

# Comparing the early research performance of PhD graduates in labor economics in Europe and the USA<sup>1</sup>

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## Abstract

This paper aims at analyzing the early research performance of PhD graduates in labor economics, addressing the following questions: Are there major productivity differences between graduates from American and European institutions? If so, how relevant is the quality of the training received (i.e. ranking of institution and supervisor) and the research environment in the subsequent job placement institution? The population under study consists of labor economics PhD graduates who got their degree in the years 2000 to 2005, in Europe or the USA. Research productivity is evaluated alternatively as the number of publications or the quality-adjusted number of publications of an individual. When restricting the analysis to the number of publications, results suggest a higher productivity by graduates from European universities than from USA universities, but this difference vanishes when accounting for the quality of the publication. However, differences show up when the top institutions are factored in: graduates from top American institutions show a clear productivity advantage, whereas no similar effect can be detected for Europe. The results also suggest that graduates placed in American top institutions are likely to publish more quality-adjusted articles than their European counterparts. This may be because, when hired, they already have several good acceptances or because of more focused research efforts and clearer career incentives.

Keywords: graduate programs; research productivity.  
JEL codes: A23, A11, I23, A14, A10.

Very preliminary version. Please do not quote.

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## 1. Introduction

Predicting the early academic success of PhD graduates has been an issue of interest in economics, trying to identify the determinants of their research productivity or the quality of their job placement. Invariably, studies on this subject are based on the idea that the research performance of the young PhD graduate is determined by the quality of the academic training received (namely the quality of the institution awarding the PhD or the research productivity of the supervisor). Examples of such studies include Athey *et al* (2007), Grove and Wu (2007), Hilmer and Hilmer (2007) and Krueger and Wu (2000).

A different line of literature has been concerned with identification of policies that can promote research excellence. Part of this literature is motivated by the low European research performance in economics when compared to the USA. Such studies invariably emphasize the relevance of incentives, both at the individual and the department levels, and the need to promote profound institutional reforms in most European countries (see for example Drèze and Estevan (2007)).

This study aims at bringing together these two lines of literature, assessing the role of two different types of determinants of research performance of recent PhD graduates: the quality of the academic training received versus the institutional setting of the job placement institution upon completion of the PhD. Indeed, given the literature on the relevance of the institutional setting and career incentives for the promotion of research quality, analyzing the productivity of PhD graduates by taking into consideration only their academic background seems an incomplete view. Anecdotal evidence can illustrate this point: two students equally talented, receiving their PhD degree from the same institution and at the same time, often perform subsequently quite differently in terms of research output, depending on the country or institution where they end up and the conditions inducing or hindering quality research.

We concentrate on PhDs in labor economics who received their degree in 2000 to 2005, from a European or USA university. Identification of the population under study relied on two sources: Dissertations Abstracts, a database covering every dissertation defended at an American accredited institution, at fifty British and a few other European institutions; the files of the IZA European Summer in Labor Economics, containing detailed information on both successful and unsuccessful applicants from all over Europe. Research productivity is evaluated alternatively as the number of publications or the quality-adjusted number of publications of an individual.

Section 2 provides a detailed description of the dataset and section 3 presents descriptive statistics. The model under estimation is presented in section 4 and its results are discussed. Section 5 concludes.

## **2. Dataset**

The population under study consists of labor economics PhD graduates who got their degree in the years 2000 to 2005, in Europe or the USA. Identification of the population under study relied on two different sources: Dissertation Abstracts Online and the files of applicants to the IZA European Summer School in Labor Economics.

### *Data on PhD graduates*

Dissertation Abstracts covers dissertations defended at all accredited American institutions, at 50 British institutions and a few other European ones. It is produced by ProQuest Information and Learning, based on information that each degree-granting institution supplies to University Microfilms International. The reported variables include: name of graduate, type of degree obtained, awarding institution, country, year of defense, supervisor's name, thesis title, subject, keywords, and abstract. The following constraints were imposed for data selection: thesis defended in 2000 to 2005, in the USA or Europe, whose subject code was "labor economics", leading to the degree "PhD" or equivalent.<sup>2</sup> This procedure allowed us to identify a total of 1,354 individuals, 92 of which were from European institutions.

The IZA European Summer School in Labor Economics is organized yearly since 1988 by the Institute for the Study of Labor (IZA Bonn), as a one-week event that includes a set of lectures by two renowned senior researchers and presentations and discussions by PhD students. The event counts on the institutional support of the major scientific associations in Europe: European Economic Association (EEA), Centre for Economic Policy Research (CEPR), European Association of Labour Economists (EALE), and European Society for Population Economics (ESPE). From 2004 to 2007, it was funded by the European Commission, under its *Sixth Framework Programme, Marie Curie Conferences and Training Courses*. Throughout the period it has been running, all expenses incurred by the PhD students to attend the event were fully covered (traveling costs, accommodation and meals, visa fees if required, and other costs such as

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<sup>2</sup> The Dissertation Abstracts database has no standardized way to designate the degree awarded. Non-US institutions tend to use their own designation for the type of degree awarded. We considered the following list of designations for degree awarded as equivalent to "PhD": "Dr.", "D.Soc.Sc.", "Fil.dr.", "PD", "Dr.Ec.", "Dr.Econ", "Dr.Soc.Sc." and "Ekon. dr".

printing of posters for presentation). About 35 students are selected for participation each year and, until very recently (2003), only students at European universities were eligible to apply. Given the reputation of the event and the fact that participation imposes no financial burden at all on the participants or their institutions, a very large pool of applicants was attracted each year, with the chances of getting accepted currently standing at 0.25. Combining the IZA files on both participants and unsuccessful applicants during the ten-year period 1998 to 2007, we have detailed data on 796 individuals, thus covering a substantial share of labor economics PhD students at European universities. Reported data include: name of the student, gender, nationality, PhD institution, country, supervisor's name, title of paper presented, abstract, year of start of PhD, contact information, as well as his/her *curriculum vitae* at the time of application. Further data on the Summer School applicants was collected via web searches, to retrieve their date of completion of PhD; individuals who were awarded the degree in 2000 to 2005, at a European or USA institution, were kept for analysis. Data on ... individuals was thus kept.<sup>3</sup>

Further data collection for all individuals under analysis took place from November 2007 to March 2008, using the web to search for the following variables: employing institution, country, job title, year of start, and email address; gender, year of birth, nationality and, whenever feasible, *curriculum vitae*. More refinements in the database were undertaken in April-June 2008<sup>4</sup>, aimed at replacing missing values in the variables of interest.

Additionally, the publication record for all selected individuals, as well as their PhD supervisors, was retrieved from Econlit. We only considered journal articles and notes (editorials, comments, etc were excluded). For the graduates we collected all publications in the period ranging between 2 years before award of the degree and the limit year of 2006. For all supervisors we collected all publications between 1988 and 2006.

### *Measuring research productivity*

The research productivity of recent PhD graduates and their supervisors was evaluated alternatively as:

- the number of journal articles captured in Econlit;
- the number of articles in top labor journals, as defined by Christian Roessler (at <http://www.econphd.net/> -- see appendix B with a listing of the journals included);

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<sup>3</sup> The date of PhD completion is still missing for ... individuals (...% of the initial database of applicants in the period 1998-2005).

<sup>4</sup> Currently underway.

- the number of publications weighted by the quality of the journal (according to Kalaitzidakis *et al* (2003), deflated by the number of authors.

Finally, measures of quality of the institution awarding the PhD and the employing institution were used in the analysis, relying on the ranking of institutions established by Christian Roessler (at <http://www.econphd.net/> -- see appendix C with a ranking of the institutions in labor and consumer economics).

### 3. Descriptive statistics

The database includes over 1,500 graduates (262 from European institutions and 1,267 from American institutions). Within Europe, a wide set of countries is covered, reported in figure 1.

Figure 1 – Country of PhD study (Europe)

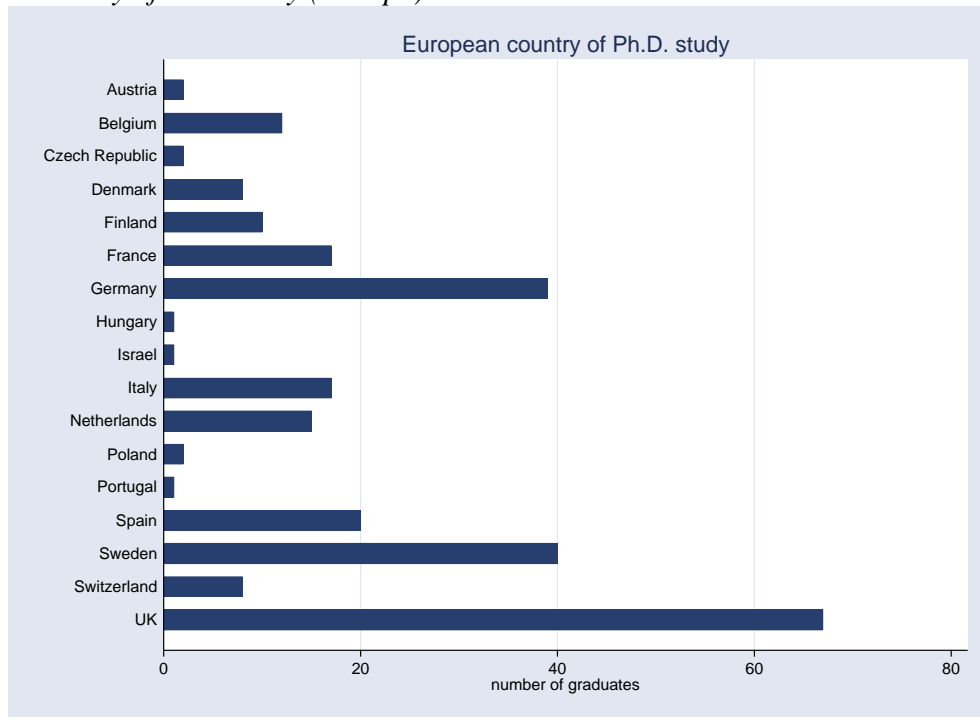


Table 1 – Distribution of graduates from USA and European universities (%)

		Region of PhD study		
		Europe	USA	Total
<b>Gender</b>	male	42.75	42.78	42.77
	female	32.06	31.65	31.72
	.	25.19	25.57	25.51
<b>Year of defense</b>	2000	11.83	19.18	17.92
	2001	15.27	15.94	15.83
	2002	18.32	15.94	16.35
	2003	17.18	15.55	15.83
	2004	20.23	17.52	17.99
	2005	17.18	15.86	16.09
<b>Region of work</b>	Europe	59.54	6.55	15.63
	USA	2.67	48.30	40.48
	Other	2.29	8.13	7.13
	.	35.50	37.02	36.76
<b>Type of job</b>	Professor	21.76	36.86	34.27
	Lecturer/Reader/Instr	7.63	2.92	3.73
	Researcher	29.77	14.29	16.94
	Consultant	0.76	2.60	2.29
	Other	3.05	0.00	0.52
	.	37.02	43.33	42.25
<b>Type of employer</b>	University	43.51	44.51	44.34
	Research Center	11.83	4.03	5.36
	Central/Federal Bank	1.53	1.97	1.90
	Internatl Org / Gov De	6.87	8.37	8.11
	Consulting Firm	0.00	2.37	1.96
	Other Private Sector	0.76	0.55	0.59
	.	35.50	38.20	37.74

The distribution of graduates by gender, year of defense, region of work, type of job held afterwards and type of employer, is reported in table 2, separately for graduates from the USA and Europe. As we can see the gender distribution is similar across the two groups. The European sample has a slightly higher share of recent PhDs. More than half of the European graduates (60%) stayed working in Europe, whereas approximately half of the graduates in the USA stayed working there (table 1). A larger share of American graduates holds a Professorship (possibly related to the differences in the date of defense), which is compensated by a larger proportion of European graduates holding a Researcher position. Finally, the distribution according to type of employer is similar across the two groups with the largest share (around 44%) placed in universities.

Interesting differences in research productivity emerge between the two groups. European graduates publish on average more than twice the number of articles of their USA counterparts (table 2), which is partly due to the larger share of graduates in the USA who have not (yet) published any article (figure 2). The actual difference in terms of counts of articles may be even

larger because the Econlit has a known “anglophone bias”, in the sense that publications in English journals are over-represented in the database.

Table 2 – Research productivity, Europe versus USA graduates

region of PhD study	Summary of number of Econlit articles		
	Mean	Std. Dev.	Freq.
Europe	1.923	2.442	262
USA	.876	1.737	1267
Total	1.056	1.917	1529

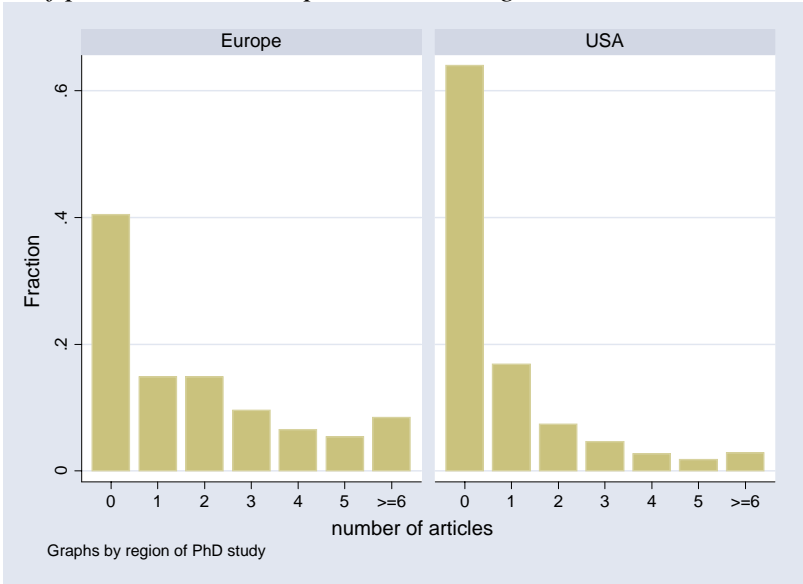
  

	Summary of number of articles in top labor journals (Roessler)		
	Mean	Std. Dev.	Freq.
Europe	0.439	0.898	262
USA	0.331	0.946	1267
Total	0.350	0.938	1529

	Summary of quality-weighted articles (Kalaitzidakis criterion)		
	Mean	Std. Dev.	Freq.
Europe	4.424	11.741	262
USA	7.069	26.881	1267
Total	6.616	24.965	1529

Figure 2 – Number of publications, Europe versus USA graduates



However, once the quality of the journal is taken into account this difference starts to fade away. If we restrict the comparison to top labor journals (see Appendix B) the Europeans still show up as the more productive, by about 30 percent. Once we measure productivity using the Kalaitzidakis quality-weighted measure then the results are reversed and USA graduates reveal higher average productivity (table 2). Restricting the sample to just those authors that ever published show a clearer pattern —European graduates publish on average more articles, but in journals of lower average quality (table 3 and figure 3).

Table 3 – Research productivity, Europe versus USA graduates (only graduates who ever published)

region of PhD study	Summary of number of Econlit articles		
	Mean	Std. Dev.	Freq.
Europe	3.231	2.407	156
USA	2.434	2.143	456
Total	2.637	2.238	612

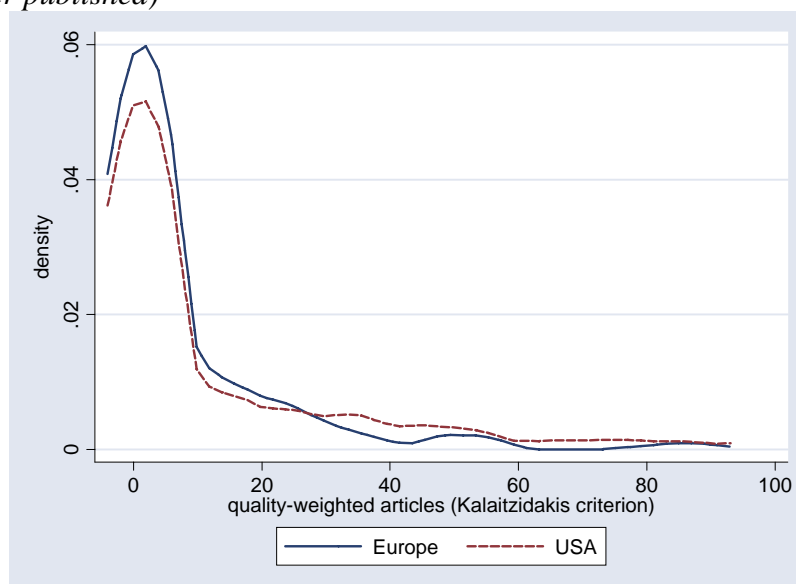
  

	Summary of number of articles in top labor journals (Roessler)		
	Mean	Std. Dev.	Freq.
Europe	0.737	1.066	156
USA	0.921	1.395	456
Total	0.874	1.320	612

	Summary of quality-weighted articles (Kalaitzidakis criterion)		
	Mean	Std. Dev.	Freq.
Europe	7.430	14.479	156
USA	19.642	41.989	456
Total	16.529	37.342	612

Figure 3 – Quality-weighted publications, Europe versus USA graduates (only graduates who ever published)



Notes: Kernel densities plotted with a common bandwidth. Not all publications are assigned points by Kalaitzidakis *et al* (2003).

The evidence so far reported confirms to a large extent the general pattern often highlighted, of lower average research productivity in Europe than in the USA. We are however aggregating over a very broad and heterogeneous set of institutions. Averages may be a misleading concept to compare regions known to encompass top tier as well as lower quality institutions. The analysis below aims at going beyond this broad view.



#### 4. Research performance of American and European graduates

In this section we contrast the performance of European and American graduates using regression analysis. As a first step we ran Poisson regressions using the total number of Econlit publications as the dependent variable. Among the independent variables we considered characteristics of the graduate (gender and time since completion of PhD), the quality of the academic training received (the type of institution awarding the PhD and the research productivity of the supervisor) and the characteristics of the institution where the graduate was placed. A list of all right-hand side variables and respective description is shown in the table 4 below.

Table 4 - List of Independent Variables

<b>Variable</b>	<b>Description</b>
Years	Number of years since completion of PhD
Female	1 if female
ResJob	1 if employed by a University or Research Center
PhDUSA	1 if the PhD is from an US institution
WrkUSA	1 if placement is in a U.S. institution
WrkEUR	1 if placement is in an European institution
ProdSup	Kalaitzidakis quality-weighted publications of the main supervisor (1988 through 2006).
PhDT10USA	1 if the PhD was obtained from a U.S. top 10 university.
PhDT10EUR	1 if the PhD was obtained from a European top 10 university.
WrkT10USA	1 if the job is in a U.S. top 10 university.
WrkT10EUR	1 if the job is in a European top 10 university.

In table 5 we present our first set of results. All variables in the first specification, column 1, are statistically significant at the usual significance levels.<sup>5</sup> In line with the results of Hilmer and Hilmer (2007) we confirm that female graduates exhibit lower productivity than their male counterparts. The productivity of the supervisor seems to be another important factor when

<sup>5</sup> Note that in all regressions we use the more conservative “Huber/White robust” standard errors.

explaining academic productivity. As expected, the type of institution where the individual is placed has a significant impact on his/her performance. Everything else constant, graduates placed in a university or research center publish about 73 percent more articles than graduates placed in other institutions. The results also confirm one of the most striking findings of the previous section. Even when controlling for multiple factors, there seems to be clear evidence that graduates from European universities publish more than graduates from American universities.

Anecdotal evidence suggests that students graduating from tier 1 universities are the more prolific researchers.<sup>6</sup> Hence, in a second specification (column 2) we introduced two additional variables that identify whether or not the students graduated from a “top 10” American or “top 10” European university in the field.<sup>7</sup> Neither of these two variables is significant. Column 3 shows a regression where we consider the location of the institution of placement. Whether the institution of placement is located in Europe or the U.S. seems to have a similar effect – however, placement in institutions outside of Europe or the US impacts negatively on productivity. Finally, in column 4 we added two more variables that identify whether or not the graduates were placed in any of the top 10 institutions. The argument can be made that top institutions select the most productive researchers and provide the best conditions and incentives for research. However, as the results in Table 5 show, none of the variables identifying top institutions seems to be associated with early-career success as measured by count of articles.

At this point we should emphasize that the results of our regressions need to be interpreted with care. We are uncovering relationships between the productivity of graduates and other variables but we can not assume the existence of causal relationships. For example, we earlier stated that everything else constant a graduate placed in a research institution will publish around 73 percent more. But that does not mean that if we were to switch a recently placed student from say, a private company to a research institution, we would expect a 73 percent increase in productivity. Most likely there was some selection process at work and the more academically inclined students tended to favor placement in research institutions. Another important caveat of our analysis has to do with our data collection procedures. As discussed earlier, data from U.S. doctoral students was collected on a systematic manner while for most Europeans the data came

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<sup>6</sup> Indirect evidence is provided by Amir and Knauff (2008). The authors report that only 20% of faculty hired on the U.S. top ten economics departments comes from outside of that group.

<sup>7</sup> Top universities were identified using the institutional econphd.net rankings in the subdiscipline of Labor & Economics (<http://www.econphd.net/rank/rlabor.htm>). The top 10 American universities in this ranking are: Harvard, Chicago, MIT, California Berkeley, Princeton, UCLA, Stanford, Cornell, Pennsylvania and Northwestern. The top 10 European universities are LSE, Essex, UCL, Warwick, Oxford, Tilburg, Free U Amsterdam, Stockholm, Uppsala and the U Amsterdam.

from the IZA files of Summer School applicants. Thus, it may be argued that the European data may be biased because the sample composition may not be representative of the relevant graduating institutions in Europe, or because applicants to the IZA Summer School are more likely to be those willing to pursue a research oriented career. To shed some light into this issue we reestimated the model using two subsamples. In the first subsample (columns 5 through 8) we considered only graduates from the 199 universities listed in the worldwide ranking of programs in labor economics by Roessler (see appendix C). The second robustness check was implemented by restricting the sample to graduates placed in research oriented institutions (columns 9 through 12). As we can see the results are remarkably stable across samples suggesting that the effect of any bias, if it exists, is negligible.

Table 5 – Count of Publications

	Graduates from all universities				Graduates from top 199 universities				Graduates placed in research-oriented institutions			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
years	0.29 [8.87]	0.29 [8.79]	0.28 [8.7]	0.28 [8.75]	0.29 [8.02]	0.29 [7.89]	0.28 [7.79]	0.28 [7.83]	0.32 [9.44]	0.32 [9.36]	0.32 [9.40]	0.32 [9.48]
Female	-0.29 [-3.28]	-0.28 [-3.18]	-0.29 [-3.26]	-0.28 [-3.14]	-0.30 [-3.05]	-0.28 [-2.92]	-0.3 [-3.11]	-0.29 [-2.97]	-0.24 [-2.43]	-0.23 [-2.32]	-0.24 [-2.46]	-0.23 [-2.29]
ResJob	0.73 [6.21]	0.73 [6.21]	0.63 [4.88]	0.61 [4.71]	0.76 [5.84]	0.76 [5.79]	0.68 [4.82]	0.66 [4.69]	-	-	-	-
ProdSup	0.04 [3.15]	0.03 [2.12]	0.03 [1.92]	0.02 [1.77]	0.04 [3.01]	0.04 [2.12]	0.03 [1.92]	0.03 [1.82]	0.04 [2.73]	0.03 [1.90]	0.03 [1.86]	0.03 [1.66]
PhdUSA	-0.80 [-7.92]	-0.90 [-8.01]	-0.85 [-5.91]	-0.81 [-5.62]	-0.75 [-6.44]	-0.89 [-6.49]	-0.94 [-5.84]	-0.91 [-5.7]	-0.82 [-7.28]	-0.95 [-7.46]	-0.98 [-5.25]	-0.92 [-4.91]
Phd10USA	-	0.21 [1.65]	0.19 [1.50]	0.17 [1.24]	-	0.20 [1.55]	0.19 [1.42]	0.17 [1.22]	-	0.19 [1.27]	0.18 [1.18]	0.14 [0.88]
Phd10EUR	-	-0.24 [-1.27]	-0.2 [-1.08]	-0.12 [-0.55]	-	-0.23 [-1.15]	-0.2 [-1.05]	-0.15 [-0.66]	-	-0.32 [-1.60]	-0.30 [-1.50]	-0.25 [-1.01]
WrkUSA	-	-	0.39 [2.55]	0.36 [2.36]	-	-	0.38 [2.37]	0.36 [2.22]	-	-	0.21 [1.11]	0.16 [0.84]
WrkEUR	-	-	0.37 [2.17]	0.41 [2.38]	-	-	0.24 [1.31]	0.27 [1.45]	-	-	0.14 [0.64]	0.18 [0.79]
Wrk10USA	-	-	-	0.27 [1.34]	-	-	-	0.21 [1.01]	-	-	-	0.31 [1.56]
Wrk10EUR	-	-	-	-0.19 [-0.84]	-	-	-	-0.15 [-0.62]	-	-	-	-0.12 [-0.44]
constant	-0.72 [-3.50]	-0.66 [-3.14]	-0.9 [-3.84]	-0.92 [-3.92]	-0.79 [-3.44]	-0.70 [-2.95]	-0.83 [-3.16]	-0.84 [-3.2]	-0.13 [-0.82]	-0.05 [-0.30]	-0.18 [-0.65]	-0.22 [-0.77]
N	921	921	921	921	790	790	790	790	602	602	602	602

The measure of productivity used so far does not account for quality. Hence, in Table 6 we consider two alternative quality-adjusted metrics for productivity. The first set of regressions (columns 1 through 4) uses Poisson regression and restricts the count of articles to articles published in top ranked journals, as defined in Roessler (see appendix B). The second set of regressions (columns 5 through 8) consists of linear regression models and the dependent variable is the Kalaitzidakis *et al* (2003) based quality-weighted measure of publications.

Table 6 – Quality-Adjusted Publications

	Top Labor Journals (Poisson Regression)				Kalaitzidakis quality-weighted (OLS Regression)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
years	0.28 [6.13]	0.27 [6.05]	0.26 [5.94]	0.27 [6.13]	3.48 [5.17]	3.43 [5.15]	3.35 [5.09]	3.35 [5.34]
Female	-0.39 [-2.98]	-0.36 [-2.78]	-0.40 [-3.09]	-0.36 [-2.79]	-3.12 [-1.78]	-2.60 [-1.50]	-2.89 [-1.67]	-1.91 [-1.14]
ResJob	0.97 [5.58]	0.95 [5.47]	0.80 [4.39]	0.73 [3.97]	8.91 [5.17]	8.95 [5.20]	7.45 [4.30]	5.41 [3.44]
ProdSup	0.10 [6.54]	0.07 [3.97]	0.06 [3.60]	0.05 [3.30]	1.99 [4.66]	1.46 [3.59]	1.42 [3.48]	1.20 [3.23]
PhDUSA	-0.24 [-1.49]	-0.37 [-1.95]	-0.53 [-2.28]	-0.49 [-2.04]	0.29 [0.19]	-1.90 [-1.17]	-4.76 [-1.95]	-3.05 [-1.19]
PhD10USA	-	0.57 [3.61]	0.55 [3.45]	0.48 [2.77]	-	9.37 [3.98]	9.13 [3.92]	6.40 [2.39]
PhD10EUR	-	0.18 [0.65]	0.22 [0.77]	0.19 [0.67]	-	-0.59 [-0.22]	-0.76 [-0.28]	-0.64 [-0.23]
WrkUSA	-	-	0.72 [3.53]	0.66 [3.14]	-	-	5.43 [3.12]	3.53 [2.14]
WrkEUR	-	-	0.39 [1.61]	0.40 [1.60]	-	-	0.58 [0.25]	1.66 [0.72]
Wrk10USA	-	-	-	0.52 [2.15]	-	-	-	32.4 [2.73]
Wrk10EUR	-	-	-	0.15 [0.47]	-	-	-	3.51 [0.68]
constant	-2.33 [-7.44]	-2.29 [-7.18]	-2.50 [-7.07]	-2.47 [-7.04]	-13.73 [-4.05]	-12.94 [-3.86]	-11.98 [-3.47]	-11.87 [-3.48]
N	921	921	921	921	921	921	921	921

With the introduction of measures of quality the results change considerably. Most notably, the clear difference between the productivity of graduates from American and European universities practically disappears. In terms of the institution of graduation the only factor that seems relevant is whether or not the student graduated from one of the top 10 American institutions. In this latter case productivity is considerably higher. In terms of institution of placement we also observe significant changes. Now, it seems that working in the USA is associated with an increase in productivity. That increase is even higher if the graduate is placed in one of the top 10 American institutions.

## 5. Conclusion

We have analyzed differences in research productivity of recent PhD graduates from European and USA universities. At first sight it seems that European graduates are the most productive. However, once we account for the quality of scientific journals we find that graduates from American institutions are the most productive. That difference seems to be almost exclusively

due to the superior performance of graduates from the top American institutions. On the other hand, graduation from top European institutions does not seem to confer a particular advantage in terms of productivity.

The results also suggest that graduates placed in American top institutions are likely to publish more quality-adjusted articles than their European counterparts. This may be because, when hired by a top-USA institution, they already have several good acceptance or because of more focused research efforts and clearer career incentives.

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## Appendix A: European countries

The list of countries considered in Europe follows the United Nations Educational, Scientific and Cultural Organization (UNESCO) “definition of regions with a view to the execution by the Organization of regional activities” and it includes:

<i>Albania</i>	<i>Germany</i>	<i>Republic of Moldova</i>
<i>Andorra</i>	<i>Greece</i>	<i>Romania</i>
<i>Armenia</i>	<i>Hungary</i>	<i>Russian Federation</i>
<i>Austria</i>	<i>Iceland</i>	<i>San Marino</i>
<i>Azerbaijan</i>	<i>Ireland</i>	<i>Serbia</i>
<i>Belarus</i>	<i>Israel</i>	<i>Slovakia</i>
<i>Belgium</i>	<i>Italy</i>	<i>Slovenia</i>
<i>Bosnia and Herzegovina</i>	<i>Kazakhstan</i>	<i>Spain</i>
<i>Bulgaria</i>	<i>Latvia</i>	<i>Sweden</i>
<i>Canada</i>	<i>Lithuania</i>	<i>Switzerland</i>
<i>Croatia</i>	<i>Luxembourg</i>	<i>Tajikistan</i>
<i>Cyprus</i>	<i>Malta</i>	<i>The former Yugoslav Republic of Macedonia</i>
<i>Czech Republic</i>	<i>Monaco</i>	<i>Turkey</i>
<i>Denmark</i>	<i>Montenegro</i>	<i>Ukraine</i>
<i>Estonia</i>	<i>Netherlands</i>	<i>United Kingdom of Great Britain and Northern Ireland</i>
<i>Finland</i>	<i>Norway</i>	<i>United States of America</i>
<i>France</i>	<i>Poland</i>	
<i>Georgia</i>	<i>Portugal</i>	

Source: <http://erc.unesco.org/cp/MSList.asp?lg=E&&type=1&®=1>

## Appendix B: Top journals in labor and consumer economics

Journal of Human Resources  
Journal of Labor Economics  
American Economic Review  
Quarterly Journal of Economics  
Journal of Political Economy  
Journal of Public Economics  
Economic Journal  
European Economic Review  
Review of Economics and Statistics  
Econometrica  
International Economic Review  
Journal of Econometrics  
Journal of Economic Perspectives  
Review of Economic Studies  
Economics Letters  
Oxford Bulletin of Economics and Statistics  
Journal of Economic Literature  
Journal of Economic Theory  
Canadian Journal of Economics  
Journal of Economic Behavior and Organization  
Journal of Population Economics  
Economica  
Journal of Applied Econometrics  
Oxford Economic Papers  
Economic Inquiry  
Scandinavian Journal of Economics

Southern Economic Journal  
 Journal of Business and Economics Statistics  
 Journal of Urban Economics  
 Economic Theory  
 Journal of Development Economics  
 Applied Economics  
 Journal of Economic Dynamics and Control  
 American Journal of Agricultural Economics  
 Journal of Risk and Uncertainty  
 Journal of Monetary Economics  
 National Tax Journal  
 Rand Journal of Economics  
 World Development  
 World Bank Economic Review  
 Economic Record  
 Source: Roessler (2004) at <http://www.econphd.net/>, accessed May 11, 2008.

### Appendix C: Ranking of universities in labor and consumer economics

rank	university	country
1	Harvard U	USA
2	U Chicago	USA
3	Massachusetts Institute of Technology (MIT)	USA
4	U California - Berkeley	USA
5	Princeton U	USA
6	U California - Los Angeles (UCLA)	USA
7	Stanford U	USA
8	Cornell U	USA
9	U Pennsylvania	USA
10	Northwestern U	USA
11	U Michigan - Ann Arbor	USA
12	U British Columbia	Canada
13	London School of Economics (LSE)	UK
14	U Essex	UK
15	U Maryland - College Park	USA
16	Yale U	USA
17	Columbia U	USA
18	New York U (NYU)	USA
19	Michigan State U	USA
20	University College London	UK
21	Dartmouth College	USA
22	U Texas - Austin	USA
23	U North Carolina - Chapel Hill	USA
24	Brown U	USA
25	Warwick U	UK
26	U Wisconsin - Madison	USA
27	U Toronto	Canada
28	Oxford U	UK
29	Tilburg U	Netherlands
30	Syracuse U	USA
31	Tel Aviv U	Israel
32	Carnegie Mellon U	USA
33	Boston U	USA



34	Ohio State U	USA
35	Georgetown U	USA
36	U Minnesota	USA
37	U Rochester	USA
38	Free U Amsterdam (Vrije U)	Netherlands
39	Johns Hopkins U	USA
40	Boston College	USA
41	Stockholm U	Sweden
42	Uppsala U	Sweden
43	U Amsterdam	Netherlands
44	Texas A&M U	USA
45	U Toulouse I (Sciences Sociales)	France
46	U California - San Diego	USA
47	Arizona State U	USA
48	U Bristol	UK
49	Duke U	USA
50	U Carlos III Madrid	Spain
51	Hebrew U	Israel
52	U Cambridge	UK
53	U Zurich	Switzerland
54	U Western Ontario	Canada
55	Vanderbilt U	USA
56	U California - Santa Barbara	USA
57	U Laval	Canada
58	U Virginia	USA
59	U Washington	USA
60	U Southern California	USA
61	Indian Statistical Institute - New Delhi	India
62	U Illinois - Urbana-Champaign	USA
63	Washington U St Louis	USA
64	Queen's U	Canada
65	U Nottingham	UK
66	U Leicester	UK
67	Chinese U Hong Kong	China
68	Penn State U	USA
69	City U New York (CUNY)	USA
70	Australian National U	Australia
71	U York	UK
72	U Newcastle upon Tyne	UK
73	European U Institute	Italy
74	U Copenhagen	Denmark
75	U North Carolina - Greensboro	USA
76	Iowa State U	USA
77	U Colorado - Boulder	USA
78	SUNY - Albany	USA
79	U Kentucky	USA
80	Erasmus U Rotterdam	Netherlands
81	U New South Wales	Australia
82	U Southampton	UK
83	Dalhousie U	Canada
84	McMaster U	Canada
85	U Arizona	USA
86	Concordia U	Canada

87	U Illinois - Chicago	USA
88	Indiana-Purdue University (IUPUI)	USA
89	U Florida	USA
90	Tufts U	USA
91	Florida State U	USA
92	U South Carolina	USA
93	U Melbourne	Australia
94	Brigham Young U	USA
95	U Oslo	Norway
96	U Iowa	USA
97	Indiana U	USA
98	Southern Methodist U	USA
99	Queen Mary & Westfield College	UK
100	U Bonn	Germany
101	Stockholm School of Economics	Sweden
102	Clemson U	USA
103	Ecole Normale Superieure Paris	France
104	Royal Holloway College	UK
105	U Cyprus	Cyprus
106	U Manchester	UK
107	Purdue U	USA
108	Catholic U Louvain	Belgium
109	Academia Sinica	Taiwan
110	Kansas State U	USA
111	U Padua	Italy
112	North Carolina State U	USA
113	U California - Davis	USA
114	U Hong Kong	China
115	U Missouri - Columbia	USA
116	U Aarhus	Denmark
117	U Bocconi	Italy
118	Simon Fraser U	Canada
119	Maastricht U	Netherlands
120	U Texas - Dallas	USA
121	U Montreal	Canada
122	SUNY - Binghamton	USA
123	U St Gallen	Switzerland
124	U Colorado - Denver	USA
125	Bar-Ilan U	Israel
126	East Carolina U	USA
127	U Houston	USA
128	Birkbeck College	UK
129	U Western Australia	Australia
130	U California - Santa Cruz	USA
131	Monash U	Australia
132	U Oregon	USA
133	Georgia State U	USA
134	U California - Irvine	USA
135	U Quebec	Canada
136	George Washington U	USA
137	Carleton U	Canada
138	Texas Tech U	USA
139	U Autonoma Barcelona	Spain

140	York U Toronto	Canada
141	U Mannheim	Germany
142	George Mason U	USA
143	Northern Illinois U	USA
144	U Wales - Swansea	UK
145	College of William & Mary	USA
146	U Bergen	Norway
147	U Kansas	USA
148	Louisiana State U	USA
149	U Wisconsin - Milwaukee	USA
150	Virginia Tech	USA
151	U Aberdeen	UK
152	U Munich (Ludwig-Maximilians-U)	Germany
153	U Oklahoma	USA
154	Lancaster U	UK
155	U Paris I (Pantheon-Sorbonne)	France
156	Claremont U	USA
157	U Wales - Cardiff	UK
158	Humboldt U Berlin	Germany
159	Umea U	Sweden
160	Rutgers U	USA
161	Swarthmore College	USA
162	U Kent	UK
163	U Alicante	Spain
164	U Alberta	Canada
165	Gothenburg U	Sweden
166	U Maryland - Baltimore	USA
167	Auburn U	USA
168	U Dundee	UK
169	U Aix-Marseille II (Mediterranee)	France
170	Montana State U	USA
171	Hong Kong U Science & Technology (HKUST)	China
172	U California - Riverside	USA
173	Williams College	USA
174	U East Anglia	UK
175	Norwegian School of Management	Norway
176	U Linz (Johannes Kepler)	Austria
177	U Massachusetts - Amherst	USA
178	Santa Clara U	USA
179	U Wyoming	USA
180	U Guelph	Canada
181	U Durham	UK
182	Amherst College	USA
183	National U Ireland - Maynooth	Ireland
184	Trinity U Texas	USA
185	DePaul U	USA
186	American U	USA
187	Leeds U	UK
188	Free U Brussels (U Libre)	Belgium
189	Wellesley College	USA
190	U Cologne	Germany
191	Hamilton College	USA
192	U Osnabrueck	Germany

193	Norwegian U Science & Technology	Norway
194	U Bordeaux IV (Montesquieu)	France
195	U Turin	Italy
196	U Connecticut - Storrs	USA
197	U Mississippi	USA
198	U Florence	Italy
199	U Sussex	UK

Source: Roessler (2004) at <http://www.econphd.net/>, accessed May 11, 2008.