

A Profile of Italian Working Papers in RePEc

Rosa Di Cesare*, Daniela Luzi*, Marta Ricci*, Roberta Ruggieri[#]

*Consiglio Nazionale della Ricerche

Istituto di Ricerche sulla Popolazione e le Politiche Sociali

Via Palestro, 32 00185 Roma e-mail: r.di cesare@irpps.cnr.it

[#] Senato della Repubblica, Roma, Italia

Abstract

This paper describes the results of an analysis of Italian Working papers (WP) available both in RePEc (Research Papers in Economics) and in Institutional Repositories (IR) and websites. Given that RePEc is a disciplinary repository based on the active involvement of economic institutions, rather than authors, our analysis intends to explore the institutions' propensity for making their collections available both in disciplinary and Institutional repositories. Therefore, the paper provides a profile of the Italian Economics institutions participating in RePEc as well as an in-depth analysis of the their availability WPs and WP series. Moreover, IRs and websites of the Italian institutions participating in RePEc were analysed to compare the scientific contents available in these important sources of free access information (RePEc, IRs and websites).

1. Introduction

RePEc (Research Papers in Economic) is one of most important disciplinary repositories, which covers different aspects of research in Economics, and gathers the largest collection of working papers. Founded in 1997, it provides users with a variety of services, ranging from searching facilities for document (IDEAS) as well as research institutions profiles (EDIRC) to a provision of access statistics for items and authors (LogEC) as well as tools for citation analysis (CitEc). This decentralized repository is primarily based on an interconnected network of over 1000 interoperable archives supported by an eclectic mix of participants, from the major commercial publishers, university presses, research centres, central banks to university departments in 80 countries worldwide. This makes RePEc different from other disciplinary repositories. It is based on the collaboration with Economics institutions, which make their collections retrievable by RePEc using both a common bibliographic template for content descriptions and a protocol to exchange data. Only recently has RePEc set up a service that allows single authors to submit their publications, but they are allowed to do it only when they belong to institutions lacking a RePEc archive.

In the framework of the Open access movement, Institutional and disciplinary repositories represent complementary communication channels to enhance the visibility and impact of scientific results. Generally, disciplinary repositories tend to be populated with a greater number of papers compared with the ones available in Institutional repositories (IR). This fact has been underlined in several studies [Swan, 2005; Kingsley 2008; Bjoerk et al., 2010] pointing out that authors show a greater propensity to submit their work to thematic archives rather than self-archiving their works in IRs. Different explanations have been given, ranging from publication practice of specific scientific communities to the capacity of institutions to actively involve the different stakeholders (authors, librarians, information managers, etc.) of the research lifecycle.

Given that RePEc is based on the active involvement of economic institutions, rather than authors, our analysis intends to explore the institutions' propensity for making their collections available both in disciplinary and institutional repositories. For this reason this paper provides first a profile of both Italian economics institutions and their production in terms of Working papers (WP) and

WP series listed in RePEc (paragraphs 4.1. – 4.3.) and then analyses whether these institutions make their WP series also available in their IRs and/or web pages (paragraphs 4.4 - 4.5). Therefore, our analysis intends to contribute to the identification of successful strategies to increase the impact of research results within an open access environment.

2. RePEc characteristics

Even if RePEc is currently listed among the most successful disciplinary repositories (the largest after the well-known arXiv.org), its own founders generally refers to it as a bibliographic service or database [Zimmermann, 2009], a de-centralised non-commercial digital library [Barrueco et al., 2000], a decentralised academic publish system, an open library [Krichel, 2001]. This is due principally to two separate, main features: namely its historical development and its organisational model.

RePEc dates back to 1997 and is based on the previous NetEC project founded in 1993 by Thomas Krichel as a collection of projects (BibEc, WoPEc, CodEc, WebEc, BizEc and HoPEc) aiming at distributing information relevant to Economics and in particular focused on WPs diffused via Internet. It is interesting to read about its development in the pre-history of WWW [Krichel, 1997; Karlsson, 1999] because each project represented the effort of both tracking different types of information (from the print working papers in BibEc to the first digital ones in WoPEc, software codes used in Economics, collection of web pages in WebEc, etc.) and progressively establishing the active involvement of different people and institutions in sharing their resources taking advantage of the new information technologies (at the time, gophers, mailing lists etc.).

Moreover the current RePEc is also the result of constructing a cooperation model, which is suited to its scientific community and its publishing practice. For instance the development in 1997 of a centralised “Economic Working Paper Archive” at Washington University based on the model imported from the High Energy community was abandoned in favour of a decentralised database. The economists’ “built-in distrust of monopolies” reported by Krichel [2001] coupled with, at that time, over 200 retrievable archives of working papers made more practical to let each institution manage its own collection locally and then make them centrally accessible on a common interface. Therefore, the establishment of a common bibliographic template for content descriptions (called ReDIF) as well as the development of a protocol (called Guildford) to exchange data represented one of the most important achievements, which are still the basic architectural framework of the current RePEc.

Under this perspective RePEc can be considered a distributed digital library, a “collection of metadata records” each one identified by a unique handle, which allows the linkage between records. Hence, the definition of a decentralised bibliographic database, based on the relations between “resource” (i.e. any output of an academic activity: research documents, datasets, computer programs), the resource logical grouping in “collection” (i.e. working paper series and journals), as well as “person” and “institution” [Barrueco, 1999].

These four elements are the core RePEc services, built upon the archives made available by the collaborating institutions on an http or ftp server. They are briefly described hereafter.

- EDIRC (Economics Departments, Institutes and Research Centers in the World) is the service that indexes economics institutions worldwide by countries and fields. It provides detailed information on the institution structure, listing the affiliated “sub-entities” (for instance in the case of universities EDIRC reports the belonging departments, institutes,

and/or research centres connected with economics studies). Moreover, EDIRC provides also a list called “*Top 25% Institutions and Economists*” that ranks institutions in each participating country according to a set of criteria described in detail in Zimmermann [2009].

- IDEAS (Internet Documents in Economics Access Service) is the service that provides the user interface to browse and search RePEc scientific contents (journals, working papers, books, book chapters, software components);
- RePEc Author Service allows authors to register in RePEc, providing information on their name variations so that metadata matching as well as work attribution are facilitated. Authors also provide information on their affiliations. Only when registered is an author ranked together with his/her institution and obtains notifications of new citations found in RePEc.
- MPRA (Munich Personal RePEc Archive) is the only central archive where researchers can submit their works only when their affiliated institution does not participate in RePEc.

Besides organising this collection of archives and making their data freely available, RePEc provides a set of additional intermediary user services:

- NEP (New Economics Papers) is a notification service of new downloadable WPs for over 40 specific fields. Voluntary editors compile subject specific reports that filter RePEc new additions to provide subscribers with update information constituting a “simple form of peer review” [Bátiz-Lazo, 2005].
- LogEC is a service that provides access statistics for each item.
- CitEC (Citation in Economics) is the service that provides an autonomous citation index of many electronic documents distributed by RePEc (74% at the time of writing). This service is maintained by José Manuel Barrueco at the University of Valencia.

The variety of services provided by RePEc coupled with different functionalities and information needs succeed to “describe the discipline, rather than simply the documents” [Krichel, 2001] produced by the Economics scientific community.

3. Objectives and Methods

Our analysis was driven by the type of organisation model that characterises the RePEc interconnected network and in particular by the active role played by Economics institutions in making their collection retrievable, thus taking advantage of RePEc services to increase their visibility and impact within an international scientific community. Under this perspective RePEc is worth analysing for the following main reasons: a) unlike the majority of e-print archives, it is based on collaboration with different Economics institutions which make their collections retrievable by RePEc, or more precisely by the IDEAS Service, b) it is the largest open source of WPs in Economics and related fields, and c) WPs contribute to determine institutions’ and authors’ ranking positions measured by RePEc bibliometric analysis. For these reasons RePEc as well as the IRs and websites maintained by the Italian institutions participating in RePEc are valid sources of analysis to achieve our overall objective, that is to explore the institutions’ propensity to make their collections available both in disciplinary and institutional repositories in Italy.

Our analysis is divided into two parts. In the first we have analysed the Italian contribution to RePEc in order to identify, on the one hand types of economics institutions participating in RePEc, and on the other, features and characteristics of the WPs made available in this disciplinary repository. This analysis was performed using the following RePEc data sources:

- a) EDIRC list of entity and sub-entities participating in RePEc;
- b) IDEAS list of Italian WP series;

The analysis of both Italian institutions participating in RePEc and their WP collections was performed at two levels. In the first data was gathered from the entire set of WP series listed in IDEAS, while in the second, data was collected from the WP series reported in the list of “*Top 25% Institutions and Economists in Italy*”. This list ranks institutions on the basis of the number of authors registered in RePEc Author service, Institutions listed in EDIRC, bibliographic data collected by RePEc, as well as citations counted by CitEc and access statistics registered by LogEc. The comparison of the data of the entire set of Italian contribution with that contained in the list of the best-ranked institutions allowed us to identify the share production of the best-ranked Italian institutions, in terms of consistency, stability over time, etc.

In particular, the Italian WPs contribution in RePEc was analysed in terms of:

- WP series characteristics, considering:
 - Number of series registered;
 - Longevity (live, dead series),
 - Vitality (young and new-born series);
- WP characteristics, considering:
 - Number of WP for each series;
 - Average number of WPs per series and per year.

Within the Italian WP series we excluded those produced by and/or in collaboration with commercial publishers that turned out to be journal collections.

As RePEc is continuously updated, the analysis of Italian WP series referred to the month of July 2010.

In the second part of our study the best-ranked institutions listed in the *Top 25%* were considered in order to determine whether:

- These Institutions had an IRs;
- The series listed in IDEAS were available also in the IRs and/or in websites;
- The documents’ temporal coverage in IRs and/or websites corresponded to that registered in RePEc;
- IRs and/or websites provided access to other types of GL documents.

This analysis also included those institutions that are listed in the *Top 25%*, but do not register any WP series in RePEc.

4.Results

4.1. Italian WPs in RePEc in a European context

The production of more than 80 countries worldwide is retrievable in RePEc. To give an overview of the Italian production of WPs at international level, we selected the WPs made available by United Kingdom, Germany, France and Spain. These countries were selected because they were among the major contributors to the SIGLE database.

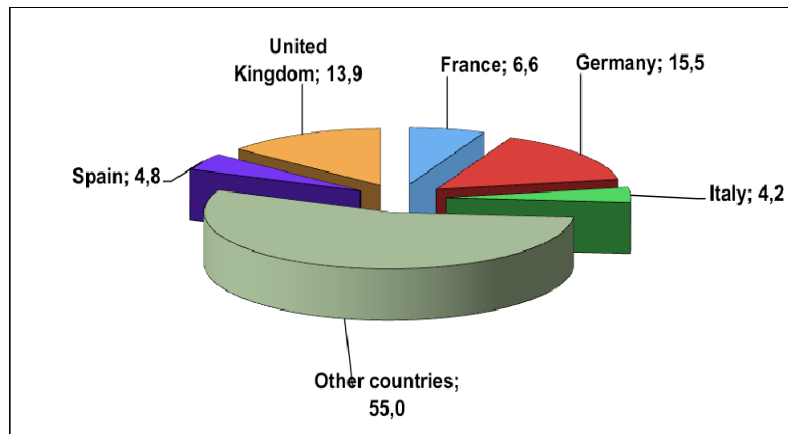


Figure 1 . - WPs of some European countries in RePEc (%)

Italy participates in RePEc with 15064 WPs, which is 4% of the entire database. The major WP producers in our sample are: Germany with 55062 WPs and the United Kingdom with 49425 WPs. The French and Spanish contributions are closer to that of Italy.

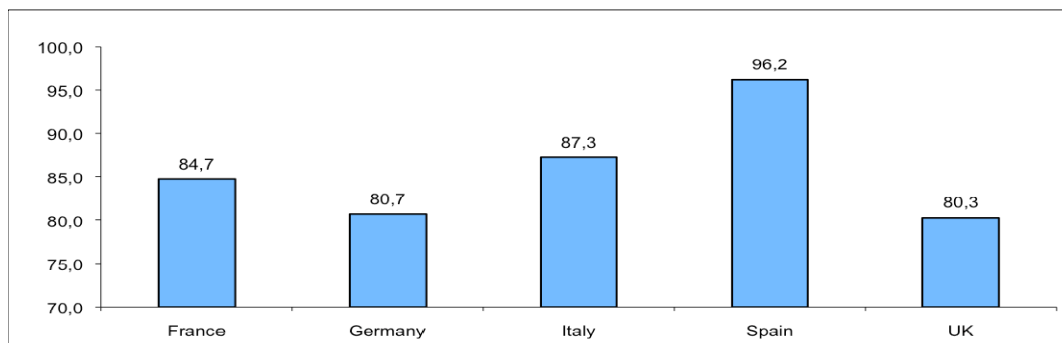


Figure 2 . - Online WPs of some European countries in RePEc (%)

If we consider the online WPs (fig. 2) we can notice that most of them are available in full text, with Spain reaching the highest percentage, followed by Italy and France.

4.2. Italian institutions in RePEc

Table 1 shows the composition of the Italian participation in RePEc. Within a total number of 369 providers, the major contributors are universities represented by their departments, faculties, and centres, reaching all together 71.2%. Other types of organisations are Research centres, Foundations, Governmental institutions and Associations.

Table 1. – Number and percentage of Italian institutions in REPEC and in Top 25% by type of providers

Provider	No.	%	Top 25% institutions	
			No.	%
University department	130	35.2	45	51.1
University centre	82	22.2	10	11.4
University faculty	51	13.8	20	22.7
Research centre	31	8.4	8	9.1
Foundation	22	6.0	4	4.5
International organization	8	2.2	1	1.1
Governmental institution	13	3.5	--	--
Association & Society	32	8.7	--	--
Total	369	100.0	88	100.0

Considering the composition of the Italian providers listed in the *Top 25%* (table 1), there are 88 best-ranked institutions; the majority of them are University departments, followed by faculties and University centres. Compared with the figures of the total number of Italian institutions, we can notice that the presence of University sub-entities is more relevant increasing in particular in the case of University departments (51.1% vs. 35.2%), Faculties (22.7% vs. 13.8%) as well as for Research centres (9.1% vs. 8.4%).

4.3. Italian WP collections in RePEc

Working papers have long been a mainstay of scientific output in Economics. Like other types of GL documents, WPs attenuate the gap of publication delay and editorial space limits, thus proving updated and comprehensive information on specific research areas. As reported in Krichel [2001], “Economists do not issue preprints as individuals; rather economic departments and research organizations issue working papers”. Additionally it is important to point out that Economics institutions generally organize this type of report literature in collections, providing for each of them a title that specifies the topic of the series and progressive numbers in the collection (known as report number). This editorial activity differs from the one carried out by commercial publishers in two aspects: there is no predefined number of issues/WPs to be published in one year, and generally there is no formal peer-review procedure that is generally dependent on internal institutional rules and practices. Nevertheless, many of these WPs represent important reference points in the scientific literature: they are often cited in journals and may represent the official position of important institutions in key issues. Hence, the importance of their free, rapid and wide diffusion through different channels, Institutional repositories, websites and of course disciplinary repositories like RePEc that allows users to gain a more comprehensive picture of the production of WPs at international level.

Given these premises, our hypothesis is that the editorial activity carried out within an Economics institution in issuing and managing WP collections is comparable with the commercial publishing process of scientific journals. Therefore, in the measurement of the consistency of WPs and WP series we focused our attention in particular on:

- The *stability* of collections, i.e. their continuity over time, that according to our hypothesis indicates a well consolidated research area, whose results are progressively issued and circulated under a specific series title;

- The *novelty* of collections, i.e. the issue of new collections that indicates the setting up of new research areas in which institutions are acquiring scientific results that need to be diffused, generating an *ad hoc* new series. That is a similar procedure to that which is adopted when new journals are launched.

To describe these characteristics we used two indicators: *longevity* and *vitality*.

To measure “longevity”, we classified WP series as following:

- *Live WP series*, that is series that are still available in RePEc for the years 2009 or 2010;
- *Dead WP series*, that is series that are no more available either for the years 2009 or 2010.

To measure “vitality”, within the live series, we classified WP series as following:

- *Young series*, that is series available in RePEc from 2007 on;
- *New born series*, that is series available in RePEc since 2009 or 2010.

Moreover, considering that each provider produces different numbers of WPs over different periods of time, we measured the WP consistency in terms of average number of WPs within each series and the average annual contribution, as following:

- *Series’ average weight*: is the average number of WPs contained in a series;
- *Annual average contribution*: is the average number of series provided by an institution in one year.

These indicators have been applied to the entire set of Italian WP series as well as to the series produced by the best-ranked institutions.

4.3.1. Characteristics of WPs series: “longevity”

There are 145 WP series listed in RePEc (table 2), the major producers are University departments (53.8%), Research centres (14.5%) and International organisations (15.9%). According to the previously provided classification of *longevity*, the majority of RePEc providers contribute with series that have a stable and continuous production over the years (109 out of 145, equal to 75.2 are *live* series), and this is particularly evident in the case of Foundations, Governmental institutions, University departments, and Research centres. The only exception is represented by International organisations that have a high percentage of series that finish in 2008 or before. These collections are produced by FAO and UNICEF, the latter in particular has a high number of *dead series* that contain project results. Therefore we can assume that a collection is closed when the project is finished, following the project lifecycle.

Table 2. - RePEc series according to “longevity”

Provider	RePEc series					
			<i>Live</i>		<i>Dead</i>	
	No.	%	No.	%	No.	%
University department	78	53.8	64	82.1	14	17.9
University centre	13	9.0	11	84.6	2	15.4
University faculty	3	2.1	2	66.7	1	33.3
Research centre	21	14.5	18	85.7	3	14.3
Foundation	4	2.8	4	100.0	--	--
International organization	23	15.9	8	34.8	15	65.2
Governmental institution	1	0.7	1	100.0	--	--
Association & Society	2	1.4	1	50.0	1	50.0
Total	145	100.0	109	75.2	36	24.8

Table 3. – Best-ranked RePEc series according to “longevity”

Provider	RePEc series					
			<i>Live</i>		<i>Dead</i>	
	No.	%	No.	%	No.	%
University department	41	58.6	37	90.2	4	9.8
University centre	9	12.9	9	100.0	--	--
University faculty	--	--	--	--	--	--
Research centre	14	20.0	12	85.7	3	14.3
Foundation	4	5.7	4	100.0	--	--
International organization	2	2.9	1	50.0	1	50.0
Total	70	100.0	63	90.0	7	10.0

The analysis of the longevity indicator applied to WP series produced by the best-ranked institutions is reported in table 3. Comparing these data with the entire set of WP series in RePEc, we can notice that the percentage of live series increases reaching 90% in total providing a higher degree of stability and continuity in production of the best-ranked institutions.

Moreover, it is worth underlining that 70 WP series are produced by the best-ranked institutions representing almost 50% of the total number of the Italian WP series listed in RePEc and this confirms that WP production contribute to determine the positions of the institutions’ ranking.

4.3.2. Characteristics of WPs series: “vitality”

The analysis of the vitality indicator applied to the entire set of Italian RePEc WP series is reported in table 4.

Table 4. - RePEc series according to “vitality”

Provider	Live RePEc series					
			<i>Young</i>		<i>New-born</i>	
	No.	%	No.	%	No.	%
University department	64	58.7	8	7.3	3	2.8
University centre	11	10.1	1	0.9	1	0.9
University faculty	2	1.8	--	--	--	--
Research centre	18	16.5	1	0.9	4	3.7
Foundation	4	3.7	--	--	--	--
International organization	8	7.3	1	0.9	--	--
Governmental institution	1	0.7	--	--	--	--
Association & Society	1	0.9	--	--	--	--
Total	109	100.0	11	10.1	8	7.3

Among the live series, there is a low percentage of young series (10.1%), which are mostly produced by University departments, while new-born series (7.3%) are in particular produced by Research centres (3.7%). This highlights that such production is concentrated within research environments.

Table 5. – Best-ranked RePEc series according to “vitality”

Provider	Live RePEc series					
			Young		New-born	
	No.	%	No.	%	No.	%
University department	37	58.7	4	6.3	1	1.6
University centre	9	14.3	2	3.2	--	--
University faculty	--	--	--	--	--	--
Research centre	12	19.0	1	1.6	3	4.8
Foundation	4	6.3	--	--	--	--
International organization	1	1.6	--	--	--	--
Total	63	100.0	7	11.1	4	6.3

The same classification applied to the series produced by the best-ranked institutions (table 5) gives similar results. There is a small increase in the percentage of *young* WP series, while *new born* have similar values compared to the results obtained in the entire set of Italian WP series in RePEc.

4.3.3 Characteristics of WPs series: WPs production over time

As seen in paragraphs 4.3.1. and 4.3.2., Italian WP series in RePEc represent stable collections, which provide scientific results on institutional consolidated research areas over a continuous period of time. Now, in order to verify whether WP collections produced by Italian Economics institutions in RePEc also have features similar to scientific journals, we analysed the number of WPs within each series and measured the average number of WPs within each series as well as the average annual contribution.

Table 6. – RePEc annual Italian contribution by type of provider

Provider	No. of series	No. of WP	Series' average weight	Annual average contribution
University department	77	6671	86.6	11.7
University centre	14	1542	110.1	15.0
University faculty	3	140	46.7	4.2
Research centre	21	1651	78.6	11.0
Foundation	4	1380	345.0	37.3
International organization	23	614	26.7	4.5
Governmental institution	1	18	18.0	18.0
Association & Society	2	73	36.5	9.1
Total	145	12089	83.4	11.6

Table 6 shows the results of this analysis. 145 series contain a total number of 12089 WPs. The general average number of WPs is 83 papers for each series, while the average of WPs produced in each year for each series is 11,6. Considering now the different types of providers, Foundations produce on average a very high number of WPs, followed by University centres and University departments. We encountered a similar result when we measured the annual average contribution.

Table 7. - RePEc annual Italian contribution by type of best-ranked provider

Provider	No. of series	No. of WP	Series' average weight	Annual average contribution
University department	41	4573	111.5	12.5
University centre	9	1305	145.0	15.5
University faculty	--	--	--	--
Research centre	14	1496	106.9	14.4
Foundation	4	1380	345.0	37.3
International organization	2	58	29.0	5.3
Total	70	8812	125.9	14.6

The same measure applied to the top ranked institutions (table 7) shows first of all that the general average is much higher, with a higher number of WPs for each series (125.9), confirming that Foundations and University centres produce a number of WPs above the average. Further, the average production increases to 14 WPs per year; University centres, Research centres (15.5) and Foundations (37.3) produce an above general average number of WPs.

Given this data we can compare WPs series in Economics with commercial journals considering that journals produce at most 12 issues per year and that the number of articles in one journal issue is generally much lower than the number of WPs produced in one series.

Moreover, we can notice that 73% of WPs (i.e. 8812 out of 12089 total number of WPs) is produced by the best-ranked institutions and this confirms once again that this production contributes to determining their position in the ranking, being part of evaluation metrics used in RePEc.

4.4. Italian Institutions in RePEc and their IRs and websites

In this part of the study we analysed whether the Institutions participating in RePEc also populate their own IRs and/or diffuse their WP series within their websites. For this reason, sources of our analyses were the IRs of the 88 Italian top ranked institutions as well as their websites.

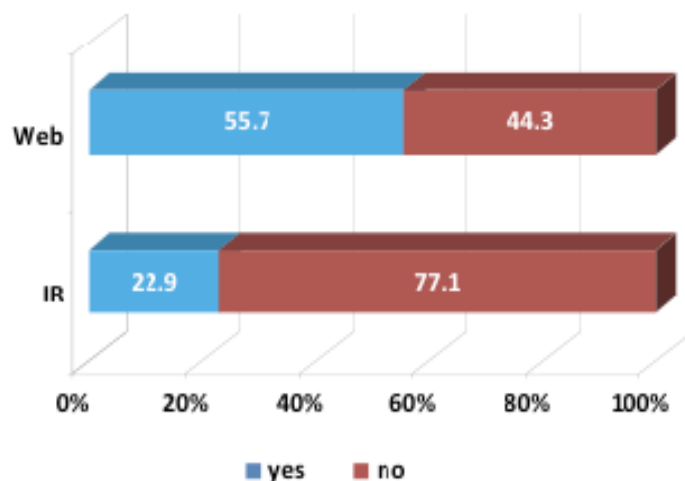


Fig. 3. Availability of RePEc series in local IRs and websites

Considering University departments, centres and faculties belonging to the same university, there are 35 RePEc providers that can potentially submit their scientific production in the 17 local IRs. Only 22.9% (equal to 8 providers) makes RePEc series also available in their local IRs. Analysing the websites of the 88 providers listed in the *Top 25%*, the situation is different. 55.7% of them (equal to 49 out of 88 providers) list the RePEc WP series in their websites too (fig. 3).

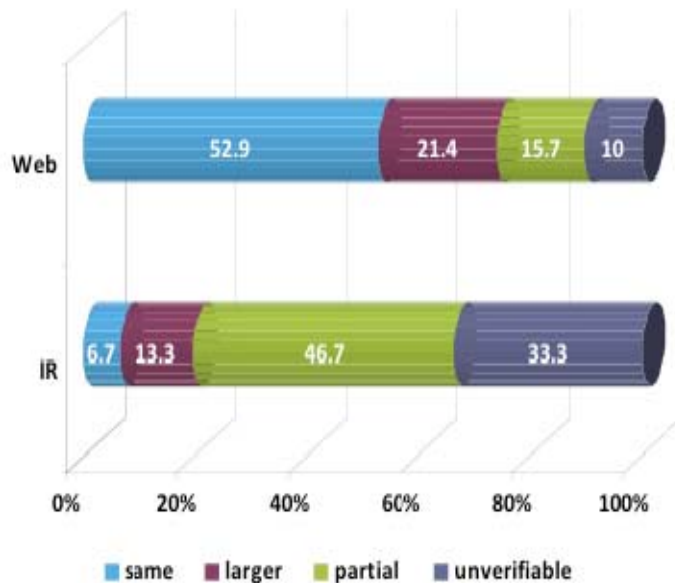


Fig. 4. – Temporal coverage of RePEc WP series in local IRs and Websites

A more detailed analysis was performed on the WPs series available in local IRs and websites in order to verify if there is uniform information content in RePEc, local IRs and websites. To do so, we checked the temporal coverage of each series within local IRs and websites (fig. 4).

Considering Institutional repositories, 6.7% of series produced by the best-ranked institutions in RePEc have the same temporal coverage compared with that available in RePEc, 13.3% a larger temporal coverage, while the majority of these institutions (46.7%) provide a limited temporal range of WP series in their IRs.

For 33.3% of them this data could not be retrieved, and this depends on how repositories organise the bibliographical data of their collections as well as on the ways the scientific community (i.e. University departments, centres and/or scientific groups) are associated with the collections they produce.

Considering websites, 52.9% of WP series have the same temporal coverage as in RePEc, while 21.4% make their WP series available for a longer period. The differences in temporal coverage can be interpreted in different ways. The richness of information provided in websites can be explained by the fact that research teams generally directly manage their own websites and are obviously directly interested in providing an updated and comprehensive picture of their research activities and results. IRs are unfortunately often managed “outside the scientific community” and further efforts in building efficient collaboration among the different stakeholders (researchers, librarians, information managers) still need to be made. Similar results were also obtained in [Bjoerk et al., 2010].

4.5. Availability of other GL information in local IRs and websites

To conclude our analysis we also checked both IRs and websites to identify whether they contained other types of GL documents. Our intention was to verify if the information providers select types of documents and/or scientific content to be made available locally. We found that both IRs and websites provide information on other GL documents (fig. 5). In the case of IRs (42.9%), they are generally course materials and theses, while in 55.7% of websites they are mainly proceedings, workshops and data set.

If we consider other WPs series available both in IRs and websites, we can see that there is no evidence of information providers selecting the WPs to be retrievable on their local systems, only 11.4% provide information on other WPs series in IRs and 22.9% in websites.

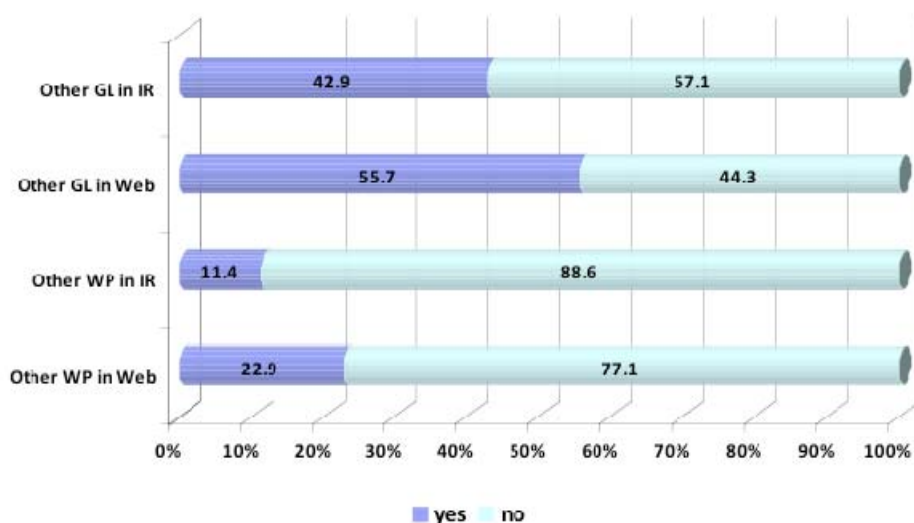


Fig. 5. – Availability of other GL documents in IRs and websites

5. Conclusions

This study provided a profile of the Italian Economics institutions participating in RePEc associated with the analysis of their production of WPs and WP series. The results of our analysis indicate that among the 369 institutions participating in RePEc the major contributors are academies represented by their belonging to University departments, faculties and centres. They also constitute the core of the institutions listed in the *Top 25%* together with Research centres and Foundations. The analysis of WP series made available in RePEc confirms the important role played by this type of GL document. They contribute to determining the ranking position of the institutions (75% of the total number of WPs are produced by the best-ranked Italian institutions) constituting a large part of the free documents, on which RePEc bibliometric services measure institutions' and authors' impact, using various criteria to determine citations and access statistics [Zimmermann 2009].

Moreover, they represent the main research areas covered by scientific institutions whose results are diffused in a continuous and stable way within WP collections: the majority of WP series are *live*, current collections. Our hypothesis that the institutional activity of editing Economics WP series has features similar to the publication of journals was confirmed by the analysis of WPs contained in the series. In fact, measuring the average number of WPs per series and per year, we found that they contain on average a high number of WPs as well as figures comparable with the publication of issues within scientific journals. This figure is even higher if we consider the WPs produced by the best-ranked Italian institutions. They publish on average more than 14 WPs per year within a series, with peaks above the average in the cases of University centres, Research centres and Foundation.

The results obtained in the second part of the study that aims to analyse the availability of WPs in both Institutional repositories and websites maintained by the 88 best-ranked institutions in RePEc provided a more fragmented picture. In fact, IRs do not seem to represent a preferential channel for WP diffusion: a limited number of Italian institutions additionally makes RePEc series available in their local repositories, the temporal coverage of these collections in IRs is in most cases briefer than in RePEc. Moreover, the identification of RePEc series associated with their producers (University departments, centres or research groups) within IRs is not always a straightforward procedure, depending on the way IRs organise their scientific contents. These aspects may bias the retrieval of this important source of information as well as the visibility of their direct producers.

On the contrary, the websites maintained by the 88 top ranked institutions reflect their scientific production well. In fact, there is a more complete correspondence of WPs listed in RePEc, both in terms of collections available and temporal coverage. Of course the direct involvement of research teams in the development of websites contribute to the achievement of a rich and comprehensive description of their scientific activities and products.

To conclude, our study has outlined a contradictory picture of the propensity to diffuse scientific contents in both disciplinary and local IRs. On the one hand, Italian institutions voluntarily contribute with their WPs and WP collections to build in RePEc a critical mass of information relevant to Economics, on the other, they seem to neglect the role of local IRs in diffusing their scientific results. However, the richness and comprehensiveness of the information available in websites supports the hypothesis that in Italy IRs have not yet succeeded in achieving an active and efficient collaboration among the main stakeholders of the research lifecycle (researchers, librarians, information managers, IR's developers). Of course, this hypothesis has to be confirmed carrying out future, *ad hoc* analysis that can contribute to foster Open access also at local levels.

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