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Abstract

The global financial crisis triggered different policy responses in Europe and the United States. Interestingly, survey results suggest that there is also a significant difference in how undergraduate macroeconomics instructors responded to the crisis, with U.S. instructors placing significantly more emphasis on financial topics than their European peers. This note considers whether such differences may be attributed to differences in instructors' profiles and teaching environments. The results suggest that, rather than explaining this gap, the transatlantic divide becomes even wider when analyzed in a multivariate setting.

Keywords

Financial crisis, teaching, undergraduate, macroeconomics, Europe, United States.

JEL Classification

A22, E00.

1. Introduction

The global financial crisis of 2008 triggered a highly controversial debate regarding the future direction of macroeconomics in general and macroeconomics instruction in particular.[1]

Examining this issue from a different angle, Gärtner, Griesbach and Jung (2013) draw a picture of what actually happened at colleges and universities during the crisis. Based on an anonymous online survey among undergraduate macroeconomics instructors in Europe and the United States of America, two key insights emerge from their study:

(1) Post-crisis undergraduate macroeconomics instruction features very much the same line-up of models and concepts as before the crisis erupted. These range from the Keynesian cross and the *IS-LM* model to real business cycles and overlapping generations models.

(2) A host of new financial topics entered or re-entered the curriculum after the crisis broke. These include financial intermediaries, liquidity traps, multiple interest rates, bubbles and quantitative easing.

Upon closer scrutiny a third noteworthy result surfaces:

(3) There is a significant difference between the contents of undergraduate curricula in Europe and those in the United States. In particular, financial topics are

[1] For pertinent quotes from academia, see Gärtner, Griesbach and Jung (2013), pp. 1–2. For examples of how popular media chimed in with similarly divided opinions, see Cohen (2009) and *The Economist* (2010). Specific proposals as to how undergraduate macroeconomics instruction should respond to the crisis are listed in Blinder (2010) and Shiller (2010). For a summary of how introductory textbooks changed after the crisis, see Madsen (2013).

much more prominent in the compulsory courses of pertinent bachelor programmes west of the Atlantic.

This is highly interesting given that there were substantial differences between the U.S. and European policy responses to the threats originating from the global financial crisis. Examples are the long delay until the European Central Bank made up its mind to embark on large-scale purchases of sovereign debt titles, similar to the Fed's much earlier actions, or the preoccupation with austerity in Europe, to which the U.S. Government never subscribed with similar zeal. While this is not the place to join this debate, we can add a perspective from that part of academic education that, given the sheer numbers of students who take such courses, is likely to have a substantial impact on policymaking.[2]

We will examine whether these policy differences are accompanied by a significant divide in pertinent academic education, and if so, whether the financial crisis has widened or narrowed this gap.

This note takes a closer look at this transatlantic divide in undergraduate macroeconomics instruction and explores it in a multivariate setting. The specific question asked is: To what extent can the reported differences be attributed to differences in the personal profiles of instructors (such as age or research areas) or the specifics of the teaching environment (class size, top research university, etc.) or reflect differences that already existed before the Great Recession?

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[2] In the United States about 25,000 bachelor's degrees in economics are awarded every year, compared with 2,500 pertinent master's degrees and 1,000 doctoral degrees. See Snyder and Dillow (2010). The instructors who responded to our survey reported that they teach some 50,000 students in their mandatory macroeconomics courses. And although education became a globalized industry over the past two decades it seems still reasonable to assume that there is geographic persistency in the sense that the likelihood of being employed in the U.S.A. is higher for those being educated in the U.S.A. and vice versa which potentially establishes a link between economic teaching and economic policies.

2. The survey and the instructors

The survey was conducted in November and December 2010. Out of 768 invited undergraduate macroeconomics instructors at 512 colleges and universities in Western Europe and the United States, 259 instructors completed the online questionnaire. Table 1 provides a breakdown of these numbers according to whether the instructors worked east or west of the Atlantic and whether they taught at a top-40 research university or not.[3]

[Table 1 near here]

In addition, while keeping the survey anonymous, a set of questions aimed to extract a basic profile of the respondents, of their teaching environment and of their opinions on macroeconomics and the economic crisis, which might be expected to have a bearing on their teaching. Table 2 provides descriptive statistics for the responses in this section.[4]

[Table 2 near here]

Most of the sample means are not significantly different when comparing European with U.S. respondents. However, the course enrolment is roughly twice as

[3] The classification of universities as top research institutions follows the ranking provided in Coupé (2003).

[4] For details, see Gärtner, Griesbach and Jung (2011).

large in Europe, and a larger share of U.S. respondents offer third-year courses. Additionally, the European respondents are younger on average.

The core of the questionnaire attempted to identify the models, concepts and approaches that define today's undergraduate macroeconomics teaching, and tried to pinpoint the changes that took place after the financial crisis. Section 2 reports and discusses the results obtained.

3. The nature of the transatlantic divide in undergraduate macroeconomics

Both the *contents* of undergraduate macroeconomics curricula after the Great Recession and the implemented *changes* show substantial cross-Atlantic differences. Among the fifteen financial topics proposed in the questionnaire and listed in Table 3, a single one appears more often in European than in U.S. curricula. This one exception is *bonus payments*, the topic with by far the lowest presence among all the listed topics. While the gap is small and/or not significant in a few cases, it is significant and sizable in most. *Bank runs* or *multiple interest rates* are addressed almost twice as often in the United States as they are in Europe.

[Table 3 near here]

The last column in Table 3 looks at curriculum *change* by reporting the percentage of respondents who had added or expanded the coverage of a specific topic after the financial crisis. Here, again, *bonus payments* attract more attention in Europe. Nevertheless, they remain a fringe topic. With *risk premiums* and *international financial*

contagion being virtually a draw, all the other topics generated substantially more new interest in the United States than in Europe. While *quantitative easing*, unsurprisingly, received the biggest boost, with two out of three U.S. instructors adding or expanding it, the biggest transatlantic differences appear in topics like *insolvency and illiquidity*, *leverage* and *securitization*, which many may not consider to belong in a macroeconomics course at all.

Computed as unweighted averages over all the topics listed in Table 3, 56% of the instructors included a given topic in the United States, while only 42% did so in Europe. Regarding change, 37% of the instructors in the United States had added or expanded a given topic on average, compared with 26% in Europe.

4. The transatlantic divide: fact or fiction?

Section 2 documents significant transatlantic differences in the structure and the trends of today's undergraduate macroeconomics curriculum, as seen from the angle of the questions posed by our survey. Moreover, while our set-up, along with the possibility of bias due to omitted variables, does not permit causal inferences, it is tempting to check whether cross-Atlantic dissimilarities continue to exist in a multivariate context that relates curriculum patterns and change to differences in the profiles of instructors.[5] Keeping the mentioned caveats in mind, Table 4 thus considers whether the variables

[5] Of course there are many variables that may drive the results but are not incorporated in our model like personal income, tenure status, publication record or department policies just to name a few. However, apart from the question of how to measure such variables even to ask for them when conducting a survey obviously jeopardizes the response rate and thus the overall quality of the data. Facing this trade-off, we were cautious when asking for personal details and realized a comparatively high response rate.

described in Table 2 provide a better explanation of curricula patterns than simply classifying these as cross-Atlantic differences.

[Table 4 near here]

The regression reported in the first column accounts for the number of financial topics included in the respondents' post-crisis undergraduate macroeconomics courses in terms of the profile variables listed in Table 2.[6] On average, European instructors included 4.58 such topics before the crisis and increased this amount to 6.13 afterwards. The numbers for their peers in the U.S.A. are 6.31 before the crisis and 8.55 afterwards, so there is a gross difference both in the number of topics taught and in the number of topics added.

It appears that the personal profile of the instructors does not explain the presence of financial topics to a relevant extent. The only variable that is marginally significant is the age of the instructors. More experienced instructors appear to include more financial topics. With U.S. instructors being 3.63 years older on average according to Table 2, this variable accounts for the inclusion of about one additional financial topic in the United States. Other personal features, such as the instructor's main field of research or previous experience with the course, play no role, nor does his or her perception of the severity of the crisis or of the state of macroeconomics.

Some explanation comes from the wider course environment. As would be expected, financial topics are more prominent in more advanced courses, with third-year courses standing out. Perhaps unexpectedly, top-40 research universities are more

[6] The four regressions reported in Table 4 directly relate to the four columns shown in Table 3. The indigenous variables are sums over all the topics, however, and absolute numbers rather than percentages are used for a more straightforward interpretation.

reluctant to include financial topics, while class size has a positive effect. However, since the enrolment is systematically larger in Europe, this opens the transatlantic gap that is left to be explained still further.[7]

Two variables examine how the *number of models* included in a course or in the curriculum affects the *number of financial topics*. This question begs to be asked, since Gärtner, Griesbach and Jung (2011) also report a transatlantic divide between the number of models taught in U.S. and European curricula, with fewer models being taught in the U.S.A., and speculate that time constraints may be a factor that forces instructors into a trade-off between the number of models and the number of topics to include.[8]

The two variables included are the number of models the respondent taught before the crisis and the number of models taught in the mandatory part of the curriculum after the crisis.[9] The results contradict the notion of a trade-off. Both more models in the respondent's course and more models in the curriculum appear to increase the platform on which to base financial topics.[10]

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[7] The quantitative impact is relatively small, however. Given the difference in enrolment reported in Table 2, class size explains $0.003 \times 108.08 = 0.324$ more financial topics in a European course.

[8] This gap only exists on the programme level of the respective institutions, not on the level of the courses taught by the respondents. Since we have no information about those 'other' instructors in the programme who essentially appear to cause this model divide, we lack the data to move beyond descriptive statistics and look for an econometric explanation in a multivariate setting.

[9] The number of topics taught in the curriculum before the crisis is not available. This may not matter too much, because the change in the number of topics taught by the respondents is minimal.

[10] Multicollinearity, caused by the overlap between these two variables, does not call these results into question, since it leaves the coefficients unbiased and may only inflate the standard errors and, thus, underestimate the significance levels.

After controlling for all these variables, the most robust explanation for the differences in the number of included financial topics remains a dummy variable that identifies instructors who are located in the United States. On average and ceteris paribus, undergraduate teachers in the U.S. include 2.8 more financial concepts from our list in their curriculum than their European peers. This is more than the raw data suggest, meaning that instructors' profiles and teaching environments alone would have predicted more topics to be taught in Europe.

The second column relates to the results reported in Table 3 by looking at curriculum *changes*, defined as the sum of the topics that had been added or received expanded coverage after the crisis. The results echo the findings for the first equation. Again, after all the other variables have been included as controls, instructors in U.S.A. have added or expanded the coverage of 2.3 more financial topics than their European counterparts.

Surprising in this equation is the effect of the number of financial topics that were already taught before the crisis. While courses that were already rife with financial topics may be expected to have less leeway for increasing their coverage, the positive coefficient seems to suggest the opposite to be the case.

This puzzle is solved by the third and the fourth equations. These look at the number of topics *added* and at the number of topics *expanded* separately. The negative coefficient of -0.233 in the third equation reports that if more financial topics from our list were covered before the crisis, this indeed leaves less space for adding new ones. The positive coefficient in the fourth equation shows that the more financial topics were taught before the crisis, the more topics could be and were expanded. Noteworthy in this equation is the strong effect for second- and third-year courses and the negative coefficient for top-40 universities.

Comparing the coefficients for the dummy variable employed for the identification of U.S. participants in the first and the third equation, respectively, suggests that about half of the transatlantic differences in the coverage of financial topics already existed before the Great Recession, and the other half was generated afterwards.

5. Summary and concluding comments

In the context of the information collected in the survey described by Gärtner, Griesbach and Jung (2013) our regressions provide a clear result: We cannot attribute the greater emphasis on financial topics, reported for undergraduate macroeconomics courses in the United States as compared with European ones, to differences in instructors' profiles and teaching environments. While such variables 'explain' pertinent teaching patterns and changes to a modest extent, they point in the 'wrong' direction and leave us with the result that, ceteris paribus, U.S. instructors include 36% more financial topics than European instructors and added 45% more topics during the financial crisis.

One may speculate that what we call the transatlantic divide may actually be a difference between Anglo-American academic institutions, with their more liberal (in the European sense), free market tradition, and those on the European continent, which carry a more corporatist heritage. Our regressions do not support this interpretation, since UK dummy variables never appear with significant coefficients. Therefore, the divide in the coverage of financial markets and topics in undergraduate macroeconomics is indeed a transatlantic one, and it is sizable, left unexplained by our econometric efforts. The fact that this divide also exists on the disaggregate level, in the

vast majority of financial topics, adds to the robustness of this result and invites research into the deeper causes of such differences and how they are related to policy preferences and choices.

References

Blinder, Alan (2010). Teaching macro principles after the financial crisis. *The Journal of Economic Education*, 41(4): 385–90.

Cohen, Patricia (2009). Ivory tower unswayed by crashing economy. *The New York Times*, March 5.

Coupé, Tom (2003). Revealed Performances: Worldwide Rankings of Economists and Economics Departments, 1990-2000, *Journal of the European Economic Association*, 1(6): 1309–1345.

The Economist (2010). Revise and resubmit: The crisis is changing how macroeconomics is taught. March 31.

Gärtner, Manfred, Björn Griesbach and Florian Jung (2011). Teaching macroeconomics after the crisis: A survey among undergraduate instructors in Europe and the U.S. Economics Working Paper Series 1120, University of St. Gallen, School of Economics and Political Science.

Gärtner, Manfred, Björn Griesbach and Florian Jung (2013). Teaching macroeconomics after the crisis: A survey among undergraduate instructors in Europe and the United States. *The Journal of Economic Education*, 44(4): 406–416.

Poul Thois Madsen (2013). The financial crisis and principles of economics textbooks. *The Journal of Economic Education*, 44(3): 197–216.

Shiller, Robert. J. (2010). How should the financial crisis change how we teach economics? *The Journal of Economic Education*, 41(4): 403–9.

Snyder, Thomas D. and Sally A. Dillow (2010). Digest of Education Statistics 2009 (NCES 2010–2013). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C.

Table 1. Included universities, invited and participating instructors and response rates

		Europe	U.S.A.	All
Rest	Universities	171	261	432
	Invited instructors	258	337	595
	Participated	119	89	208
	Response rate	46%	26%	35%
Top 40	Universities	40	40	80
	Invited instructors	81	92	173
	Participated	24	27	51
	Response rate	30%	29%	29%
Both	Universities	211	301	512
	Invited instructors	339	429	768
	Participated	143	116	259
	Response rate	42%	27%	34%

Notes: Due to a much lower initial response rate in the U.S.A., we subsequently issued additional invitations to U.S.A. instructors.

Table 2. Descriptive statistics for participating instructors

	Europe		U.S.A.		All	
Age[e] **	45.50	(12.08)	49.13	(12.89)	47.13	(12.56)
Main research field is macro	42%	(0.49)	45%	(0.50)	43%	(0.50)
Course						
Enrolment[e] ***	232.06	(233.64)	123.98	(168.95)	183.51	(213.62)
Previously taught	91%	(0.28)	94%	(0.24)	92%	(0.26)
First year	37%	(0.48)	40%	(0.49)	38%	(0.49)
Second year*	65%	(0.48)	54%	(0.50)	60%	(0.49)
Third year***	23%	(0.42)	46%	(0.50)	33%	(0.47)
Views on crisis						
Close to economic breakdown[a]	3.04	(1.27)	3.25	(1.32)	3.14	(1.30)
Percentage who agree[b]	42%	(0.50)	33%	(0.47)	38%	(0.49)
State of macroeconomics[c]	2.07	(0.49)	2.05	(0.56)	2.06	(0.52)
Bad state percentage[d]	15%	(0.36)	18%	(0.39)	17%	(0.37)

Notes: *, ** and *** indicate that the means in Europe and the U.S.A. differ significantly on the 5% and 1% level, respectively, based on Welch's two-sample *t*-test. This is the most conservative test for equality of sample means, since it allows for different population variances. Alternative tests, such as the standard *t*-test, Anova *F*-test or Welch *F*-test, produce similar results. Survey responses were Yes/No, quantified as 1/0 in this table unless stated otherwise.

[a] 1 (Agree)–5 (Disagree)

[b] % of people who answered 1 or 2 in the previous question

[c] 1 (good); 2 (useful; revealed deficiencies must be addressed); 3 (bad; needs new paradigm)

[d] % of people who answered 3 in the previous question

[e] The respondents selected brackets. The number given here results from transforming the bracket selections to bracket means.

Table 3. Financial topics after the financial crisis: coverage and change
All numbers are percentages.

Topic	Covered[a] (as % of all respondents)	Added after the crisis[b] (as % of 'covered')	Coverage expanded[b] (as % of 'covered')	Added + expanded (as % of all respondents)
Banks and other financial intermediaries***				
Europe	71	11	48	42
United States	87	12	45	50
Liquidity traps***				
Europe	71	10	39	35
United States	85	8	52	51
Bank runs***				
Europe	45	22	37	27
United States	86	12	36	41
Non-conventional monetary policy (e.g. quantitative easing)***				
Europe	51	47	37	48
United States	78	51	32	65
Bubbles in asset markets***				
Europe	45	27	47	33
United States	71	33	48	58
Risk premiums				
Europe	53	16	32	25
United States	55	12	30	23
International financial contagion				
Europe	46	18	50	31
United States	48	25	39	31
Multiple interest rates***				
Europe	34	20	22	14
United States	62	8	32	25
Systemic risk (e.g. too big to fail)**				
Europe	40	32	40	29
United States	54	29	41	38
Insolvency and illiquidity***				
Europe	35	36	28	22
United States	59	24	44	40
Leverage***				
Europe	32	39	30	22
United States	51	47	34	41
Securitization***				
Europe	29	40	26	19
United States	47	46	39	40
Rating agencies				
Europe	23	39	30	16
United States	30	51	31	25
Derivatives and other structured products				
Europe	22	32	32	14
United States	30	51	23	22
Bonus payments				
Europe	15	36	23	9
United States	12	29	21	6

Notes:
[a] The survey question read: *Which of these topics do you cover in your mandatory macroeconomics course(s)?*
[b] The survey question read: *Which of the topics covered in your course(s) were added after the crisis?*
Asterisks indicate that the coverage of the respective topic in Europe differs significantly from the coverage in the United States.
* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$
Source: Gärtner, Griesbach and Jung (2013).

Table 4. The number of financial topics taught or added after the financial crisis
OLS estimates; 241 observations

Dependent variable	Number of financial topics taught after the crisis	Number of financial topics added/expanded after the crisis	Number of financial topics added after the crisis	Number of financial topics expanded after the crisis
Age of instructor	0.332*	-0.022	0.013	-0.035
	(0.200)	(0.187)	(0.1443	(0.114)
Instructor's main research field is macroeconomics	0.386	0.770*	0.602*	0.169
	(0.490)	(0.453)	(0.346)	(0.277)
Course taught at top-40 university	-1.126*	-0.574	0.220	-0.793**
	(0.663)	(0.623)	(0.476)	(0.381)
Course taught in the U.S.A.	2.839***	2.282***	1.456***	0.826**
	(0.556)	(0.527)	(0.403)	(0.323)
Course enrolment	0.003***	0.004***	0.003***	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
Instructor taught course previously	-0.160	-1.244	-0.9909	-0.335
	(0.950)	(0.880)	(0.672)	(0.538)
First-year course	0.427	0.046	-0.286	0.332
	(0.546)	(0.508)	(0.388)	(0.311)
Second-year course	0.786	1.105*	0.257	0.848***
	(0.569)	(0.527)	(0.403)	(0.323)
Third-year course	1.417***	0.834	-0.068	0.901***
	(0.586)	(0.556)	(0.425)	(0.340)
World economy considered close to breakdown	0.302	0.241	0.074	0.167
	(0.189)	(0.175)	(0.134)	(0.107)
State of macroeconomics is good	0.149	0.632	0.333	0.299
	(0.485)	(0.449)	(0.343)	(0.274)
Number of models taught in curriculum after the crisis	0.221**	0.208**	0.078	0.130**
	(0.109)	(0.101)	(0.077)	(0.062)
Number of models instructor taught before the crisis	0.358***	0.194*	0.170**	0.025
	(0.106)	(0.099)	(0.076)	(0.061)
Number of financial topics taught before the crisis	-----	0.176***	-0.233***	0.409***
		(0.066)	(0.051)	(0.040)
R^2	0.258	0.272	0.196	0.488
Adjusted R^2	0.215	0.227	0.146	0.456
F-statistic	6.056	6.029	3.941	15.387

Notes: The dependent variable in the first regression is the number of financial topics taught after the financial crisis. The dependent variable in the second regression is the number of financial topics that were added or the coverage of which increased after the financial crisis. The dependent variable in the third and fourth regressions is the number of financial topics added and expanded after the crisis, respectively. For notes on the employed regressors, see Table 1. Constant terms are omitted. Parentheses contain standard errors. *, ** and *** indicate significance at the 10%, 5% and1% level, respectively.