III	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17. IV-VII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Legend: II: lower service class; III routine non-manual workers; IV V-VII self-employed workers and skilled unskilled manual workers.

Section B

Distribution of frequencies of variables

Table 1B Distribution of frequencies of the dichotomy of the outcome variable

Higher service class	%	Higher service class	%
Women		Men	
Higher service class (I)	67.80	Higher service class (I)	56.09
II/VII	32.20	II/VII	43.91
Total	100	Total	100
(N)	(18.882)	(N)	(17.575)

Source: SPL, ISTAT 2011

Table 2B Distribution of frequencies of EGP big-classes for social origin

EGP Men	%	EGP Women	%
I	21.95	I	24.50
II	18.71	II	16.86
IIIa	14.21	IIIa	13.36
IIIb	17.43	IIIb	15.28
IVab	9.34	IVab	9.19
IVc	16.26	IVc	18.62
VII	2.10	VII	2.19
Total	100	Total	100
(N)	(17.575)	(N)	(18.882)

Source: SPL, ISTAT 2011

Table 3B Distribution of frequencies of EGP meso-classes for social origin

EGP Meso Men	%	EGP Meso Women	%

Larger Ent.	1.50	Larger Ent.	1.57
High. managers	5.24	High. manager	4.54
Profes.	11.97	Profes.	10.75
II	18.71	II	16.86
IIIa	14.21	IIIa	13.36
IIIb	17.43	IIIb	15.28
IVab	9.34	IVab	9.19
IVc	16.26	IVc	18.62
VII	2.10	VII	2.19
Total	100	Total	100
(N)	(17.575)	(N)	(18.882)

Source: SPL, ISTAT 2011

Table 4B Distribution of frequencies of EGP meso-classes, with professional regulation distinctions for social origin

EGP Meso Men	%	EGP meso Women	%
Larger Ent.	1.50	Larger Ent.	1.57
High. managers	5.24	High. managers	4.54
Prof. reg.	1.85	Prof. reg.	1.69
Prof. non reg.	9.76	Prof. non reg.	8.72
II	18.71	II	16.86
IIIa	14.21	IIIa	13.36
IIIb	17.43	IIIb	15.28
IVab	9.34	IVab	9.19
IVc	16.26	IVc	18.62
VII	2.10	VII	2.19
Total	100	Total	100
(N)	(17.575)	(N)	(18.882)

Source: SPL, ISTAT 2011

Table 5B Distribution of frequencies of EGP meso-classes, with professional regulation distinctions for social origin

EGP Meso Men	%	EGP Meso Women	%
Larger Ent.	1.50	Larger Ent.	1.57
High. managers	5.24	High. managers	4.54
Prof. reg. employed	1.66	Prof. reg. employed	1.46
Prof. reg. self-emp.	0.20	Prof. reg. self-emp.	0.23
Prof. non reg. employed	5.69	Prof. non reg. employed	5.20
Prof. non reg. self-emp.	4.07	Prof. non reg. self-emp.	3.53
II	18.71	II	16.86
IIIa	14.21	IIIa	13.36
IIIb	17.43	IIIb	15.28
IVab	9.34	IVab	9.19
IVc	16.26	IVc	18.62
VII	2.10	VII	2.19
Total	100	Total	100
(N)	(17.575)	N	(18.882)

Source: SPL, ISTAT 2011

Control variables for logistic regression models estimating propensity for being in the higher service class

Table 6B: *Distribution of frequencies of control variables*

Father education	%	Geogr. areas	%	Gender	%
Until lower secondary	34.4	North-West	27.0	Male	45.6
Upper secondary	41.3	North - East	11.5	Female	54.4
University level	24.3	Centre	31.6		
		South	20.7		
		Islands	9.3		
Total	100	Total	100	Total	100
(N)	(36.457)	(N)	(36.457)	(N)	(36.457)

Source: SPL, ISTAT 2011

Section C

Figure 1C shows results for the propensity of being in the higher service class according to big- and meso-classes. We do not present results for men and women separately; because results do not present significant differences (estimates are net of education). Controls concern cohort of birth, geographical areas, gender, education, nationality.

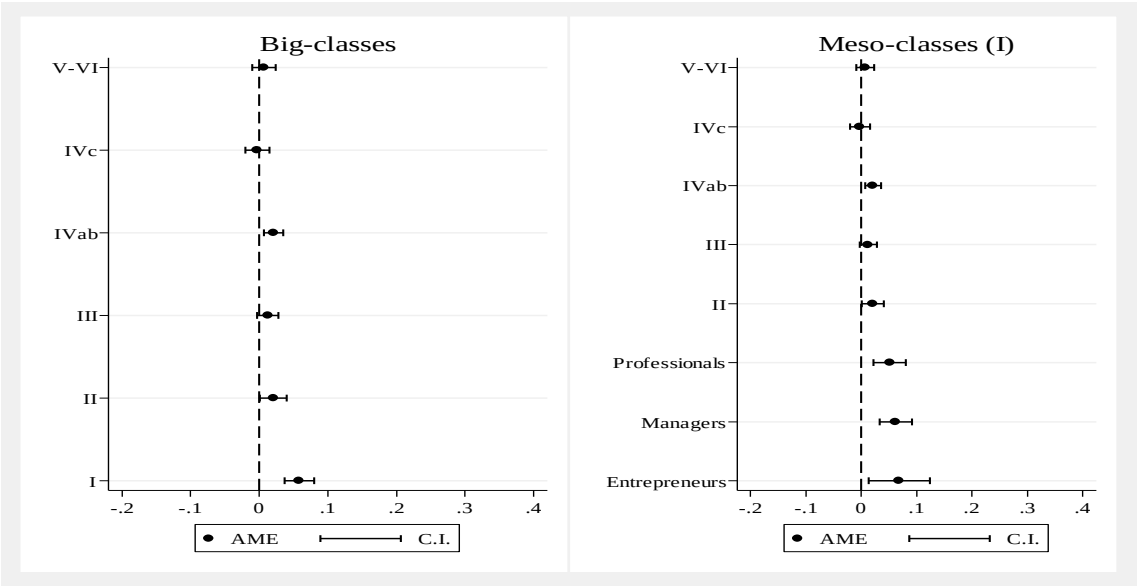

Figure 1C Average marginal effects from logistic regression models for the probability of being in the higher service class according to big- and meso-classes (ref. cat. working-class VII). Estimates are at net of controls (gender, geographical areas, cohort of birth, and education). Black dots denote the AME of social classes for men, and the gray triangle for women and black lines denote 95% confidence intervals. Legend: higher service class (I), lower service class (II), routine non–manual workers (III), petite bourgeoisie (IVab), farmers (IVc), skilled manual workers (V-VI). Source: ILFI (1997-2005).

The following table presents goodness of the fits of log-linear models concerning immobility modelled with quasi perfect mobility design, on the male population (Xie 1992) Table 2 reports the fit indices of the above-described sequence of log-linear models on sample representative of the entire Italian population (ILFI survey). For comparisons among nested models, we use likelihood ratio tests (column 4) that contrast models in

terms of their fit (expressed by the deviance in column 1) and parsimony (degrees of freedom in column 2); the dissimilarity index: the percentage of cases misclassified by each model (in column 3).

Table 1C. Fit indices of log-linear model of quasi perfect mobility with Big-, Meso-, and Micro-class rigidities

Model description	L^2	d.f.	Δ	Significance
0.Independence Model	1938.07	144	0.180	
1. Big-class rigidities	967.01	137	0.105	(M0. 0.000)
2. Big- and –meso class rigidities	934.88	134	0.104	(M1. 0.000)
3. Big- meso- and regulated professions	927.47	132	0.104	(M1. 0.000) (M2. 0.018)
4. Big-, meso- and micro-class rigidities	923.10	129	0.103	(M1. 0.000) (M2. 0.034)

Source: ILFI (1997-2005)

The baseline model of conditional independence is a basic model which unrealistically supposed a miss relationship between social origins and destinations. Models 1a and 1b, instead, are a yardstick for the comparison with other more models pertaining immobility within the higher service class. Model 1 add only big-class rigidities and Model 2 add three additional parameters capturing meso-class rigidities within the higher service class. Model 3 Model 4 incorporate immobility mechanisms for regulated professionals and for micro-classes. The improvement of the goodness of fits highlights three main conclusions. First, the heuristic value of standard approach to social immobility is undebatable relevant; second, meso-classes are useful to furtherly capture immobility at top; third, micro-classes of professionals are slightly significant (p-value < 0.05), and that the distinction between regulated and unregulated professionals is capable to summarize differences within professionals. However, even if the reduction of L^2 for micro-classes is not huge, at a pure descriptive level, the association between regulation and professional groups social reproduction (reported in Figure 2C) is positive and in line with our main analysis on Italian graduates.

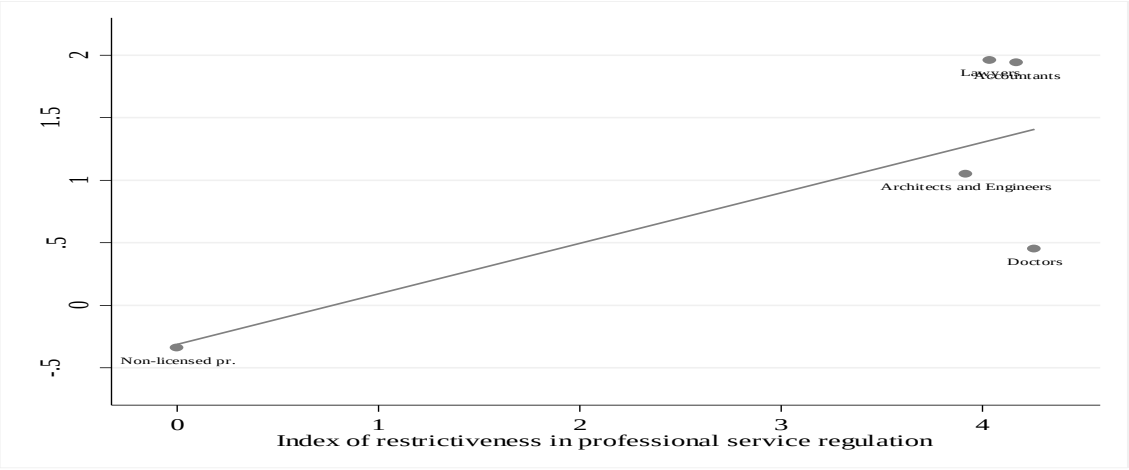

Figure 2C: The relationship between entry market regulations in professional occupations and immobility parameters for each micro-class for men.

Section D

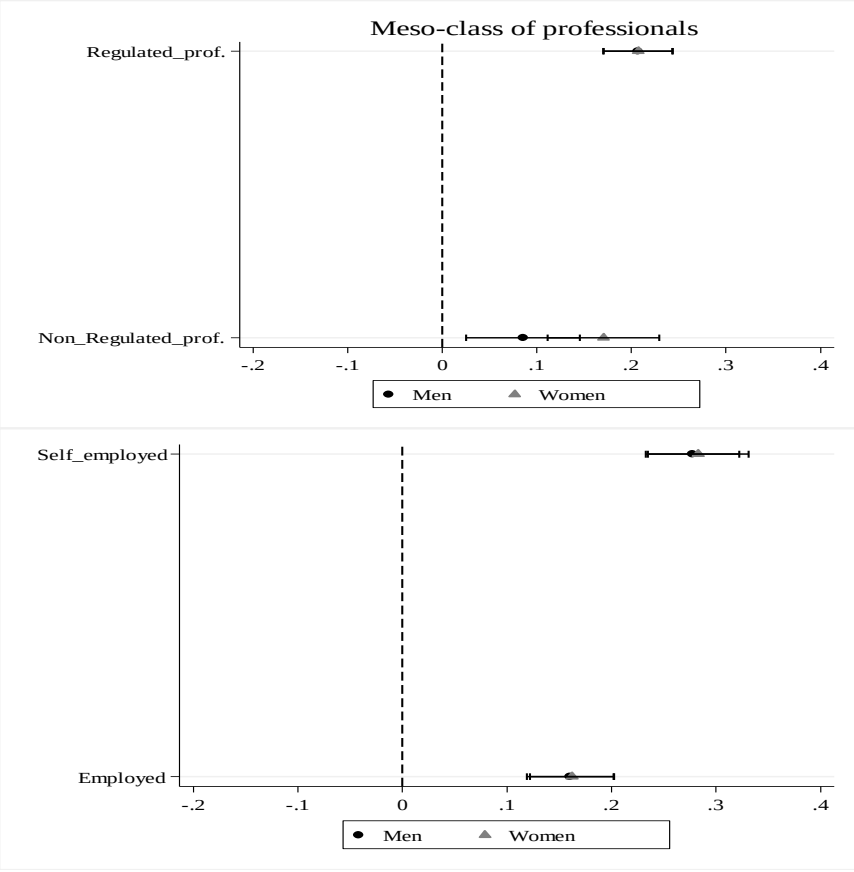

Figure 1D Average marginal effects from logistic regression models for the probability of being in the higher service class according to meso-classes with regulation or self-employment distinctions (ref. cat. working-class VII) separately for men and women. Estimates are at net of controls (gender, geographical areas, citizenship, age, parental education). Black dots denote the AME of social classes for men, and the gray triangle for women and black lines denote 95% confidence intervals. Legend: higher service class (I), lower service class (II), routine non–manual workers (III), petite bourgeoisie (IVab), farmers (IVc), skilled manual workers (V-VI). Source: SPL (2011).