Segregation or homologation? Gender differences in recent Italian economic thought

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28 June 2016

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KEWORDS: recent economic thought; women; research evaluation.

JEL Classifications: J16; B40; A14

This paper aims to contribute to the analysis of recent changes in Italian economic thought by examining them from a gender perspective. Following a popular international trend, the use of bibliometric indicators for the purposes of personnel selection has been introduced in Italy, creating a more competitive environment heavily founded on rigid standardized indexes of "scientific productivity".

In this context, recent studies analyze gender differences by considering the willingness to enter competition. By contrast, we aim at describing what were the strategies adopted by men and women economists in terms of research fields, at different stages of their careers. We find that women progressively have converged to the research interests of their male colleagues. Specifically, we find that the decrease in non-mainstream publications, in particular in the fields of heterodox approaches and history of economic thought, is larger among female economists. Systematic follow-up is essential, in particular the creation of specific committee or observatory embodying a gender perspective in all aspects of the academic and research activity in economics in Italy.

[1] Many thanks are due for useful comments (and criticisms) on earlier versions of this paper to Fikret Adaman, Marcella Corsi, Carlo D'ippoliti, Aldo Geuna, Annalisa Rosselli and the participants to the SIE session on "Gender gaps in academic careers" (Naples, Oct. 2015). The research has benefited of Eshet financial support in the form of the Young Scholar Seminar Award. Usual disclaimer applies.

Introduction

> *"(...) there are not enough women within economics to provide a good statistical evidence. The only reason to research gender differences in economics should be to learn about economic profession (...)"* *(Kahn 1995, p.203)*

The League of European Research Universities (LERU[2]) has reported a lack of women in top positions at universities in 2015, underlying how "academia in Europe is still losing a considerable amount of its female intellectual capacity. Whereas the ratio between men and women is relatively balanced up to the doctorate, there is a significant decrease afterwards"[3]. There are, of course, notable country- and research field-specific variations. For example, in social science fields in US universities, Ginther and Kahn (2014) report that the gender gaps in tenure and promotion rates in economics are higher than those in other areas. Moreover, Ceci et al. (2014) find evidence of larger gender gaps in tenure rates, salaries, and job satisfaction in economics than any other math-intensive field.

In the literature, gender discrimination and inequality in academic careers remain controversial issues. Different methods are used to investigate the main determinants of gender imbalances in academic positions: qualitative research based on interviews (Bagilhole 1993), quantitative research based on surveys and questionnaires (McGuire et al. 2004; Wright et al. 2003), as well as analyses of selection procedures within academic departments and faculties (Abramo et al 2015; Bagues et al. 2014; Ceci et al. 2014; De Paola et al. 2015c) or public selection procedures (Bosquet et al. 2013, De Paola et al. 2015b). Even if the results of these studies lead to different conclusions, the main evidence of gender discrimination report a lesser probability for women to achieve promotion or tenure, a lower probability of obtaining leadership roles such as division head or department head, as well as lower salaries than those of their male counterparts.

The underrepresentation of women in academic institutions is closely related to the concept of diversity in economics; as reported by IMF (2011), diversity among researchers and among research fields is crucial in order to "create an environment that encourages candor and diverse/dissenting views"[4].

The Federal Reserve recently organized a conference dedicated to the discussion of gender discrepancy, emphasizing that diversity is an enriching factor for the development of economic theory and the capacity of understanding and interpreting the current reality. Janet Yellen's opening speech focused on the importance of diversity in economics, stating that: "…in trying to raise awareness of diversity in the economics

[2]LERU is an association of 21 leading research-intensive universities in EU created to define concrete recommendations for policymakers, universities, researchers and other stakeholders for inclusive and innovative academic environment.
[3] Maes (2012), page 5.
[4] IEO (2011) page 11.

profession, I'm aided by the fact that economists are well acquainted with the concept of diversity from their work. When conducting a survey, economists understand that the results will be more meaningful when the diversity of the sample approaches the diversity of the population being studied. (…) Often, in the things economists study and the methods we use, diversity is a good thing. To cite another example, research by economists and other social scientists supports the view that considering a diversity of perspectives and ideas leads to better decisions in an organization."

Diversity in academia should be considered both in terms of heterogeneity of researchers within the same institutions and in terms of pluralism of research interests. Therefore, it is important to understand what economists do.

This paper offers a contribution to the analysis of gender differences in economics by examining Italian academic institutions. The Italian context is particularly interesting because of the scarcity of data on the gender dimension in academia, and also due to the recent reforms of the university system that introduced new rules for recruitment.

To shed some light on gender differences in economics departments in Italian universities in recent years, we focus on the gender distribution across economic research areas. Therefore, borrowing Viner's definition "*Economics is what economists do*"[5], we study the scientific output of Italian female and male economists. As reported by Marcuzzo and Zacchia (2015), there are two main advantages in using quantitative analysis: (i) to get away from a normative approach (what economics should do) and instead derive a positive description (what they do); (ii) to exploit the information offered by existing databases, which makes it possible to cover a vast range of published material, working papers or conference proceedings, detecting trends and tendencies.

Backhouse et al. (1997) provide a quantitative analysis of economists' output, showing how statistical data can point to puzzles that need explanation, factors that might otherwise be forgotten, or suggest areas where further elaboration is needed. Recently, the same approach and analysis have been carried out by Kelly and Bruestle (2011), Kosnik (2015), and Rath and Wohlrabe (2016). All these studies investigated the general research foci of economists over the last years, how (if at all) they have changed over time, what fields of economics are most in vogue, what trends (if any) can be traced in the evolution of academic research. Specific quantitative analysis has been carried out to find trends in single sub-fields in economics, such as that by Giraud-Duarte (2014), who focused on the history of economic thought; there are, however, only a few studies mapping publication trends from a gender perspective.

In order to analyze the role of social context in the development of economic thought and in the economic profession, we study how gender has affected and still affects career paths, research topics and consequently the (in)visibility and impact on the scientific community. Inspired by the four survival strategies of women

[5] This is a quote arose in conversation, not in a Viner's publications, reported by his student Kenneth Boulding (1941, p. 1).

economists reported by Forget (1995)[6], we identify two possible strategies that Italian women economists adopted to compete for academic position with their male colleagues:

- "segregation", women's specialization in those areas of research less adopted among their male colleagues, focusing on the so called "women studies";
- "homologation", a convergence of interests in the same fields of male colleagues, more "visible" and therefore characterized by higher bibliometric indexes.

We investigate which strategies has been adopted by women economists in the last decades and at different stages of their career paths. Here we are not interested in the causes of discrimination at the top of the academic profession (the traditional focus of extant literature), but rather in the consequences in terms of research field concentration/differentiation and academic output.

The paper is organized as follows: section 1 introduces the Italian context, giving some evidence about the under-representation of women in academia and the gender differences in the career paths in economics in Italian universities. Section 2 presents a literature review on gender differences in scientific productivity in economics. Moreover, thanks to the data collection from Econlit of all the publications of a representative sample of associate and full professors we propose a quantitative investigation of the scientific production of Italian economists. We presents some interesting trends of gender convergence in research field preferences in the last two decades. In section 3, we focus mainly on gender studies and non- mainstream fields (such as history of economic thought, heterodox approaches and gender studies) in order to test if the "homologation" strategy is more evident for women than for men. Section 4 describes the trends and strategies adopted by women to compete in academic career paths with their male colleagues across generations, comparing the PhDs thesis in economics with the scientific production of full and associate professors in the same years. Finally, we draw some conclusions providing research policy recommendations and some directions for future research.

1. Women at work: Italian academic economists

Researchers have attempted to explain gender differences in promotion rates by looking at differences in productivity (Sarson, 2015 and Ginther and Kahn, 2004), at differences in task allocations at work (Vesterlund et al. 2013), and at the role that child-bearing and motherhood plays for women (Ceci et al., 2014; Ginther and Kahn, 2006). Recent behavioral and experimental studies stress gender differences in competitive environments and highlight the impact of gender composition of selection committees on the

[6] Forget (1995) identifies four different survival strategies pursued by women economists. "Separatism", or better to the concentration of women publications on research fields where there is a comparative advantage and less male competition. "Subordination", women acceptance to remain in second role positions or second-rate institutions. The "Super performance" or better over-perform man colleagues and finally "Innovation" in the sense of not following the traditional standards of success.

likelihood of obtaining tenure (Bagues et al. 2014; De Paola et al. 2015c; Checchi et al. 2015). Many studies indeed, supporting the idea of bias due to male homophily, point out that gender inequalities in universities are reproduced by mostly male-dominated networks (Husu, 2004), or, like in the case of Italy, by male-dominated networks in Italian economic journals' editorial boards (Addis and Villa, 2004). Looking at networks, some studies (Blau et al. 2010 and, for economics, Hale 2014) report that the lack of role models in the upper positions in the academic world is also a key factor that can affect young researchers' choices and their career path. In this sense, women students may expect less discrimination and better outcomes when they study under women's instructions or work with female mentors (Carrell, 2010). Therefore, effective mentoring of young women economists has become ever more central, in recent years. Its growing popularity is also thanks to the Committee on the Status of Women in the Economics Profession (CSWEP)[7] that organizes an annual "mentoring workshop" (CeMENT) internationally known for providing young women economists with know-how and networks that could boost their careers.

In Italy, there are three main stages of an academic career path: "Ricercatore universitario" (assistant professor), "Professore Associato" (associate professor), and "Professore ordinario" (full professor). For each of them, the teaching and research duties, as well as the wages, are defined by national laws. In 1998, a reform of the university system was initiated and 2012 saw the introduction of a new recruitment and promotion system: the progress from assistant to associate professor and from associate to full professor are now based principally on scientific productivity. Academics aiming for promotion to associate or full professor positions are required to qualify in national competitions (ASN) held at the sub-field level: there are 14 different areas or fields (for example, "Economics and Statistics") and 184 sub-fields. For each sub-field, the candidates are evaluated by a committee of five members (four full professors from Italian universities and one foreign member from OECD countries) randomly selected among the full professors in each field who volunteered for the task and reached some scientific productivity standards. The random method of selection allows more women to be involved at the so-called "gate-keeping" positions. A new strand of literature (De Paola et al. 2016, Bagues et al. 2015), mainly related to gender psychological differences in self-confidence, risk aversion, and competitiveness, investigates how an increasing number of women in the selection committees have an impact on the number of women candidates and their probability of success.

In economics, the candidates are evaluated based three criteria: (i) the number of articles published in "high quality" scientific journals,[8] (ii) the overall number of articles published in scientific journals and of book chapters, and (iii) the number of published books. The law allows each university to offer new positions by launching its own call for applications (*concorso*), and to set up a recruitment committee[9]. De

[7] The American Economic Association (AEA) created in the '70 the Committee on the Status of Women in the Economics Profession (CSWEP) in order to monitor the status of women in the profession and to undertake professional activities to improve this status.

[8] A national evaluation agency -ANVUR- determined with the help of several scientific committees the list of journals to be considered as high quality in each sub-field and in each evaluation exercise.

[9] All the committee members, however, must belong to the same discipline for which the position is offered and (with the exception of just one member) they are not selected by the university, but elected by all discipline affiliates at the

Paola et al. (2016) found that about two years after the conclusion of the first round of the ASN, women have a lower probability of being effectively promoted. In particular, in the case of associate professors, they report that women suffer a reduction of about 12% in the chances of being promoted with respect to men, while for full professors, the share is about 20%. Therefore, the new mechanism for promotions both in terms of committee selection and evaluation procedures does not mitigate the commonly known "leaky pipeline" effect in Italy. It is still significantly more difficult for women to access and have a progressive career in Italian academia. According to the most recent data[10], in Italy, women represent the 36.5% of all academic staff. In economics, the share of women is even lower: 30.3% of academic staff in economics are women. Women account for 16% of full professors, 32% of associate professors, while in the lower ranks they represent the 46% of assistant professors[11].

The gender gap in academic promotion in the field of economics is evident in the persistent gender difference in the hierarchical structure: for women, there is a classic pyramid structure with only 19.1% of female full professors at the top, followed by the associate professors (26.8%) and assistant professors at the base of the pyramid (54%). By contrast, for men, the hierarchical structure assumes the form of a reverse pyramid with the largest percentage represented by full professors (41.4%), followed by the associate professors (30.1%) and finally by assistant professors (28.5%). Since 2000, the pyramidal structure stay the same for women, even if the share of full professors passed from to 14.9% to 19.1%[12].

Looking at the PhDs, instead, the picture is completely different: even if the number of courses in economics offered by Italian universities is quite stable in the last decade (on average 43 courses), the number of students has almost doubled. From 2002 to 2014[13] (last data available), the share of women perusing PhDs in economics increased from 41.8% in 2002 to 42.5% in 2014, with only 45 students in 2002 and 108 in 2014. As pointed out by the 2015 LERU statement[14], for developing gender equality at universities, a monitoring system of women within the academic career paths is required. In fact, all around the world, a significant number of associations have been created with the purpose of monitoring and promoting the role of women in academia. Notable European examples include the Committee for Women in Economics (CWE) within the Royal Economic Society, Women in Economics (WINE), founded in 2005 at

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national level. The commission has the task to pick the best possible candidate among those who passed the ASN selection.

[10] Cineca MIUR data last update 12/31/2015

[11] We consider the subfields: Economics (namely sectors SECS-P01).

[12] The underrepresentation of women in economics is not only an Italian phenomenon: also in UK women accounts for less than 27% of all academic staff (data by the RES's women committee). By rank, only the 14.1% of full professors are women while at the bottom of the career path (considering together full time and part time lecturers and researchers) they are more than their male colleagues (59.8%). However, the evolution of the academic hierarchical structure is faster in UK: women at the top of the academic profession passed from only 7.4% in 2000 to 14.1% in 2014, but the pyramidal structure remained the same in the last 14 years. Instead, for men, the 2000 funnel structure, with the largest percentage of full professors, followed by the assistant professors and finally by associate professors, has changed in a reversed pyramid thanks to the increase in the share of professors (from 24.8% to 33%).

[13] Data collected by the Ministry of Research and University, available at: http://statistica.miur.it/scripts/postlaurea/vpostlaurea.asp?submit1=Torna+indietro

[14] LERU is an association of 21 leading research-intensive universities in EU created to define concrete recommendations for policymakers, universities, researchers and other stakeholders for inclusive and innovative academic environment.

the European Economic Association and in Spain (since 2006) the Committee on the Situation of Women in Economics (COSME).

In Italy, there are no associations or committees of this type; the first, and unfortunately, the latest most complete study of the status of women in the economic professions was published in 1999[15]. Since then, we do not have updates of the status and the evolution of women in the economic profession in academia. Information is provided by single articles that examine different aspects of gender discrimination in academia (for a detailed review of these studies see table A in appendix 1).

2. Diversity in economics? A bibliographical analysis

Among the few studies examining economists through a gender perspective, Boschini and Sjögren (2007) find large differences in the share of women across research fields concluding that that "female presence is roughly three times higher in Health, Education, and Welfare than in Macroeconomics and Monetary Economics"(p. 328). Moreover, both Hale (2005) and Dolado et al. (2008) report a "path dependence" effect in women's choice of research field: the higher the share of women in a given research field is, the higher the percentage of women academic economists that write about that specific research field. However, Dolado et al. (2008) underline that this effect is less evident for new generations, since younger female researchers increasingly seek to access research areas in which women were previously under-represented. All the above-mentioned studies focus on excellence: Hale (2005) analyzed members of the AEA in ten of the top economics departments in the US, Boschini and Sjögren (2007) studied the co-authorship of articles published in three top economics journals, and Dolado et al. (2008) considered authors in distinguished economics departments. In contrast with the studies above, we prefer to leave the dimension of "excellence", and study, from a gender perspective, the evolution of the scientific production of Italian academic economists in the last twenty years. We prefer using Econlit instead of other databases because it contains journals selected on the basis of their peer-reviewed economic content[16] and detailed information about the sub-fields' classification of economic publications (than in Web of Science and Scopus).

We followed the methodology reported by Dolado et al. for the identification of the research fields: (i) we used the JEL codes recorded in Econlit in order to detect recent trends in research field preferences with a gender lense; (ii) we concentrated on JEL codes rather than on publications. This means that we double-counted an article with two JEL codes, because it belongs to two different fields. We could not weight the

[15] Rosselli et al. (1999)

[16] This is not the case of RePEc, where journals are not selected, even if they are now creating a committee on quality control for journals admitted to be indexed in RePEc (see https://blog.repec.org/2016/06/13/quality-control-committee-looking-for-volunteer/).

JEL codes[17] of a single article because Econlit mainly records them in an alphabetical order rather than in order of priority as reported by authors. Authors or editors use them to classify scholarly literature in the field of economics broadly and internationally. JEL codes are alphanumerical codes made up of three levels. The first level, mainly analyzed in this paper, is a single letter: this broader classification is made up of 20 classes (there are 19 codes plus one residual category). The second level (128 classes) consists of a single letter followed by a single digit. At the third level, the code consists of a single letter followed by two digits. The current classification of research areas in Econlit (JEL code system) was introduced in 1990, so we do not have the problem of different JEL code system conversion since we consider publications from 1991. Moreover, to be sure to have a complete coverage of the journals and books in Italian language, we considered the publications up to 2012[18]. Therefore, we thanks to a careful data collecting activity and a scrupulous data cleaning of the results obtained with the aim of limiting problems due to homonymy to the extent possible, we propose a panel analysis of the publications published from 1991 to 2012 by 795 full and associate professors of economics in Italian universities. Women account for 23.3% (185) of the universe. The total number of publications analyzed is 14,217 (such as reported in Econlit), of which 16.8% written by women.

First, we found an increase of visibility of Italian economists, in particular since 2006, when the first debates about bibliometrics had been introduced thanks to first national three-year research evaluation exercise (VTR 2001-2003) introduced in Italy by Decree N. 2206 of 16 December 2003. In the VTR 2001-2003, it was explicit that 'quality', 'relevance', 'originality' and 'internationalization' of the products of research are central to the allocation of public funds. In this scenery, women academic economists seem to quickly transpose the rules of the game: to be more productive and visible in their scientific communities. From a gender perspective, we found a substantial change in the number of women in the different research fields. In particular, in 2011-2012, women began to write more about research field where they were previously under-represented, such as economic history (N), business administration (M), and general economics and teaching (A) and health, education and welfare (I). Only in public economics (H), women reduced their visibility as compared to the 1991-1992 figures. In order to trace some tendencies in research preferences of Italian economists, we calculate the JEL codes' mean frequencies of three periods: the 90s, 2000s and 2010-2012 (tab. 1). We detected some common trends:

(i) a sharp reduction of publications in history of economic thought, in line with the international contraction of the share of HET articles[19],

(ii) a decrease in interest in international economics (F), and economic system (P),

[17] The JEL codes have been introduced by the Journal of Economic Literature in March 1911, for a complete review of the history of JEL code construction see Cherrier 2015.

[18] Econlit reports a drop in publications in Italian language from 2012, in fact searching by the language field (LA), Econlit returns 742 publications in Italian in 2012 and only 637 in 2013 and even less in 2014 (534).

[19] Considering all the academic production recorded in Econlit, the share of HET articles accounted for the 2.8% of the total number of academic journal articles in the 90s, the 2.02% in the 2000s and just the 1.38% for the 2010-2012.

(iii) an increase of output examining financial economics (G) mainly pulled by the international economic crisis and industrial organization (L).

Instead, we find some important gender differences in the direction of the publication interest in public economics (H) and labour and demographic economics (J); in fact, while women tend to avoid these research fields, in recent years men increased their publications. For microeconomics (D), we observe the opposite phenomenon: women increased their interest on average of 3.44 pp from the 90s, while men's interest in the field decreased by almost 1.13 pp.

Tab. 1. Research preferences by gender (%): mean period frequencies

	Women			**Men**		
	1991 1999	**2000 2009**	**2010 2012**	**1991 1999**	**2000 2009**	**2010 2012**
A. General Economics and Teaching	1.24	0.50	0.95	1.02	0.69	0.47
B. History of Economic Thought, Methodology, and Heterodox Approaches	**11.54**	3.27	5.30	8.44	5.23	2.87
C. Mathematical and Quantitative Methods	2.64	2.64	3.00	3.36	3.31	3.77
D. Microeconomics	9.99	10.27	**13.43**	**14.53**	**13.26**	**13.40**
E. Macroeconomics and Monetary Economics	10.81	7.45	9.87	**19.39**	**12.93**	**15.53**
F. International Economics	9.38	8.02	5.57	8.98	7.75	6.67
G. Financial Economics	5.61	5.93	9.73	4.99	6.29	7.87
H. Public Economics	10.28	7.39	5.03	4.61	5.72	6.87
I. Health, Education, and Welfare	1.20	3.55	5.60	1.07	2.41	2.70
J. Labor and Demographic Economics	**15.24**	**12.09**	10.30	8.92	8.63	9.13
K. Law and Economics	1.38	0.91	1.27	0.80	1.35	1.50
L. Industrial Organization	8.50	**11.98**	**12.33**	6.90	11.28	10.07
M. Business Administration and Business Economics, Marketing, Accounting, Personnel Economics	1.60	1.59	1.40	0.45	1.10	1.03
N. Economic History	2.03	0.72	2.17	1.17	0.76	0.85
O. Economic Development, Innovation, Technological Change, and Growth	6.33	9.19	6.87	8.73	9.21	7.87
P. Economic Systems	3.97	3.01	1.07	3.28	1.83	1.37
Q. Agricultural and Natural Resource Economics, Environmental and Ecological Economics	1.65	2.67	2.00	1.78	2.50	4.17
R. Urban, Rural, Regional, Real Estate, Transportation Economics	5.63	7.81	5.07	1.73	5.05	2.90
Z. Other Special Topics	0.50	1.27	1.60	0.34	0.76	1.43
Total	100	100	100	100	100	100
χ^2 (18) H_0: M distribution=F distribution	165.5***		372.9***		90.1***	
Note: main research fields per period in bold						

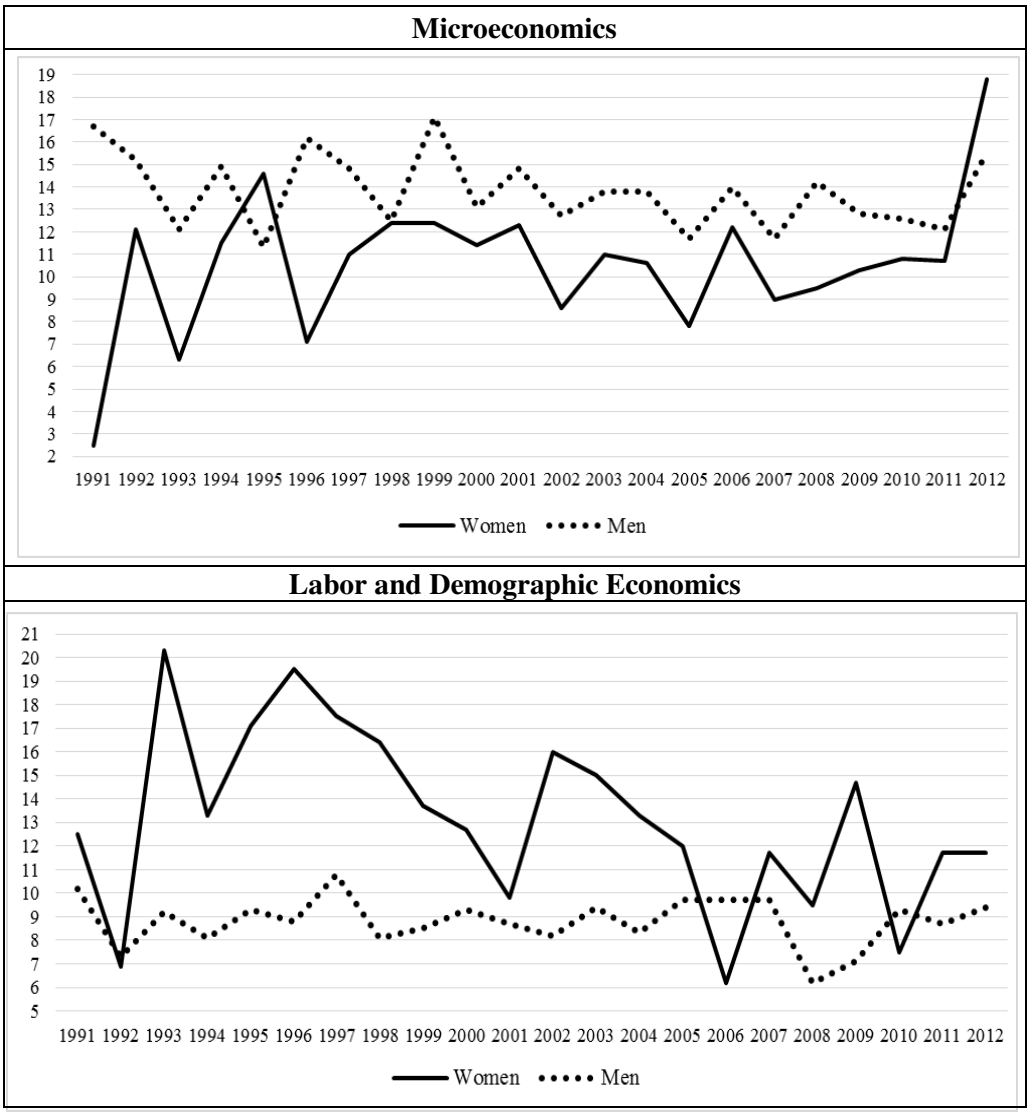
Nevertheless, the main evidence emerging from the data is the following: while for men, the interest in the main research fields addressed (macroeconomics, monetary economics JEL code E and microeconomics JEL code D) has been the same through the years, for women economists, the main research areas. Female economists' interest gradually shifted from labour and demographic economics (J) and history of economic thought (B) to microeconomics (D) and industrial organization (L). Particularly in recent years (2010-2012), women's research preferences have tended to converge with those of their male colleagues.

Figure 1 presents a comparative trend analysis of women's interest in labour and demographic economics and microeconomics. It is evident that in 2011, there was a drastic increase in publications in microeconomics by women; in fact, women's output exceeds that of their male counterparts. Instead, for labour and demographic economics, we observe a discontinuous decrease in interest among women since 1996, standing at almost 12% since 2011 while for men, in the same years, we recorded an average percentage of 9%. Particularly in the last years (2011-2012), we report a process of gender convergence of research topics interests.

Albelda (1997), studying gender and the economic profession within the American Economic Association, found that male economists are much less interested in topics such as women's labor force participation, the impact of fiscal and monetary policies on women and the family structure, wage discrimination, and the economic status of minority women. We propose, in the next section, a detailed analysis of the evolution of the publications about these fields by Italian economists in order to test if an homologation trend or better a distraction from these topics is more evident for women than men in the last years.

Moreover, since the gender dimension is usually neglected in the analysis of the recent tendency to homologation of research in economics (for the Anglo-Saxon world Lee and Harley, 2007 and Lee and Eisner, 2008, for Italy Corsi et al. 2010), we propose a gender analysis of the non-mainstream fields in order to detect if women, in recent years, are more prone to avoid these themes, meanly because of their lower visibility in national research assessments.

Figure 1. Research preferences for microeconomics (D) - labour and demographic Economics (J) 1991-2012 by gender



3. Gender and non-mainstream studies: a quantitative analysis

In the previous section, we identify a specific publishing strategy widely applied by women since 2010: opt for visibility in fields where they were traditionally under-represented, assimilating the same subject preference distribution of their male colleagues. In this section, we analyze the homologation trend from a different perspective, studying how the scientific productivity in less mainstream fields, focusing on gender studies, history of economic thought and heterodox economics, has changed in the last decades. We keep a gender perspective in order to find out if women tend to reduce their research in these fields at a faster pace than their male colleagues do.

Since World War II, pluralism has been a key element of economic thought in Italy. As reported by Pasinetti and Roncaglia (2006), the plurality of schools of economic thought can be considered a reaction to

Fascism, when many economists had to emigrate abroad. In fact, in Italy, we find a simultaneous development of different economic schools of thought, and particularly studies outside the mainstream subject lines, mainly close to the traditional post-Keynesian, neo-Ricardian and Sraffian economics and to the evolutionary economics. We also have a widespread tradition of research in the fields of history of economic thought and feminist economics. In fact, since the 90s, thanks to certain academic groups (i.e. the Italian Society of Historical, established in 1989), gender awareness in Italian universities increased. More specifically, the introduction of the 'gender issues' within Italian universities[20] can be dated back to 1987 and the conference on the status of women's studies and research in humanistic disciplines and sciences, which took place at the University of Modena. However, only in 1999, the possibility to propose courses on women's studies in PhDs, masters, and undergraduate programs, was introduced thanks to Laura Balbo, the then-Minister for Equal Opportunities[21]. However, as reported in Antonelli et al. (2013), academic courses dedicated to gender issues are still limited: in the academic year 2010-2011, Italian universities offered only 12 undergraduate courses, 6 master, and 4 PhDs in gender studies. Therefore, it is particularly interesting for the Italian case to study how scientific economic production in less mainstream research fields has recently changed, analyzing gender differences in research in gender studies, heterodox approaches, and history of economics thought in the years.

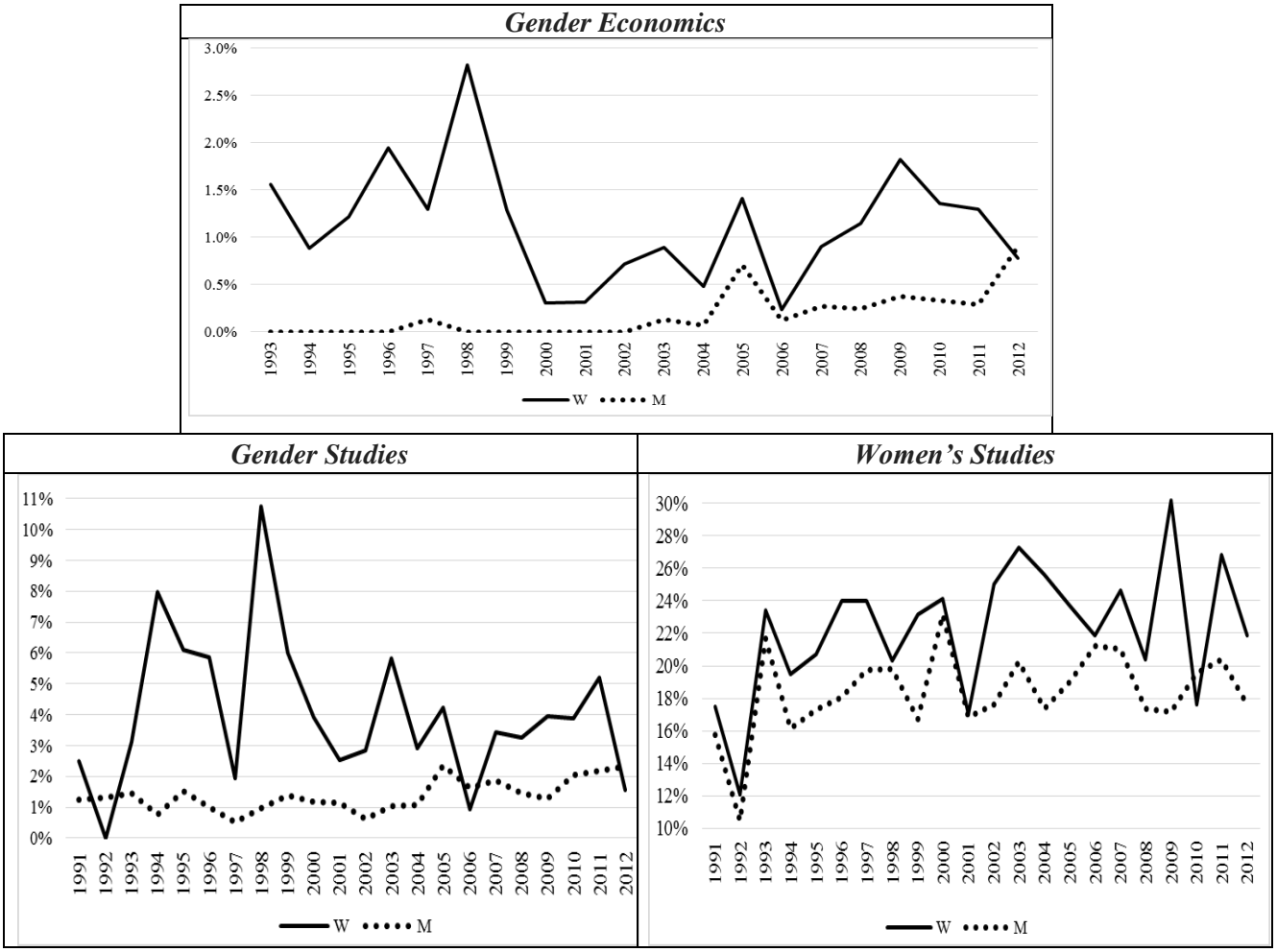
First, we propose three different definitions of gender studies. The first one, which we called "Gender Economics", defines gender studies as "all those areas of research that investigate the economic importance of behavior or outcomes specific to women and men"[22]. In this group, we do not consider methodological approach differences: studies that Robeyns (2001) would consider gender studies ("... the research that, in neoclassical economics, is particularly interested in the topics concerning women") are together with feminist approach studies (studies that "... encourages the methodological pluralism and (...) does not reject a priori any methodological approach"[23]). In line with the definition provided, our first group of gender studies, namely "Gender Economics", consists of two JEL codes: B54 Feminist Economics and J16 Economics of Gender.

Second, we consider a wider thematic aggregation that we called "Gender Studies", which, in addition to the two JEL codes above, covers all those publications that include a multidisciplinary approach, the concept of "household", "time allocation", and discrimination in the labor market (for a complete description of the JEL codes included see appendix 2).

Finally, under "Women's Studies" we classify all "Gender Studies" plus those publications about research fields traditionally developed by women economists such as labor economics, health and welfare, poverty, economic development, demography, and education.

[20] To analyze Italian feminist movement see Bono and Kemp (1991) and Barazzi (2001).
[21] Laura Balbo was a sociologist working herself in gender studies; in 1978 coined the concept of "women double presence" or better women's private (reproductive in the family) and public role (productive in the formal labor market) in society.
[22] Bettio (2001), page 148.
[23] Robeyns (2001), page 129 and page131.

Figure 2. Gender in Economics



Publications of the first group of gender studies, what we called "Gender Economics" (fig. 2) by men economists weigh on average no more than 0.3% of total scientific output, although since 2003 there has been a slight increase with a peak in 2012 (0.9%). For women, on the contrary, they account for, on average, 1.3% of the total scientific production with a discontinuous trend, with peaks in 1996, 1998 (probably driven by activities for the 1996 UN International Year for the Eradication of Poverty), and, more recently, in 2005 and 2009. The increased interest in these issues is in line with EU's attention to gender issues in research as a cornerstone for growth, as reported in the Seventh Framework Programme for Research and Technological Development[24]. In addition, in 2011, the first European Gender Summit was held in Brussels; it aimed to create a network of women researchers, publishers, and entrepreneurs. Only in 2012 did men publish more than women on the topic of Gender Economics; it would be interesting to keep analyzing this phenomenon in order to define if it is just an outlier or a new trend to be studied. When we consider "Gender Studies", the share of publication is higher for women; on average, they works constitute 3.9% of their total output, while for men - just 1.5%. Nevertheless, there is a clear decreasing trend for women economists in the past decade,

[24] FP7 was the European Union's Research and Innovation funding programme for 2007-2013, for details see: https://ec.europa.eu/research/fp7/index_en.cfm

starting from 1998, with a recovery from 2007. For men, the share output focusing on these studies has stayed almost the same over the last twenty years, with a slight increase since 2004.

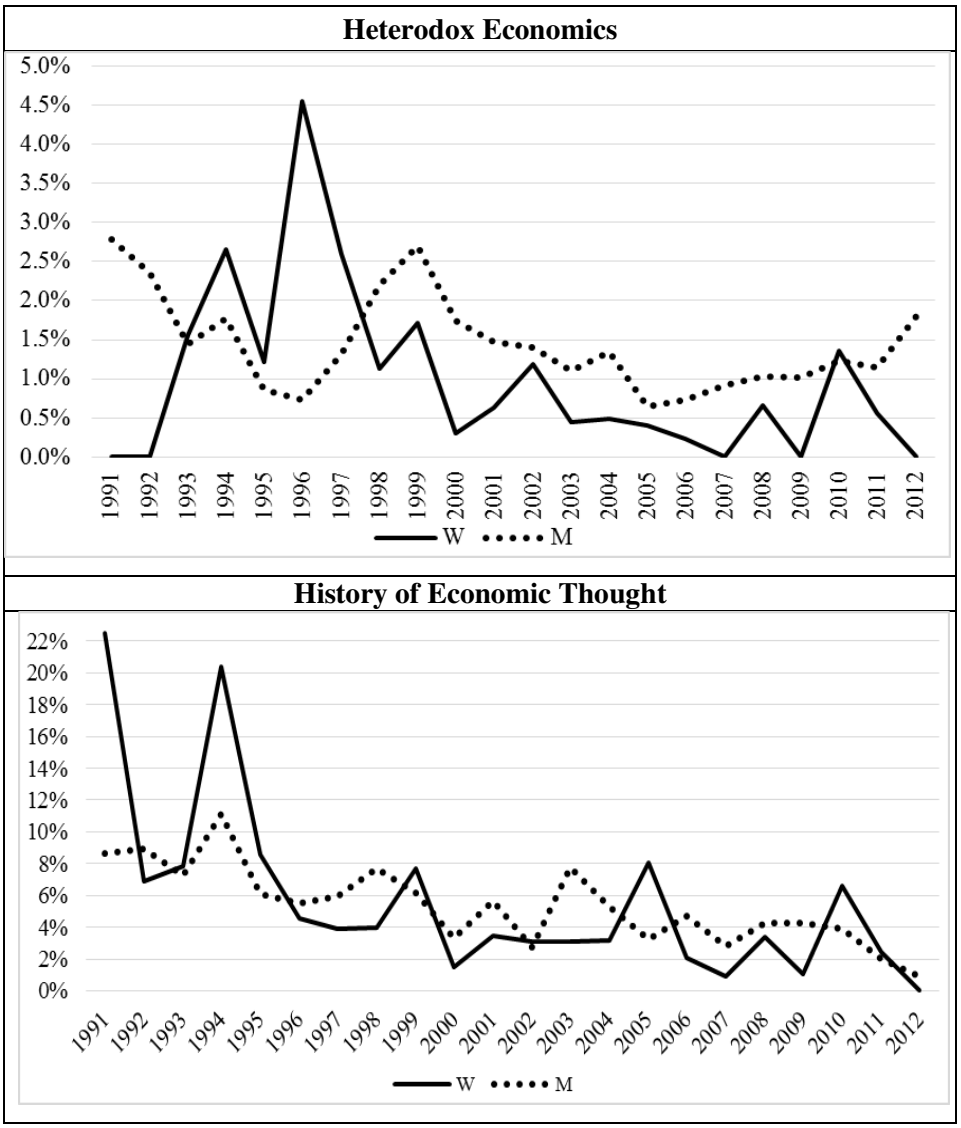
Finally, for "Women's Studies", the share is higher (on average 23.5% for women and 18.9% for men), but the trends are the same: while for men, over the years, the share of publications remained almost constant, the trend for women is not linear, with an increase since 2000, mainly because of the rise of studies about health, education, and welfare (JEL code I).

Moving on to heterodox studies[25] (fig. 3), since 1997 there has been a strong contraction in academic output, especially for women. For women, in fact we found a real collapse of the scientific production concerning these issues, reaching about 0.6% of the total scientific production in 2011 and zero in 2012. The same declining trend is observed for publications in history of economic thought, although in this case gender differences are less pronounced. Both for heterodox economics and history of economic, thought, we can clearly see that from the second half of the 90s, women tend to contribute to these research fields less than their male colleagues.

We lack sufficient information here to test if this productivity reduction is a consequence of the new research evaluation policies indroduced by the reform of the Italian University system, but it is a first step to signaling a problem of higher vulnerability suffered by women in academia. It would be useful to monitor the future trends with a gender perspective as a way to preserve diversity in economics.

[25] To classify a product as heterodox, we use the same classification reported by Corsi et al. (2010). Heterodox publications consist of the following JEL codes: B5 - Current Heterodox Approaches, B50 - General, B51 - Socialist; Marxian; Sraffian, B52 - Institutional; Evolutionary, B53 – Austrian, B54 - Feminist Economics, B59 – Other, E1 - General Aggregative Models, E11 - Marxian; Sraffian; Institutional; Evolutionary; E12 - Keynes; Keynesian; Post-Keynesian.

Figure 3. Heterodox Economics and History of Economic Thought 1991-2012



1. Research fields preferences in economics: gender cohort effect

In this section, we offer a comparative analysis of gender gaps in research field preferences at different stages of academics' career path. With this, we aim to find out if women tend to converge to their male colleagues' interests since their formative years, or it is a trend pertinent to more mature economists. We do not consider age, but rather the stage reached in the academic career path, considering a PhD as the first step to an academic career path that may culminate into a full professorship. The perception that PhD opens the way mainly to an academic career is an Italian peculiarity, in line with the results of the analysis of Italian PhDs in economics by Baccini and Marcuzzo (2009). According to this study 62.6% of PhD students is employed in Italian universities (38.9% as research fellows and 23.7% as full-time academic staff), 15.4% continued her/his research activities outside Italian Universities, 11.3% work in the public sector and only

10.7% of PhDs in economics are employed in private sector companies. Therefore, it is more interesting for the Italian context to consider generational comparison than age cohorts when looking at PhDs and full and associate professors rather.

We analyzed 536 PhD theses in economics presented in 44 Italian universities from 2003 to 2006[26]. Women represent 43.5% of PhD candidates considered. Only 16.8% of all students chose a woman as supervisor for their dissertation[27]. For women students the share is higher: 21.1% had at least one woman as supervisor, while the percentage drops to 13.4% for men. Instead, 4.7% of the students chose two women as supervisors while 83.2% only men. Among men students, the share of only men supervisors (86.6% against 78.9% for women students) is significantly higher than the share of women who chose both women supervisors (5.5% compared with 4.1% of men students).

To define the research fields of the PhD thesis, we used the JEL codes, where available; if the thesis is not recorded in Econlit, we assigned the JEL codes looking at the title of the dissertations and information reported in the OPAC database. More than half of PhD theses (presented between 2003 and 2006) on the subjects of labor market, history of economic thought and public economics were written by women. Women PhDs in economics have produced relatively more studies about issues related to health, education, welfare, labor market, and demography. On the contrary, women are significantly under-represented in economic history, macroeconomics, and monetary economics. Focusing on gender research fields' preferences, instead of gender distribution among research areas, women tend to concentrate more on international economics, while their male colleagues prefer microeconomic issues (see tab.2). To test if the gender differences in research fields are more evident for younger than for more mature generations of economists, we analyzed 2,263 publications of 654 full and associate professors (117 women) in the same years (2003-2006). Women's visibility changes consistently among the different steps of the academic career: while women wrote 40% of the PhD theses discussed between 2003 and 2006, the share of academic publications of full and associate women professors recorded in Econlit for the same period is barely 15%. Moreover, female full and associate professors are more visible in fields like business administration, business economics, and local and regional economics, completely different areas from those reported for younger economists. Similarly to Forget (1995)[28], we found that women tend to "concentrate on a smaller range of topics in the journal literature than they did in their selection dissertation topics" [29]. In fact, 55.8% of dissertations written by women are concentrated in six fields, while for professors the share increases to 61.8%, specializing in industrial organization, macroeconomics, and development economics.

[26] For collecting data we used the database OPAC at the National Central Library of Florence, which, in accordance with the Presidential Decree 382/80 and Ministerial Decree 224/99, collects PhD thesis research from all Italian universities.
[27] PhD students can have up to two supervisors (in Italian relatore and correlatore)
[28] Forget (1995) analyzed differences between the subject of PhDs dissertations in economics and the publications by women in academic journals in the US in the years 1912-1940.
[29] Forget (1995), pages 31.

Tab. 2 Research preferences: PhD students vs. full and associate professors by gender: 2003-2006

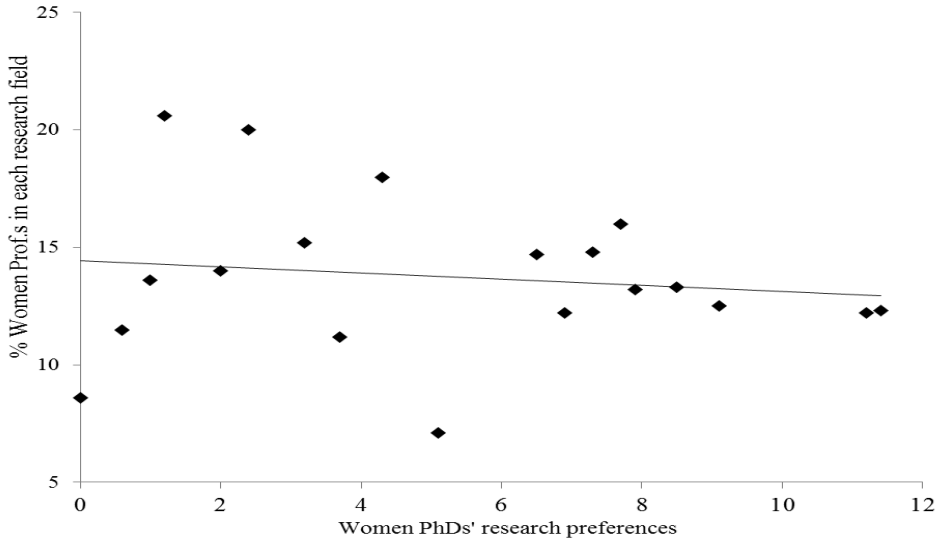
	PhDs		Full and Associate Prof	
	W	M	W	M
A - General Economics and Teaching	0%	1%	0.4%	0.6%
B - History of Economic Thought	3.7%	2.5%	6%	7%
C - Mathematical and Quantitative	7.7%	7.8%	4%	3.1%
D – Microeconomics	7.9%	10%	10.9%	10.6%
E - Macroeconomics and Monetary Economics	5.1%	10%	6%	11.5%
F - International Economics	9.1%	6.9%	6.5%	6.6%
G - Financial Economics	6.9%	5.9%	5.8%	6.1%
H - Public Economics	7.3%	5%	7.1%	6%
I - Health, Education, and Welfare	3.2%	1.8%	2.5%	2.1%
J - Labor and Demographic Economics	6.5%	3.7%	10.9%	9.3%
K - Law and Economics	1%	1.8%	1.3%	1.2%
L - Industrial Organization	11.2%	10.6%	12.4%	13%
M - BA Marketing; Accounting	1.2%	1.5%	1.6%	0.9%
N - Economic History	0.6%	3%	1.2%	1.4%
O - Economic Development Growth	11.4%	14.3%	10.1%	10.6%
P - Economic Systems	2%	1.7%	2%	1.8%
Q - Agricultural and Natural Resource Economics	8.5%	5.6%	2.9%	2.8%
R - Urban, Rural, Regional	4.3%	5%	7.1%	4.7%
Z - Other Special Topics	2.4%	1.9%	1.4%	0.8%
χ^2 (18): H_0: M distribution=F distribution	45.3***		43.0***	

Moreover, in contrast with both Hale (2005) and Dolado et al. (2008), we find no evidence of a "path dependence" effect in women's choice of research field. As clearly visible in the scatter plot below (fig.4) a higher share of women professors researching in a given area does not seem to affect the choice of the fields of the PhD theses of young researchers.

To analyze gender differences, we compute the Duncan (1955) segregation index across the different research fields for both PhDs and professors. The index is defined as: $S = \frac{1}{2}\sum_{i=1}^{n}\left|m_i - w_i\right|$, where w_i (m_i) is the proportion of women (men) that wrote a PhD dissertation in the research field i. As reported in Dolado et al. (2008), the segregation index reports the proportion of women (men) who have to swap fields with a man (woman) for both sexes to be represented in all fields in proportion to their representation in the whole system. Therefore, 0% indicates that the distribution of men and women across fields is the same, while 100% means that women and men are interested in completely different research fields. We found that, in general, in Italy there is a high level of homologation in the research fields' choices: the segregation index for PhD theses in economics presented in Italian universities in 2003-2006 is 15%. Instead, the Duncan segregation index for full and associate professors is lower and amounts to 8.4%. This means that mature economists have a higher tendency to concentrate their publications in the same research fields of their male

colleagues. Once more, in contrast with the results of Dolado et al. (2008), in Italy we found that the segregation is higher for younger generations, while for professors the homologation strategy is more evident. We have to underline that Dolado et al., as reported before, consider in their analysis only tenure-track and tenured faculty members in the top 50 departments in the world, so both younger and mature women are exposed to the same highly competitive research environment. Instead, in our analysis we considered all Italian departments because we are more interested in understand how women react to different institutional-academic constrains. So we find some evidence of a strategical attitude of women economists in Italian universities in order to reach the top of the academic career and so engaged in a more competitive environment as a "survival" strategy, tend to converge to the research interests of their male colleagues, who are more visible in bibliometric indexes.

Fig. 4 Lack of path dependence effect: women professors' presence in research fields and women PhD's preferences



We also analyzed the PhDs completed in the period 2003-2006, their academic careers, if any, and their output post-dissertation. Ten years after their thesis defense, 46% of PhDs, of whom 52.5% women, are employed in Italian universities. For men, there is a temporal linearity: the greater the number of years since PhD graduation, the higher the share of those employed in Italian universities. For women, instead, this is an irregular trend, reaching peaks of employment in Italian universities among economists who obtained PhDs in 2003 and in 2005. In general, by academic status, 76.9% of those employed in Italian universities work as full-time researchers, 7.5% as fix-term researchers, 10.2% as associate professors, while only one PhD student within eight years has been employed as a full professor. Disaggregating the data by gender, the differences in the career path are evident even in the younger generations: only 3.8% of women are associate professors, while for men, the share is much higher and equal to 15%. 36.5% of PhDs analyzed are employed

in the same university where they obtained their PhD. The share is higher for men (38.3%) than for women (34.18%), so there is a higher territorial mobility for younger women than for men.

We also studied their publications in the 5 years following their PhD graduation. We preferred to use Google Scholar rather than Econlit because it considers a greater number of publications in the Italian language. For the purpose of the analysis, we computed the h index.[30] The h index summarizes in a single number two relevant pieces of information: the number of publications and the number of citations of each author.

The 2003-2006 PhDs employed by Italian universities have a median number of 9 publications in the five years following the achievement of the PhD. Furthermore, at the beginning of their academic career, men are more productive and visible; for women, the median number of publications is 8 and the h index is 2 while for men the median number of publications is 13 and the h index equal to 3. Focusing on gender differences, we found that among women, 9.5% had women supervisors for their PhD dissertation, compared to 3.5% among those who are not employed in Italian universities. This is not true for men: the share of PhDs that chose only men supervisors is the same for both those who are employed in Italian universities and those who are not. Selecting supervisors of the same gender as the candidate seems to have a positive effect on PhDs' productivity: the median number of publications within 5 years following the PhD graduation is higher for women who have chosen female supervisors. The same occurs for men: those that have higher productivity are those who have had only men PhD supervisors. Instead, the h index is higher, both for men and women, for those who chose only male supervisors (see tab. 4). This means that the number of citations (and not the number of publications) is higher for those researchers who had only men supervisors. This imposes a reflection on bibliometric indices and how the same authors can introduce corrective action and activate stronger citational networks when a continuous monitoring on research using a gender perspective is provided. In a recent paper, King et al. (2015) found a gender gap in self-citation practices because "in almost all academic fields, men cite their own research papers at a higher rate than women do." Namely, 31% of men and only 21% of women have shown a tendency for self-citation. Since citation counts is one of the metrics used in the research assessment for the definition of hiring, tenure, and salary; it is therefore an important variable to monitor in a gender perspective.

[30] For a detailed analysis of the strengths and weaknesses of the h index see Rousseau (2008). We calculated the h index through the software Publish or Perish on the publications in Google Scholar.

Tab.4 Mentoring effect: PhDs in Italian universities 5 years after PhD visibility

2003-2006 PhDs in Economics		Share (%)	Median no. of publication	Median h index
Women	Same sex Supervisor(s)	9.5	10	2
	Mixed Supervisors	10.8	8.5	2
	Other sex Supervisor(s)	79.7	8	3
Men	Same sex Supervisor(s)	86.3	14	3
	Mixed Supervisors	10.5	5.5	1
	Other sex Supervisor(s)	3.2	2	2

Concluding remarks

We contribute to the study of women academic Italian economists, analyzing in detail their scientific production in order to explain gender differences in the distribution of research fields and to describe the trends and strategies adopted by women to compete in academic career paths with their male colleagues over the years and across generations.

In line with the recent tendency to move to mainstream fields of research in economics, detected in the Anglo-Saxon world by Lee and Harley (2007) and Lee and Eisner (2008) as well as in Italy by Corsi et al. (2010), we found that women, particularly since 2010, are following a "homologation" strategy. Their research preferences tend to convergence to fields more practiced by their male colleagues. Those fields, namely microeconomics and industrial organization, are also more "visible" in bibliometric terms. Moreover, among Italian economists, over the last years, we document a larger decrease of women researching non-mainstream fields, in particular heterodox approaches and history of economic thought.

The degree of gender convergence in research increases along the hierarchical structure of the academic career path: homologation is stronger for full and associate professors than it is for PhD students. Therefore, when women are employed in Italian universities i.e. in a more masculine environment (since women only represent 16% of full professors), they tend to write more about the same research fields of their male colleagues in order to reach the top of the academic career.

This paper represents a first attempt to identify and quantify these trends. Since women seem to be more affected by institutional changes, many interesting questions remain. Why do women tend to change their research fields more often than their male colleagues? Is pluralism at risk in scientific production of women Italian academic economists? Is gender segregation of fields driven by institutional changes such as different national research evaluation systems?

The latter question is of particular interest in the case of Italy, because, in contrast with the international trend of redefinition of "responsible" metrics for research assessments[31], a bibliometric approach is

[31] See the San Francisco Declaration on Research Assessment (DORA -http://www.ascb.org/dora/) and the 2015 Independent Review of the Role of Metrics in Research Assessment and Management (http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463,en.html)

increasingly prevailing, and tends to rank scientific productivity on the basis of the bibliometric indexes of the journals. Considering the increasing popularity of bibliometric indexes in Italy, it is import to establish a debate about how to account for diversity, using a range of indicators to reflect and support the plurality of research and researchers career paths, and trying to anticipate the systemic and potential reaction by researchers to the adoption of any indicator.

A constant monitoring of the status of women in economics in Italy, the creation of a specific committee or monitoring group that could straighten the practice of fair and transparent selection of staff and equality impact assessment would be helpful to support equality and diversity among researchers and among research fields in order to foster the progressive and equitable development of the economic though.

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Appendix 1

Author(s)	Object of investigation	Research field(s)	No. of observations	Main Findings:
Bettio F, Rosselli A 2001	1999-2000 competitions to assistant, associate, full professor	Economics	432 candidates	(i) with the new promotion rules the number of women in the academic staff on average increased; (ii) a non-continuous recruitment mechanism is more gender equal: the probability to pass the competition for women is higher in competition with an higher number of tenure positions opened (the probability to win a competition is higher for 4 women on a competition for 20 positions than for 1 woman in a 5 positions competition)
Addis E, Villa P 2003	Editorial boards of Italian academic economics journals	Economics	years 1970-1996	(i) women are perceived as not suited to be editorial board members, whatever their scientific accomplishments; (ii) this process of selection based on gender stereotypes keeps women at the margin of professional networks, hinders their professional development, and prevents them from achieving their full potential as scholars.
Lissoni et al. 2011	2004-2005 promotions of French and Italian academic physicists	Physics	1816 Academic Staff	(i) controlling for publications, the probability of promotions for academic physics is significantly lower for women; (ii) There is a generational effect: women at the early stage of their careers are penalized in their publication activity, but then in order to be promoted to higher ranks they publish as much as their men colleagues.
Baccini et al. 2014	2008-2011 scientific production of profs	All fields	942 Prof in U. of Siena	(i) negative gender effect in all research production indexes (no. of publications, h index); (ii) Women face ceteris paribus more difficulties than man in publishing
Checchi et al. 2015	2009-2011 recruitment in Italian research institute (FBK)	Hard Science	664 candidates	Positive role of women presence in commission in promoting the entrance of women researchers in particular for non-tenure-track positions
De Paola et al. 2015b	competition to associate and full prof Italy -ASN 2012	All fields	8523 candidates	(i) women have a lower probability of entering the competition of about 4 percentage points, both for competitions to associate and full professor positions; (ii) the gender gap reduces considerable for individuals with average productivity and vanishes completely for individuals with a high level of scientific productivity; (iii) the gender gaps in competitiveness could be explained almost entirely by the fact that women are reluctant to apply because of their expectation of being discriminated against.
Pautasso 2015	competition to associate and full prof Italy -ASN 2012	All fields	59,150 candidates	(i) evidence for a generally lower success rate of women vs. men applications; (ii) generally no significant correlation between the number of women members of the judging commissions and women success rates
Bagues et al. 2015	competition to associate and full prof Italy -ASN 2012; Spain - Habilitacion 2002 – 2006	All fields	69,020 candidates	(i) no empirical support to suggest that the presence of (a few) women in evaluation committees has a statistically or economically significant positive effect on the chances of success of women candidates; (ii) on average small but significant negative role of women presence in commission in promoting the entrance of women candidates, relative to committees composed only of men evaluators. An extra woman in a committee of five members lowers the success rate of women candidates by somewhere between 4% and 12% relative to men.
De Paola et al. 2015a	competition to associate and full professorship before ASN 2012	Economics and Chemistry	1,007 candidates economics	(i) positive role of women presence in commission in promoting women candidates: women are less likely to be promoted when the committee is composed exclusively of men, while the gender gap disappears when the candidates are evaluated by a mixed-sex committee; (ii) committees composed exclusively of men discriminate against women, reducing their probability of success by about 6.4 pp. However, gender discrimination disappears when a mixed-sex committee judges candidates.
Abramo et al. 2015	competitions to associate professor in 2008	All fields	1300 candidates	(i) no gender-related differences occur among the candidates who benefit from positive bias, while among those candidates affected by negative bias, the incidence of women is lower than that of men; (ii) same gender as the committee president is a factor that assumes greater weight for men applicants not for women;
De Paola et al. 2016	Probability of being promoted for individuals who have obtained the ASN	All fields	13967 candidates	(i) for associate professors differences between men and women of about 6.4 p.p. ceteris paribus; (ii) for full professors gender differences is 2.1 p.p. When the number of available slots is unlimited they find no gender gaps; when a limited number of position is available women suffer a particular kind of discrimination

Appendix 2

Non-mainstream research fields: JEL codes aggregations

History of Economic thought	Heterodox Economics	Women's studies	Gender Studies	Gender Economics	
		X			A11 - Role of Economics; Role of Economists
		X	**X**		A12 - Relation of Economics to Other Disciplines
		X	**X**		A13 - Relation of Economics to Social Values
		X			A14 - Sociology of Economics
X					B0 -History of Economic Thought, Methodology, and Heterodox Approaches
X					B1 - History of Economic Thought through 1925
X					B2 - History of Economic Thought since 1925
X					B3 - History of Economic Thought: Individuals
	X				B50 - Current Heterodox Approache
	X	**X**	**X**	**X**	B54 - Feminist Economics
		X			D10 - Household Behavior: General
		X			D13 - Household Production and Intrahousehold Allocation
		X	**X**		D19 - Household Behavior and Family Economics: Other
		X			H31 - Fiscal Policies and Behavior of Economic Agents: Household
		X			H51 - National Government Expenditures and Health
		X			H52 - National Government Expenditures and Education
		X			H53 - National Government Expenditures and Welfare Programs
		X			H54 - National Government Expenditures and Related Policies
		X			H55 - Social Security and Public Pensions
		X			H75 - State and Local Government: Health; Education; Welfare; Public Pensions
		X			I00 - Health, Education, and Welfare: General
		X			I11 - Analysis of Health Care Markets
		X			I14 - Health and Inequality
		X			I15 - Health and Economic Development
		X			I18 - Health: Government Policy; Regulation; Public Health
		X			I19 - Health: Other
		X			I2 - Education and Research Institutions
		X			I3 - Welfare and Poverty
		X			J0 - Labor and Demographic Economics
		X			J01 - Labor Economics
		X			J08 - Labor Economics Policies
		X			J10 - Demographic Economics
		X			J11 - Demographic Trends, Macroeconomic Effects, and Forecasts
		X	**X**		J12 - Marriage; Marital Dissolution; Family Structure; Domestic Abuse
		X	**X**		J13 - Fertility; Family Planning; Child Care; Children; Youth
		X	**X**		J14 - Economics of the Elderly; Economics of the Handicapped; Non-labor Market Discrimination
		X	**X**		J15 - Economics of Minorities, Races, and Immigrants; Non-labor Discrimination
		X	**X**	**X**	J160 - Economics of Gender; Non-labor Discrimination
		X			J170 - Value of Life; Forgone Income
		X			J180 - Demographic Economics: Public Policy
		X			J190 - Demographic Economics: Other
		X			J200 - Demand and Supply of Labor

		X			J210 - Labor Force and Employment, Size, and Structure
		X	**X**		J220 - Time Allocation and Labor Supply
		X			J230 - Labor Demand
		X			J240 - Human Capital; Skills; Occupational Choice; Labor Productivity
		X			J260 - Retirement; Retirement Policies
		X			J280 - Safety; Job Satisfaction; Related Public Policy
		X	**X**		J290 - Time Allocation, Work Behavior, and Employment Determination: Other
		X			J300 - Wages, Compensation, and Labor Costs
		X	**X**		J310 - Wage Level and Structure; Wage Differentials
		X			J320 - Nonwage Labor Costs and Benefits; Private Pensions
		X			J380 - Wages, Compensation, and Labor Costs: Public Policy
		X			J390 - Wages, Compensation, and Labor Costs: Other
		X			J400 - Particular Labor Markets
		X			J5 - Labor-Management Relations, Trade Unions, and Collective Bargaining:
		X			J6 - Mobility, Unemployment, and Vacancies
		X	**X**		J7 - Labor Discrimination
		X			J8 - Labor Standards
		X			L30 - Nonprofit Organizations and Public Enterprise
		X			L31 - Nonprofit Institutions; NGOs
		X			L39 - Nonprofit Organizations and Public Enterprise: Other
		X			O0 - Economic Development, Technological Change, and Growth
		X			O1 - Economic Development
		X			O2 - Development Planning and Policy
		X			O22 - Project Analysis
		X			O29 - Development Planning and Policy: Other
		X			O30 - Technological Change; Research and Development; Intellectual Property Rights
		X			O31 - Innovation and Invention: Processes and Incentives
		X			O38 - Technological Change: Government Policy
		X			O39 - Technological Change: Other
		X			O40 - Economic Growth and Aggregate Productivity
		X			O43 - Institutions and Growth
		X			O44 - Environment and Growth
		X			O47 - Measurement of Economic Growth; Aggregate Productivity; Cross-Country Output Convergence
		X			O49 - Economic Growth and Aggregate Productivity: Other
		X			P46 - Other Economic Systems: Consumer Economics; Health; Education and Training; Welfare, Income, Wealth, and Poverty
		X			Q01 - Sustainable Development
		X	**X**		R20 - Urban, Rural, Regional, Real Estate, and Transportation Economics: Household Analysis
		X			R23 - Urban, Rural, Regional, Real Estate, and Transportation Economics: Regional Migration; Regional Labor Markets; Population
		X	**X**		R29 - Urban, Rural, Regional, Real Estate, and Transportation Economics: Household Analysis: Other
		X			Z10 - Cultural Economics; Economic Sociology; Economic Anthropology
		X			Z13 - Economic Sociology; Economic Anthropology; Social and Economi Stratification