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Teaching Macroeconomics after the Crisis: A Survey among Undergraduate Instructors in Europe and the U.S.[1]

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[1] A special thanks goes to all instructors who participated in and commented on this survey. We also thank Andreas Kleiner for many helpful discussions during the design of the questionnaire, and Anna Zimmermann for assisting us in compiling the email addresses of undergraduate instructors.

Abstract

An online survey among undergraduate macroeconomics instructors reveals that roughly half of them were scared when the crisis erupted and remain wary that more may be in the offing. As regards teaching, courses feature much the same lineups of models as they did before the crisis. A striking change concerns public debt dynamics, which receives much more emphasis. Regarding the finer fabric of undergraduate macro teaching, exciting things are going on. A host of topics related to financial markets has entered the curriculum, and there is more interest in economic history, the history of economic thought and case studies.

Keywords

Financial crisis, teaching, undergraduate, macroeconomics.

JEL Classification

A22, E00.

1. Introduction

After the U.S. subprime crisis erupted in late 2007, the most frightening downturn of the global economy loomed since the Great Depression. Many economists believed that this would and should trigger a fundamental shake-up and reorientation of their field in general, and of macroeconomics in particular. Not all thought so. But those who disagreed remained suspiciously silent. However, once it looked as though most countries might be spared the nightmare scenarios that many had feared, be it because or despite heavy government intervention in the form of stimulus packages and bailouts, the picture of a thoroughly divided profession emerged. On the defensive end of the spectrum, Stanford University's John Taylor (2010, p. 5) insisted:

> The recent crisis gives no reason to abandon the core empirical 'rational expectations/sticky price model' developed over the past 30 years - whether you call this type of model 'dynamic stochastic general equilibrium', 'new Keynesian' or 'new neoclassical'.

Representing the opposite extreme, Willem Buiter (2009) of the London School of Economics criticized:

> (T)he typical graduate macroeconomics and monetary economics training received at Anglo-American universities during the past 30 years or so, may have set back by decades serious investigations of aggregate economic behaviour and economic policy-relevant understanding.

Views of a more moderate, intermediate nature dominated the discussion, of course. But even these views displayed substantial variety, ranging from calls for modest amendments to dynamic general equilibrium models to the claim that everything we need to understand and deal with such crises is already there in the accumulated body of macroeconomic knowledge and only awaits reanimation.[1] Well-respected media outside academia chimed into this discussion, giving proof of a similarly wide array of opinions or conclusions, however. While a headline in *The New York Times* suggested the 'Ivory tower unswayed by crashing economy' (Cohen, March 1, 2009), *The Economist* (March 31, 2010) went with the subtitle 'The crisis is changing how macroeconomics is taught'.

[1] A few samples from that discussion illustrate the range of opinions. Lucas (2004) sets himself slightly apart from Taylor (2010) by conceding long before this recent crisis: "There is a residue of things that the theories embedded in general equilibrium dynamics do not let us think about. They don't let us think about the 1930s or about financial crises." Also conceding dents in the armor of macroeconomics while leaving it open how to repair, Blanchard, Dell'Ariccia and Mauro (2010) state: "The great moderation lulled macroeconomists in the belief that we knew how to conduct policy. The crisis forces us to question that assessment." The view that everything we need to know is there to be recovered has been expressed by Eichengreen (2009), who writes: "What got us into this mess [...] were not the limits of scholarly imagination [but] [...] a partial and blinkered reading of [the] literature." Finally, Gordon (2009) brings us back full circle to Buiter's position: "We are best served by applying 1978-era macro and forgetting most of the modern macro that has developed since."

The profession's response to the dramatic events that unfolded during 2007–2009, which in many experts' views were instrumental in triggering further upheavals such as Europe's sovereign debt crisis of 2010, may be evaluated in several ways. One may scrutinize macroeconomics policy itself, as conducted or recommended by governments, central banks and international institutions. Alternatively, one could look at postgraduate instruction and research published in learned journals to gauge the extent to which a true paradigm shift may be in the making.

The approach taken here is to focus on undergraduate macroeconomics. The motivation is that each year hundreds of thousands of undergraduate students take macroeconomics courses in North America and Europe alone. The expertise and perspectives they take from these courses may be expected to leave a lasting imprint on the approaches and preoccupations that shape their contributions and decisions during their subsequent professional careers.[2] The results to be presented here are derived from an online survey conducted among academics involved in the teaching of compulsory undergraduate macroeconomics courses in the U.S. and Western Europe.

Section 2 describes the set-up of the survey. Section 3 reports the perceptions and views of undergraduate macroeconomics instructors − on the crisis itself and on some key aspects of macroeconomics theory and policy. Section 4 conveys the survey results: What is included in today's undergraduate macroeconomics curriculum? What are the changes that were implemented in the wake of the Great Recession? Section 5 sums up and offers some interpretations and concluding comments.

2. The Online Survey

The survey was conducted online in November and December 2010. We emailed invitations to 768 instructors at 511 colleges and universities in Western Europe and the U.S. to

[2] In the U.S., about 25,000 bachelor's degrees in economics are awarded every year compared with 2,500 master's degrees and some 1,000 doctor's degrees. See Snyder and Dillow (2010) for the numbers and Siegfried (2010) for an assessment and longer-run trends in the U.S.
The instructors in our survey report to teach some 50,000 students in their mandatory macroeconomics courses. This may have to be discounted because of some double counting. But it also underestimates actual numbers significantly because for various reasons countries or universities were not included, courses or instructors could not be identified or instructors failed to respond.

participate in a survey titled *Teaching macroeconomics after the crisis*.[3] A total of 259 instructors completed the survey, which gave us a return rate of 34%.

The questionnaire comprised three distinct parts. Part A asked respondents for their perceptions of the crisis and their views on the state of macroeconomics and on key policy issues. Part B attempted to identify the main models that currently compose the core of undergraduate macroeconomics teaching and to find out whether the crisis has led to changes that are visible at this level of aggregation. Part C went into detail by asking whether the crisis rekindled interest in topics that had faded from the undergraduate curriculum − such as the liquidity trap − or pushed new topics and approaches into the syllabus that had surfaced during the crisis.[4] We also collected structural information about respondents, including their age groups, countries of residence and main fields of research. Finally, the questionnaire gave respondents the opportunity to augment their structured responses to our questions with feedback cast in their own words.

3. Perceptions of Macroeconomic Theory, Policy and the Crisis

The first set of questions attempts to attain general profiles of individual respondents, with a focus on their evaluations of the crisis and their views on modern macroeconomics and main policy issues. These questions do not directly relate to the contents of their undergraduate macroeconomics courses. The motivation here is that such general views may cause instructors to put a specific spin, consciously or subconsciously, on how they select and teach canonical models or concepts.

3.1. Perceptions of the crisis

Figure 1 shows that there is a distinctly bimodal distribution of opinions on how dangerous the crisis was when it erupted, and whether it continues to pose a threat today.

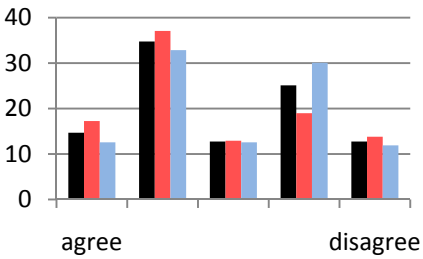
[Figure 1 near here]

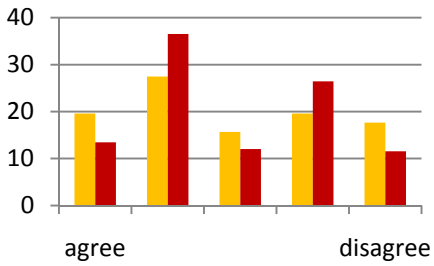
[3] For details on how respondents were selected see the Appendix B. A static version of the questionnaire may be consulted at http://www.fgn.unisg.ch/public/questionnaire.pdf.

[4] Inspiration for the list of topics came from many panels on teaching macroeconomics after the financial crisis, such as those held at the American Economic Association meetings 2010 in San Francisco, and publications derived from these discussions such as Blinder (2010).

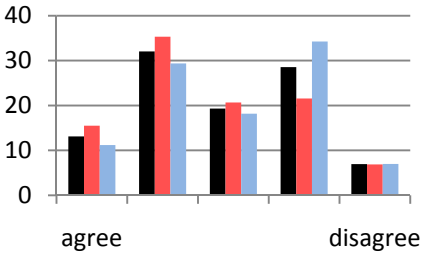
Figure 1. — *Please evaluate the following statements. Regarding the crisis*:

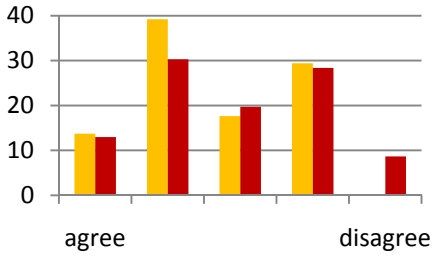
When Lehman Brothers collapsed, the Western World was close to a complete economic breakdown.

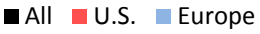




From an international perspective, the worst part of the crisis is over.







A total of 49% of undergraduate instructors agree or mostly agree with the judgment that 'When Lehman Brothers collapsed the Western world was close to a complete economic breakdown' (north-west panel, gray bars). On the other side, 38% disagree or mostly disagree. Only 13% remain neutral on this issue.[5] In this case, average numbers conceal that agreement is noticeably higher in the U.S., where 54% agree, with only 33% disagreeing. The perceptions of instructors in Western Europe are split more evenly, with 45% agreeing and 42% disagreeing. Instructors at the top 40 research universities (north-east panel) seem to hold slightly more extreme views than do the rest.

The graphs on the bottom row of Figure 1 show responses to the statement 'From an international perspective, the worst part of the crisis is over.' Given that many European economies, and their labor markets in particular, seem to have weathered the first thrust of the storm much better than has the U.S., it may come as a surprise that European instructors are more skeptical than are their U.S. counterparts. By contrast, the sovereign debt crisis that has started to haunt the Eurozone in particular, and which many regard as a direct consequence of the financial crisis, may have made Europeans more wary about what might still be in store. In numbers, 51% of U.S. instructors believe or tend to believe that the crisis is over. Only 31% of Europeans share this view, while a majority disagrees or tends to disagree.

3.2. On modern macroeconomics

The divided views regarding the seriousness and diligence of the financial crisis, as observed similarly on both sides of the Atlantic, do not appear to translate into divided views on the state of modern macroeconomics. Only 10% of undergraduate macroeconomics instructors really believe that everything is fine in the sense that 'modern macroeconomics possesses the models and concepts needed to understand and deal with such crises'. A majority of 72% thinks that 'modern macroeconomics provides a useful framework, though the crisis revealed deficiencies that need to be addressed'. Nevertheless, a sizable minority of 17% concludes that we need a completely new paradigm. Not unexpectedly, this skepticism is shared by only 6% of undergraduate teachers at our top research universities.

[Figure 2 near here]

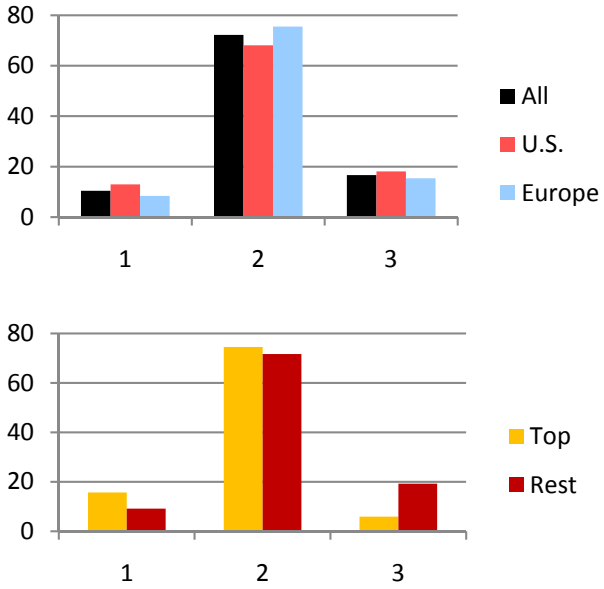
[5] In some of the figures and tables presented in this paper, percentages may not add up to 100 because some instructors did not respond.

Figure 2. — *Modern macroeconomics ...*

1
possesses the models and concepts needed to understand and deal with such crises.

2
provides a useful framework, though the crisis revealed deficiencies that need to be addressed.

3
left us helpless. A major reorientation or new paradigm is needed.



Even though these numbers depict undergraduate instructors as a quite homogeneous group, the middle option, which most respondents ticked, is fairly broad, of course, and may include diverse opinions on *what* the deficiencies of modern macroeconomics are and *how* they should be addressed.

3.3. On macroeconomic policy

Figure 3 reports views on what governments and central banks can and should do to combat or avert financial crises. The big news is that there is a substantial level of agreement among respondents, and little difference between Europe and the U.S. or top-ranked universities and the rest.

[Figure 3 near here]

Presenting statements in the order in which they were listed in the questionnaire, 76% of respondents agree or tend to agree that *bailouts* may be necessary to contain financial crises, while a mere 14% disagree or tend to disagree. In a similar vein, 83% of respondents (tend to) disagree with the statement that governments should simply *let markets run their course* when financial crises loom. Only 14% would (tend to) subscribe to this recommendation.

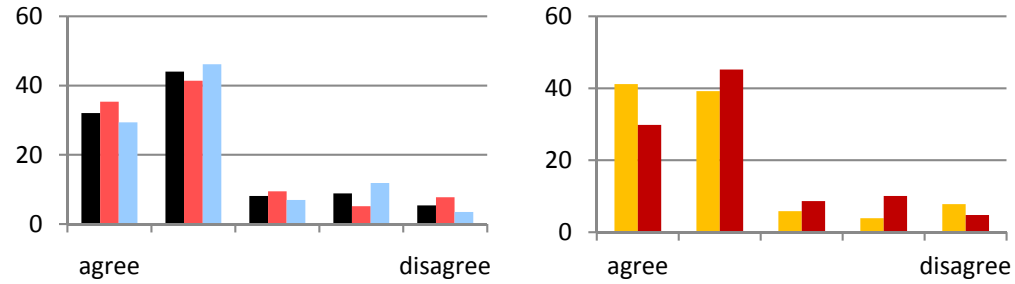
The call for a *tighter regulation* of financial markets is the most uniformly agreed proposition. A majority of 86% of undergraduate teachers thinks so, and merely 8% oppose.

The final two questions in this segment address fiscal and monetary policy. Here also, sizable majorities share the view that each one 'is an essential tool to mitigate economic downturns'. Approval ratings are similar, being 77% for *fiscal policy* and 83% for *monetary policy*. Unexpectedly, perhaps, at 84% the highest approval rating is handed to fiscal policy by instructors at top universities. The fact that fiscal and monetary policy are seen more or less at eye level is surprising given that these days about four times as many published papers in learned journals deal with monetary policy compared with fiscal policy issues, while some 50 years ago those numbers were split evenly.[6]

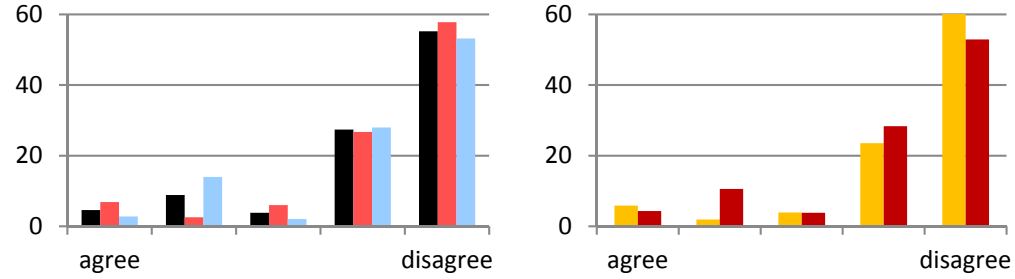
[6] See Wolfers (2009), in particular the chart included in this *Freakonomics* post.

Figure 3. — *Regarding policy measures*:

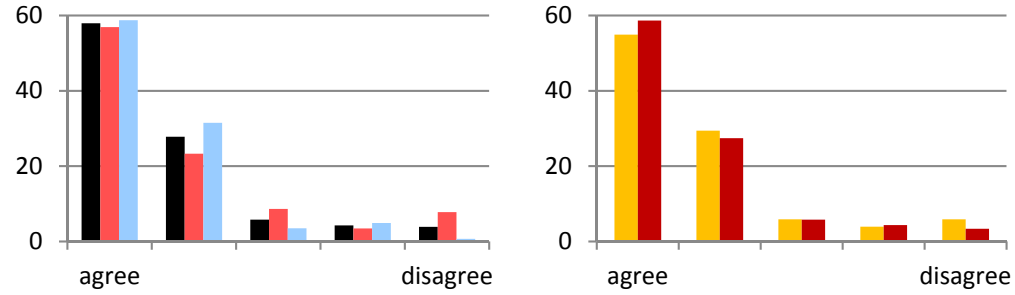
Bailouts of banks or other financial institutions may be necessary to contain financial crises



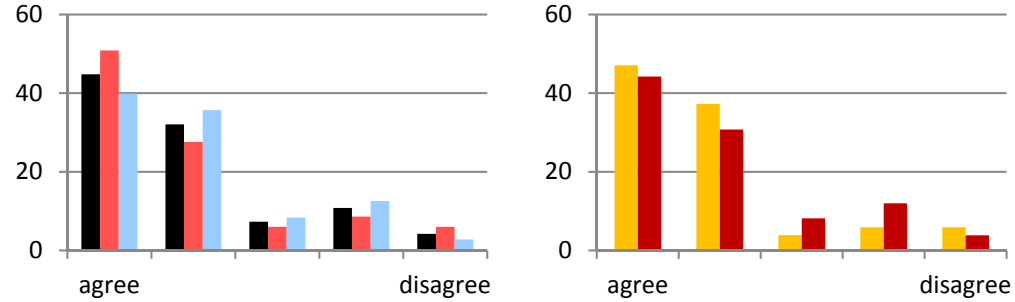
Governments should not intervene during financial crisis but let markets run their course



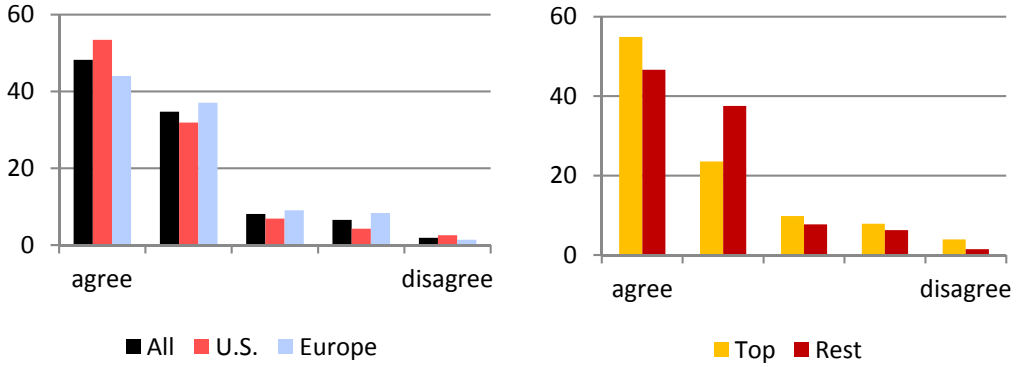
Financial markets need tighter regulation in order to reduce the risk of future financial crises



Fiscal policy is an essential tool to mitigate economic downturns



Monetary policy is an essential tool to mitigate economic downturns



4. Undergraduate macroeconomics today

Having assembled a crude understanding of how survey respondents view the crisis, related policy options and the state of macroeconomics in general, we now turn to the contents of their mandatory undergraduate macroeconomics curricula.

4.1. Major models and concepts: taking stock and assessing change

In a first step, we look at the concepts and models that form the backbone of what undergraduate students learn these days about the macroeconomy. Suggested candidates are the names that are traditionally associated with undergraduate teaching, plus the mainstays of macroeconomic research conducted during the past three decades, ranging from the Keynesian cross and the *IS-LM* model at one end to real business cycles and overlapping generations models on the other.

4.1.1. *A snapshot of the post-crisis curriculum*

Figure 4 shows whether respondents teach the model in their own course(s) (black bar), whether it is covered in some other mandatory macroeconomics course (gray bar) or whether it is not part of the mandatory curriculum at all (white bar).[7] Models are ranked according to the percentage of programs that cover them in the mandatory curriculum (i.e. sum of black and gray bars).

[Figure 4 near here]

In intermediate macroeconomics, the *lingua franca* for discussing short-run issues appears to be the *aggregate demand/aggregate supply model*. The mandatory curriculum includes this almost universally, in 97% of all cases. A mere six instructors report that it is not covered at their institutions. Interestingly, a smaller percentage teaches the very concepts that are typically thought to provide the underpinnings of the *AD-AS* model. Regarding aggregate demand, 94% cover the *Keynesian cross* and 92% teach the *IS-LM model*. As a backbone for aggregate supply, the *labor market* is a mandatory topic in 94% of curricula.

Expanded versions of *IS-LM* that include *open economy* aspects or the recent shift of monetary policy towards *rules* have made their ways into undergraduate macroeconomics teaching, being mandatory in 76% and 69% of the programs, respectively. There is a

[7] Here and in later figures, the gaps between bars indicate the percentage of those who did not respond.

Figure 4. − Are these topics and models included in your institution's mandatory macro courses?

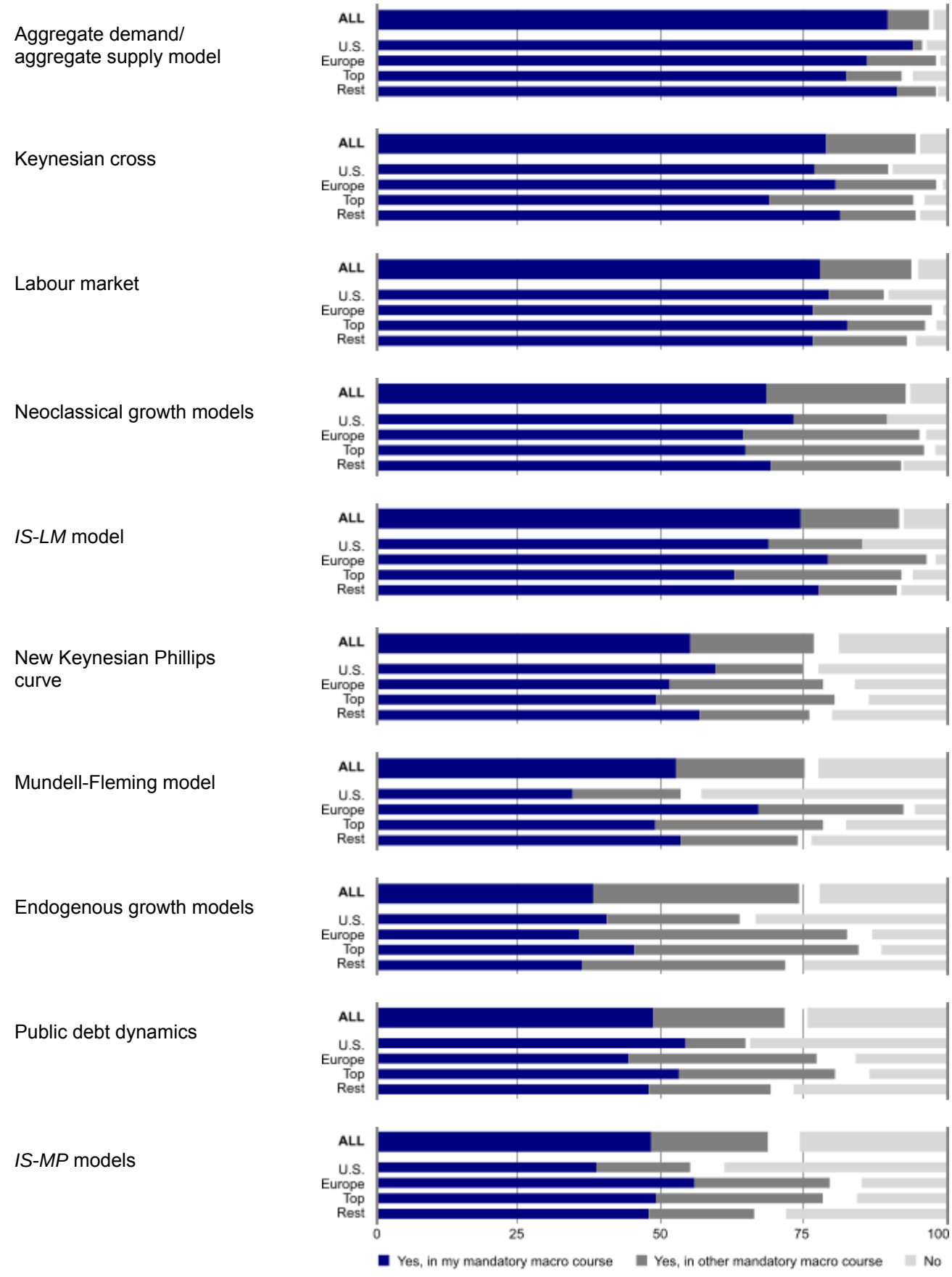
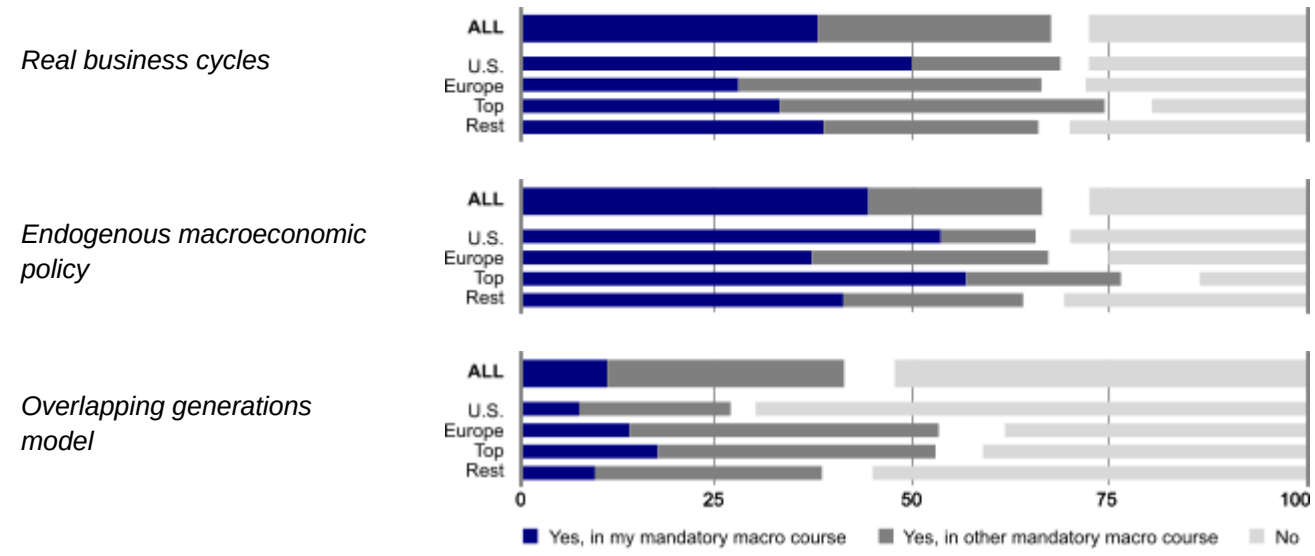


Figure 4. − Are these topics and models included in your institution's mandatory macro courses? (*Continued*)



significant transatlantic divide, however. While the *Mundell–Fleming model* is taught at 92% of European universities, it shows up in no more than 53% of U.S. programs. Similarly, the *IS-MP model*, the one with the policy rule, advocated by authors such as Romer (2000) and Walsh (2002), features in 90% of pertinent European bachelor programs, whereas only 55% of U.S. programs are reported to cover it.

Recent alternatives to the *AD-AS* model are also making a presence in undergraduate teaching. One is the *New Keynesian Philips curve*, which is taught in 77% of all programs. Another is the *real business cycle approach*, which 69% of applicable curricula include. Differences between Europe and the U.S. and between top universities and others are minor. As a final concept for the short run, 66% of all programs make economic policy an endogenous part of their models.

Turning to models and concepts for the long run, the *neoclassical growth model* takes the role that the *AD-AS* model plays for short-run analysis. A majority of 93% of all programs report to include it, with little variation across continents or institutions. *Endogenous growth models* do lag behind, but nevertheless have a strong aggregate showing; in Europe even more so than elsewhere, with 83% of programs including it. The respective number in the U.S. is 64%. There is also a substantial difference between top universities, of which only 12% report not to teach it, whereas 25% of the others do pass.

Public debt dynamics, which provides a link between stimulus packages and sovereign debt issues, is a mandatory topic in 71% of undergraduate economics majors. Possibly as a reflex of Europe's sovereign debt crisis that started with Greece in 2009, 77% of European universities cover it, while only 65% do so in the U.S. The final topic on our list, the *overlapping generations model*, is mandatory in a minority of programs only (44%). Again, Europe is in the lead, with 53% of universities finding the space or seeing the need to include it. In the U.S., only students in 27% of pertinent bachelor programs encounter it as a mandatory topic.

According to this section's results, curricula continue to feature a quite orthodox selection of unifying core topics. But topics that have set the tone for a few generations of young researchers are also making a presence, if not in their full formal clothes. As a rule, European universities find more space and motivation to include such recent models, as well as more demanding variations of established models.

4.1.2. *Has the crisis affected the curriculum?*

Next, instructors were asked whether and how the coverage of the models they teach has changed after the financial crisis. The results are given in Table 1, with models presented in the same order as in Figure 4.[8]

[Table 1 near here]

The model or concept that records the biggest boost by some margin is public debt dynamics. While only 4% of instructors have added it as a new topic, another 50% have expanded its coverage. This is put into perspective, though, by the fact reported in Figure 4 that still only 71% of programs cover it in the mandatory curriculum. The intensified interest in this topic is no puzzle. More of a surprise, perhaps, is the increased emphasis on the related topics of the *IS-MP* model and on endogenous macroeconomics policymaking in general. The net balance in these two cases, defined as the difference between those who added or expanded coverage and those who reduced it, is 26% and 23%, respectively.

Most other concepts also enjoy a positive net balance, although more modest ones. The only net losers are models of economic growth; both in neoclassical and endogenous guise, as almost a 10th of all respondents declare that they reduced coverage. In the case of endogenous growth models, this is entirely owing to the negative net balance in the U.S., which outweighs the positive net balance in European countries. A similar transatlantic divide is revealed with respect to overlapping generations models, for which Europe tallies a net balance of 25% and the U.S. one of −10%. The only two other models where the crisis had a noticeably different effect on both sides of the Atlantic are the Mundell–Fleming model and endogenous macroeconomic policymaking. The much higher European net balances help explain the observation reported in Figure 4 that a substantially larger percentage of European programs feature these models in the first place.

Being asked whether the models they do *not* teach now were dropped after the crisis, instructors almost uniformly responded with a 'no'.[9]

[8] Here and below: when numbers for 'top' universities and the 'rest' are omitted this means that differences were not noteworthy.

[9] In a majority of cases, less than a handful of instructors say they dropped the model. Exceptions are: real business cycles (dropped by eight instructors; or 5% of those who do not teach it), endogenous macroeconomic policy (7; 5%), endogenous growth (7; 4%), neoclassical growth (6; 7%) and OLG models (5; 2%).

Table 1. — *Concerning the topics that you teach. Have they been added or has their coverage increased after the crisis*?

Topic or model	Sample	Added after crisis	Coverage expanded	Coverage unchanged	Coverage reduced
Aggregate demand/aggregate supply model	All	1.29	15.52	76.29	1.29
	Europe	*0.81*	*16.26*	*74.80*	*0.00*
	U.S.	*1.83*	*14.68*	*77.98*	*2.75*
Keynesian cross	All	0.49	17.65	74.51	3.43
	Europe	*0.87*	*17.39*	*74.78*	*3.48*
	U.S.	*0.00*	*17.98*	*74.16*	*3.37*
Labour market	All	0.50	12.94	80.60	2.99
	Europe	*0.92*	*11.01*	*84.40*	*0.92*
	U.S.	*0.00*	*15.22*	*76.09*	*5.43*
Neoclassical growth models	All	1.13	3.95	82.49	8.47
	Europe	*1.09*	*6.52*	*81.52*	*6.52*
	U.S.	*1.18*	*1.18*	*83.53*	*10.59*
IS-LM model	All	0.52	22.28	68.39	4.15
	Europe	*0.88*	*24.78*	*69.03*	*1.77*
	U.S.	*0.00*	*18.75*	*67.50*	*7.50*
New Keynesian Philips curve	All	0.00	16.08	75.52	3.5
	Europe	*0.00*	*14.86*	*74.32*	*4.05*
	U.S.	*0.00*	*17.39*	*76.81*	*2.90*
Mundell-Fleming model	All	1.47	13.97	77.94	1.47
	Europe	*2.08*	*15.63*	*76.04*	*1.04*
	U.S.	*0.00*	*10.00*	*82.50*	*2.50*
Endogenous growth models	All	1.02	5.10	82.65	8.16
	Europe	*1.96*	*9.80*	*82.35*	*1.96*
	U.S.I	*0.00*	*0.00*	*82.98*	*14.89*
Public debt dynamics	All	3.97	50.00	38.10	1.59
	Europe	*4.76*	*55.56*	*33.33*	*0.00*
	U.S.	*3.17*	*44.44*	*42.86*	*3.17*
IS-MP model	All	4.0	27.2	59.2	4.8
	Europe	*2.5*	*27.5*	*61.25*	*3.75*
	U.S.	*6.67*	*26.67*	*55.56*	*6.67*
Real business cycles	All	4.08	14.29	67.35	9.18
	Europe	*5.00*	*15.00*	*65.00*	*10.00*
	U.S.	*3.45*	*13.79*	*68.97*	*8.62*
Endogenous macroeconomic policy	All	1.74	22.61	66.96	1.74
	Europe	*1.89*	*28.3*	*64.15*	*0.00*
	U.S.	*1.61*	*17.74*	*69.35*	*3.23*
Overlapping generations model	All	6.90	13.79	72.41	3.45
	Europe	*5.00*	*20.00*	*70.00*	*0.00*
	U.S.	*1.11*	*0.00*	*77.78*	*11.11*

4.1.3. *A look at the big picture*

To complete the big picture we asked instructors about their emphases on microfoundations and on the short versus the long run. Figure 5 (top row) shows which percentage of the course devoted to macroeconomics models with strict *microfoundations*.

[Figure 5 near here]

There is little difference between Europe and the U.S., and between top universities and others. Some 10% do not teach such models at all. A clear majority attributes up to 25% of the course to microfounded models. In just over 10% of the courses, models with microfoundations dominate the syllabus. One difference that jumps out is that only 4% of mandatory macroeconomics courses at top universities ignore micro-based models altogether, whereas at other universities 11% of the courses do.

Regarding change, some 80% say that the weight on models with microfoundations has not changed since the crisis. About 10% say it has increased and close to 5% say it has reduced. Again, 14% of top universities report an increase, while the number for other universities is much lower at 7%.

The bottom row in Figure 5 indicates the percentage of a course 'devoted to models and concepts dealing with short-run phenomena'. On aggregate, 44% of instructors say they devote up to 50% of their courses to short-run phenomena; 46% devote more than half of their courses. Here, patterns are also similar between Europe and the U.S. and between differently ranked universities. Asked about change, about 70% of instructors did not change weights; however, 15% say they increased emphasis on short-run models (Europe: 13%; U.S.: 18%), while some 9% decreased it.

The bottom line in this section, as regards the impact of the crisis, seems to be a modest move in undergraduate macroeconomics towards more emphasis on microfoundations and on short-run perspectives.

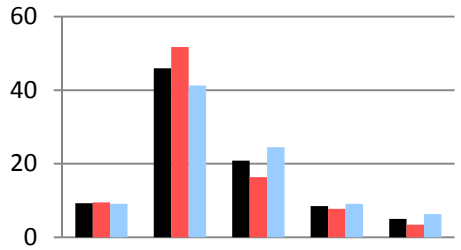
4.2. A more detailed picture: new concepts

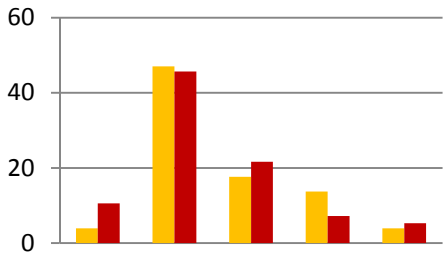
Next, the questionnaire moved beyond the big picture by asking which ones from a list of topics that were emphasized in discussions of the financial crisis were covered in the respondent's course.[10]

[10] Our list bears a close relationship with the topics discussed in Blinder (2010), not least because we augmented our initial list with some of his suggestions.

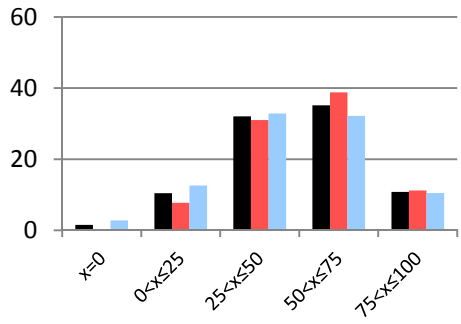
Figure 5. — *Completing the big picture.*

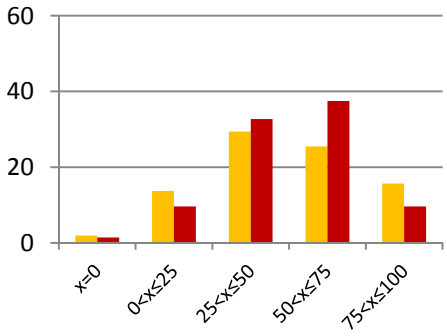
What percentage of your course(s) is devoted to macroeconomic models with strict microfoundations as in the DSGE framework?

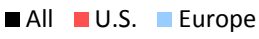




What percentage of your course(s) is devoted to models and concepts dealing with short-run phenomena such as business cycles?







4.2.1. *A snapshot of finer topics*

Figure 6 displays the answers, listing those new topics first that received the highest yes shares among all respondents.

[Figure 6 near here]

The winner from this list is, by a narrow margin, *banks and other financial institutions*. This topic is covered in 78% of all courses; even in 87% in the U.S., where many see the roots of the financial crisis. The runner-up is the *liquidity trap* (77%); certainly not a new concept, by any means, but one that had faded from the radar of many undergraduate teachers and from intermediate macroeconomics textbooks.[11] Again, a much larger share of instructors in the U.S. (85%) includes such a discussion compared with Europe (71%). With a substantial gap, *bank runs* come in at third place with 64%. The pattern is repeated: a whopping 86% of U.S. courses discuss bank runs, but only 45% do so in Europe. Other topics included in more than half of the courses are *non-conventional monetary policy* (e.g. quantitative easing) (63%), *bubbles* in asset markets (56%) and *risk premiums* (54%). The Atlantic divide strikes again in the case of *quantitative easing* (78% versus 51% in favor of the U.S.) and *bubbles* (71% versus 45%), whereas the coverage of *risk premiums* is similar.

A minority of instructors admits to covering *international financial contagion* (47%), *multiple interest rates* (47%), systemic risk (46%), *insolvency and illiquidity* (46%), *leverage* (41%) and *securitization* (37%). Here too, coverage is consistently higher in the U.S., with multiple interest rates (62% versus 34%) and insolvency (59% versus 35%) being the most outstanding examples.

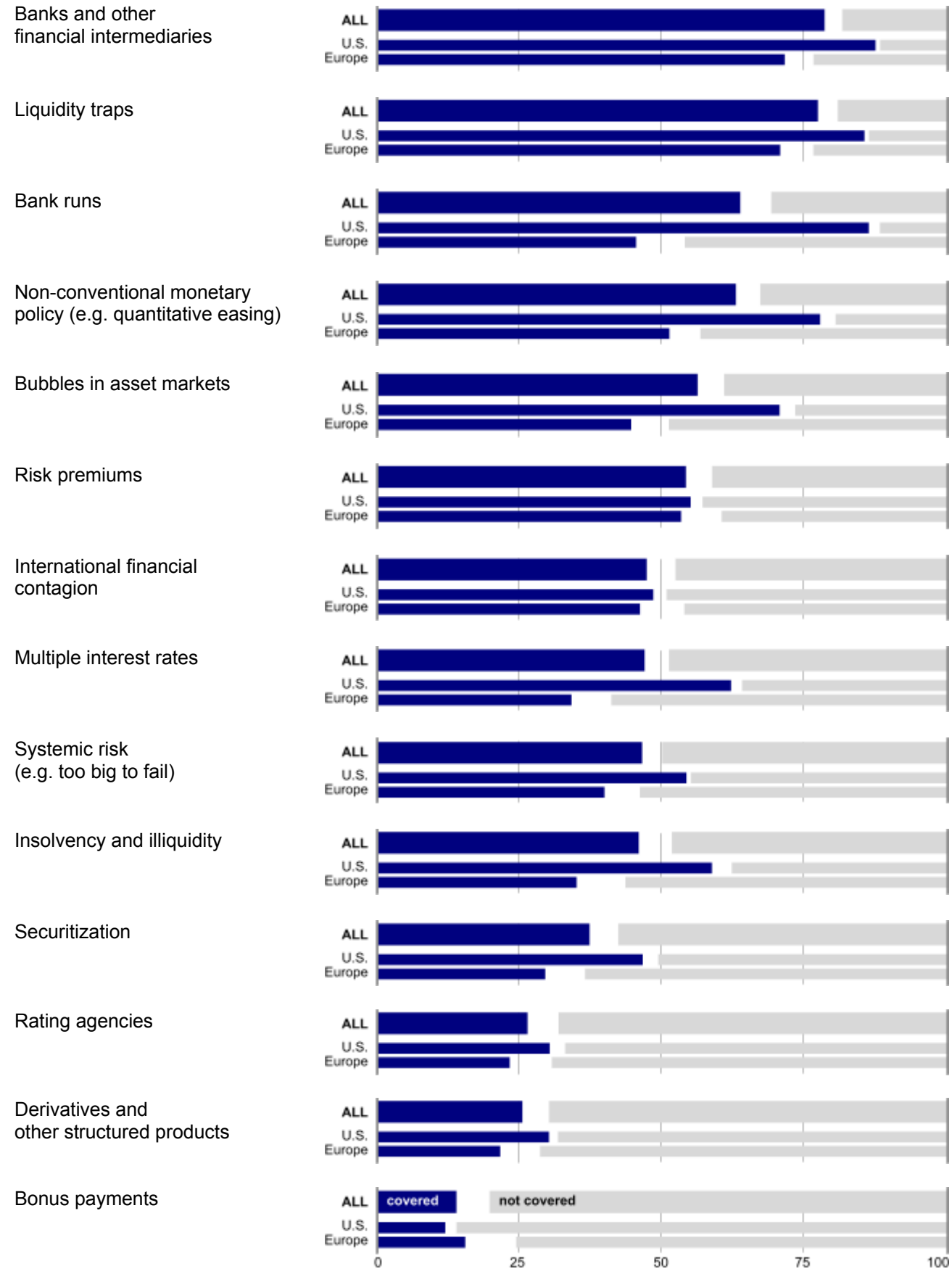
Only a relatively small minority reports to include *rating agencies* (26%), *derivatives and other structured products* (25%) and *bonus payments* (14%), with minor transatlantic differences.

4.2.2. *Has the crisis affected the finer fabric macroeconomics courses are made of*?

Figure 7 reports whether the crisis brought any changes regarding the topics listed in Figure 6. Keeping the order of topics as in Figure 6, the new figure reveals a substantial amount of change. For all but two topics, a majority of respondents who teach a given topic indicates

[11] Textbooks that did not feature liquidity traps before the crisis include successful intermediate texts such as Barro (1997), Burda and Wyplosz (2001), Farmer (1999), Jones (2008) and Mankiw (2006). Others, which include Williamson (2005), do mention the concept but waste but a few sentences to discard it as irrelevant.

Figure 6. − Which of these topics do you cover in your mandatory macroeconomics course(s)?



that this has been added or given expanded coverage since the crisis. The two exceptions are *risk premiums*, which 14% have added after the crisis and where 31% have increased the previous coverage, and *multiple interest rates*, where the respective numbers are 13% and 28%.[12]

[Figure 7 near here]

Non-conventional monetary policy (e.g. *quantitative easing*) has received the biggest boost from the crisis. Almost half of the instructors who teach it have added this topic to their syllabuses after the crisis and another 34% have expanded its coverage.[13] Other hot topics in undergraduate macroeconomics appear to be *bubbles* (added by 30%; expanded by 47%), *securitization* (44% and 33%), *rating agencies* (46% and 31%), *leverage* (44% and 32%) and *systemic risk* (30% and 41%). Even the least 'dynamic' concepts under this definition, *risk premiums* and *multiple interest rates*, have only recently been added by 14% and 13% of those who teach it.

4.2.3. *Why are certain topics left out*?

An oftentimes substantial percentage of undergraduate instructors decided not to teach certain concepts listed in Figures 6 and 7, ranging from 19% who do not cover *banks and other financial intermediaries* to 80% who leave out *bonus payments*. The questionnaire asked them for the reasons. The options offered were: 'Covered in other mandatory course', 'Does not belong in macro course', 'Not covered in pertinent textbooks', 'Too difficult for this level' and 'Lack of time'.

There is no clear picture and no dominant reason. Different topics are excluded for different reasons. At an aggregate level, adding up percentages across all topics, the reason most often cited (by 30% of those who do not teach a subject) is that it does not belong in a macroeconomics course. A close second is 'lack of time', mentioned by 27%. Compared with Europe, almost twice as many U.S. respondents blame lack of time for not including a subject (37% versus 22%). Instead, a noticeably smaller percentage argues that topics do not belong in a macro course (25% versus 32%), pointing to a wider, possibly less dogmatic definition of

[12] This may be a bit surprising since risk premiums feature on Blinder's (2010) list of 'New topics for macro principles'. After asking rhetorically "how can we continue to teach the one-interest-rate model?", Blinder (2010) even claims that whether or not to include multiple interest rates is one of the 'Four basic pedagogical decisions' that need to be taken.

[13] This may not be such a surprise. A check at www.google.com/trends reveals that 'quantitative easing' did not even exist as a search term prior to the fourth quarter of 2008.

Figure 7. − Which of the topics covered in your course(s) were added after the crisis?

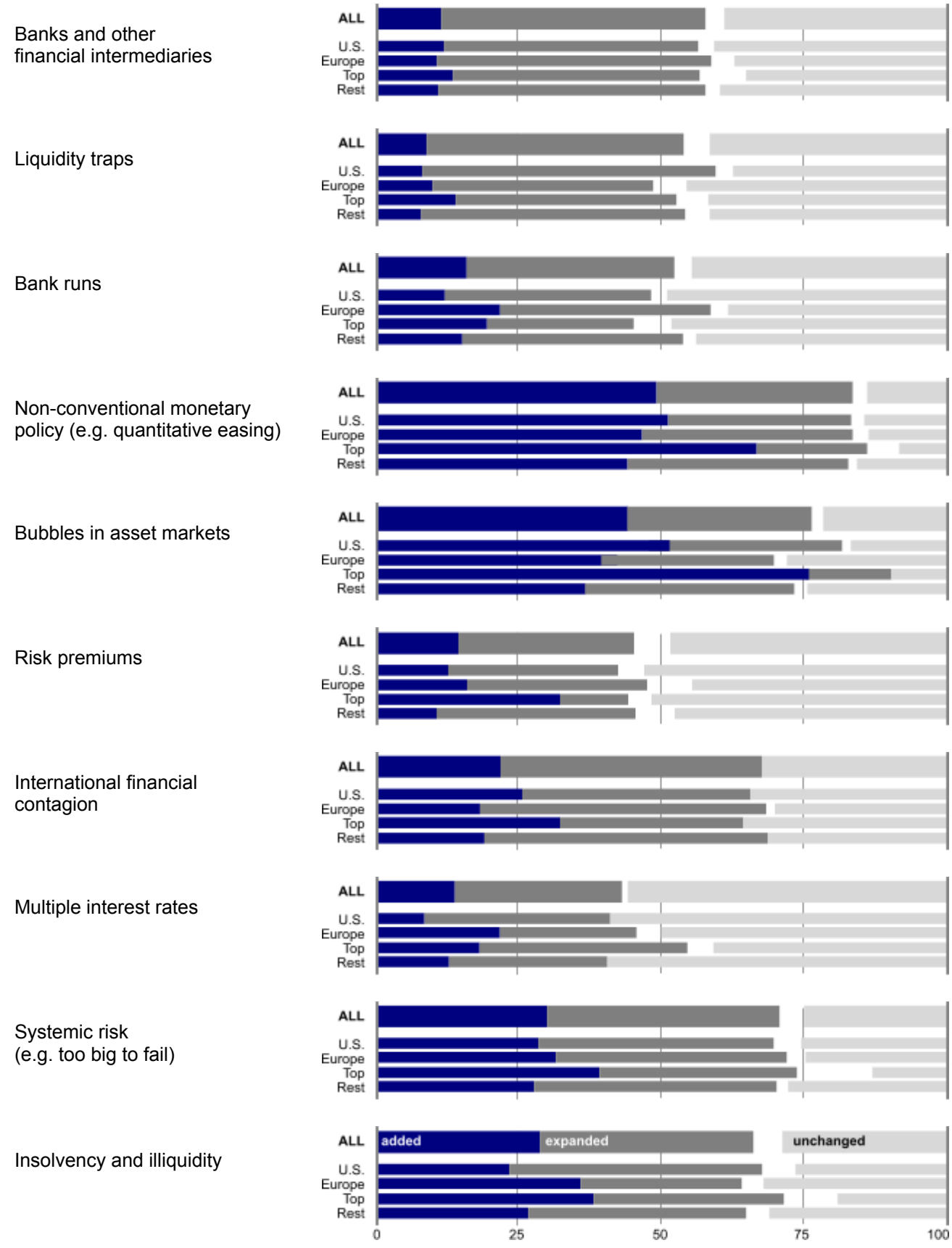
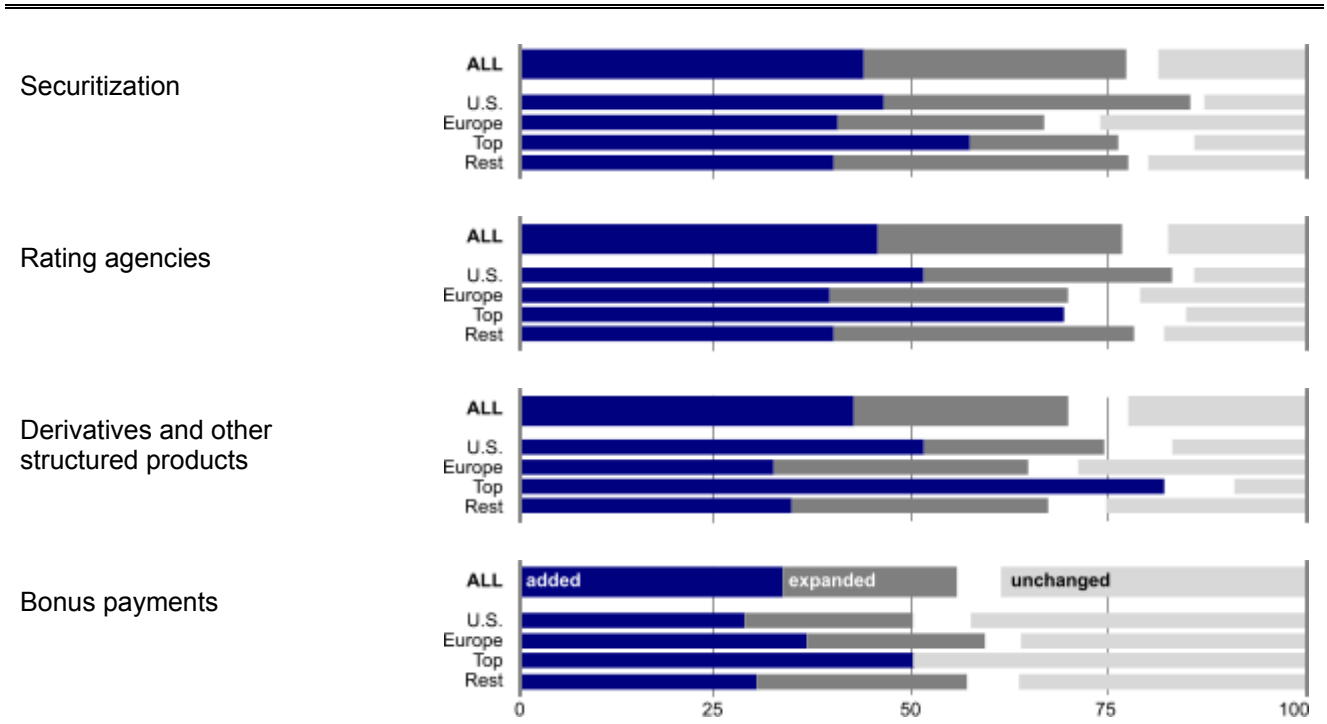


Figure 7. − Which of the topics covered in your course(s) where added after the crisis? (*Continued*)



the field. The fact that a topic is not covered in pertinent textbooks is the least frequently cited reason (11%) among all instructors, and is only mentioned by 3% of those who teach at top universities.

A look at the individual topics (see Table A.1 in the Appendix) reveals some obvious contradictions or differences in judgment within the profession. For example, the main reason given by those who do not include asset market bubbles is that the topic does not belong in an undergraduate macroeconomics course (28%). By contrast, a majority of 56% of instructors actually includes this topic in their macro courses, as we learned from Figure 6. In addition, the main reason at 24% for not including multiple interest rates in a macroeconomics course is that it is considered 'too difficult', while Figure 6 states that 47% of undergraduate instructors manage to teach it nonetheless.

4.2.4. *How are core models and topics presented and packaged*?

A final topical question attempted to find out in which way the models, concepts and topics that are addressed in the mandatory curriculum are presented and put in perspective by drawing on lessons and methods from statistics, mathematics, case studies, economic history, behavioral economics or the history of economic thought. Table 2 reveals that instructors draw on these fields to a perhaps surprising extent, and, as a tendency, more so than before the crisis.

[Table 2 near here]

The clear favorite, which only one out of five instructors reports to avoid, is *mathematical modeling*. But this is also the only item on the list with a negative balance, since only 2% have attributed more emphasis to it after the crisis, while 9% grant less. Another minority of 23% avoids *statistical/empirical applications*, but the net balance is positive in this case, pointing towards increased emphasis. *Behavioral economics* finishes last at 64%, but records a distinctly positive net balance of 8%. The biggest winners from the crisis on this measure, however, are *economic history* and *case studies* to which 22% and 19% of instructors award more emphasis than they did before the crisis, respectively.

Again, there is rather little difference in how much instructors in Europe draw on these methods or fields relative to their counterparts in the U.S. when they teach undergraduate macroeconomics. If anything, Europeans appear to have a relative preference for *case studies*, which they employ more frequently and more often with increased emphasis than do their

Table 2. — *Do you include any of the following in your mandatory macroeconomics course(s)*?

Approach field or method	Sample	Yes, more emphasis after crisis	Yes, unchanged emphasis	Yes, but less emphasis	No, dropped after crisis	No, never taught
History of economic thought	All	11.97	43.63	5.02	0.39	35.52
	Europe	*13.99*	*38.46*	*4.90*	*0.70*	*37.06*
	U.S.	*9.48*	*50.00*	*5.17*	*0.00*	*33.62*
Behavioral economics/ experiments	All	10.81	16.99	2.70	0.39	63.71
	Europe	*10.49*	*15.38*	*3.50*	*0.70*	*62.94*
	U.S.	*11.21*	*19.87*	*1.72*	*0.00*	*64.66*
Case studies	All	18.53	34.75	5.41	0.77	36.68
	Europe	*23.78*	*34.97*	*4.90*	*1.40*	*29.37*
	U.S.	*12.07*	*34.48*	*6.03*	*0.00*	*45.69*
Statistical/empirical applications	All	10.01	54.05	6.18	0.39	23.17
	Europe	*13.99*	*53.15*	*4.20*	*0.70*	*18.88*
	U.S.	*5.17*	*55.17*	*8.62*	*0.00*	*28.45*
Mathematical modeling	All	1.93	62.55	9.27	0.77	20.85
	Europe	*2.80*	*63.64*	*11.19*	*1.40*	*13.99*
	U.S.	*0.86*	*61.21*	*6.90*	*0.00*	*29.31*
Economic history	All	21.62	42.47	4.25	0.77	27.41
	Europe	*22.38*	*36.36*	*3.50*	*1.40*	*31.47*
	U.S.	*20.69*	*50.00*	*5.17*	*0.00*	*22.41*

U.S. counterparts. The same holds for *statistical and empirical applications*. U.S. instructors more frequently draw on lessons from *economic history* or the *history of economic thought*.

5. Summary and concluding comments

When the perfect storm brewed in 2008, many thought that this experience might leave no stone standing in the field of macroeconomics. This has not happened. Not least because the storm was eventually downgraded to a level 4 hurricane that did not cause the economic damage we initially feared it might.

Results from our online survey reveal that roughly half of all undergraduate instructors were really scared when the storm broke, and a similar percentage remains wary that more and worse may come from where the initial storm hatched.

Results also suggest that our key question of whether the crisis has changed how macroeconomics is taught in bachelor programs East and West of the Atlantic must be answered on an aggregate and on a more detailed level.

When we look at the big picture, at the key models used to discuss issues of economic growth and business cycles, change is modest at best. From such a bird's eye perspective, courses feature very much the same lineups of models as they did before the crisis. There is some evidence of a little more emphasis on short-run issues versus long-run topics after the crisis, and on microfounded models versus their Keynesian-type alternatives. But these changes look evolutionary rather than abrupt. The only major change on this level is related to public debt dynamics, which receives a lot more emphasis than it did before the financial crisis, and its reverberations, say in the form of the European sovereign debt crisis.

Upon closer scrutiny, however, when we look at the finer fabric undergraduate macroeconomics teaching is made of, exciting things are going on indeed. First, a host of topics that are related to financial markets and that gained or regained prominence during the Great Recession have either entered the curriculum for the first time or now play a much more prominent role. These range from familiar or straightforward topics such as asset bubbles and liquidity traps to rather unexpected arrivals such as leverage and bonus payments, which one would not have anticipated in a macro course a few years ago. Second, there is an intensified interest in putting macroeconomics into a wider and real-world context, making instructors reach more often for lessons from economic history and case studies.

There are few differences when we compare Europe with the U.S., or check whether universities that excel in research are drifting away from the others. One pronounced difference is that U.S. undergraduate majors in economics are mandated a more spartan menu of key models and concepts than are their European peers. These menus often avoid extensions that may complicate matters too much, such as opening the economy or including policy rules. In return, and this is the second significant difference, U.S. undergraduate majors are treated to a much richer and fresher set of trimmings. It seems as though this simpler set of key models, which U.S. instructors tend to rely on, makes it easier or leaves more space for the speedy introduction and discussion of entirely new topics, as suggested by the dramatic developments of 2007−2009.

Remembering the shockwaves that the crisis sent through our profession, and noting the widespread and continuing fear that the global economy might not be safe yet, it may appear odd, or even a failure, to see instructors hang onto very much the same models that they taught before the crisis. Key reasons for this may be that no alternative paradigm is in sight that could be used in undergraduate teaching or that most instructors remain convinced that research can address the enormous challenges posed by recent developments within established frameworks. This apparent persistence must not be confused with 'business as usual', as our introductory *New York Times* quote speculated. Within the time-honored agenda and models of undergraduate macroeconomics, instructors have become extremely busy and creative in revamping their courses, both by paying more attention to the lessons taught by real-world developments and history and by giving financial markets the weight that these possess in today's global economy. Past generations of students may well feel comfortably at home when they read the main labels at the doors of today's undergraduate macroeconomics courses, but they are in for a surprise once they peek inside.

Appendix

A. Why instructors refrain from teaching certain topics

The following table provides details on the reasons that instructors give for not covering specific topics.

[Table A.1 near here]

B. Survey design

The survey was conducted online during November and December 2010. For a static version of the questionnaire see http://www.fgn.unisg.ch/public/questionnaire.pdf. Invitations were sent by email to 768 undergraduate macroeconomics instructors at 511 colleges and universities in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, the UK and the U.S.. Of those who were invited, 259 instructors completed the survey, which provides us with an overall return rate of 34%.

Instructors were identified in two steps. First, we identified institutions of higher education, typically colleges and universities, that offer a bachelor's program with a major in economics. Second, we searched the websites of these institutions for academic staff involved in teaching mandatory macroeconomics courses at the bachelor's level. In Europe, we included all institutions in the selected countries. In the U.S., where a much larger number of pertinent institutions exists, we chose a random sample out of the 752 colleges listed in the College Navigator of the U.S. Department of Education to match the number of European institutions.

Both for Western Europe and the U.S. the 40 best research universities, as identified by Coupé (2003), were included and tagged in order to permit discrimination between 'top' universities and the 'rest' in our analysis.

Out of the 259 instructors who completed the survey, 143 (54%) teach in Western Europe, of which 24 (9%) teach at a top European university, 116 (45%) teach in the U.S. and 27 (11%) of those teach at a top U.S. university. Figure A.1 shows the origins of the European survey participants. Figure A.2 shows the age distribution of all participants (missing answers are not included).

Table A.1. − *Considering the topics you do not teach. What are the main reasons for not teaching them*?

Topic	Sample	Covered in other mandatory macro course	Does not belong in mandatory macro course	Not covered in pertinent macro textbooks	Too difficult for this level	Lack of time
Banks and other financial intermediaries	All	29.17	22.92	8.33	12.50	25.00
	Europe	*29.41*	*29.41*	*5.88*	*11.76*	*20.59*
	U.S.	*28.57*	*7.14*	*14.29*	*14.29*	*35.71*
	Top	*58.33*	*8.33*	*0.00*	*8.33*	*25.00*
	Rest	*19.44*	*27.78*	*11.11*	*13.89*	*25.00*
Liquidity traps	All	18.00	16.00	8.00	18.00	38.00
	Europe	*26.47*	*14.71*	*8.82*	*17.65*	*32.35*
	U.S.	*0.00*	*18.75*	*6.25*	*18.75*	*50.00*
	Top	*50.00*	*16.67*	*0.00*	*16.67*	*16.67*
	Rest	*7.89*	*15.79*	*10.53*	*18.42*	*44.74*
Bank runs	All	17.50	30.00	11.25	10.00	27.50
	Europe	*18.18*	*30.30*	*12.12*	*9.09*	*25.76*
	U.S.	*14.29*	*28.57*	*7.14*	*14.29*	*35.71*
	Top	*43.75*	*12.50*	*0.00*	*18.75*	*25.00*
	Rest	*10.94*	*34.38*	*14.06*	*7.81*	*28.13*
Non-conventional monetary policy	All	11.76	20.00	21.18	10.59	31.76
	Europe	*12.90*	*20.97*	*25.81*	*9.68*	*25.81*
	U.S.	*8.70*	*17.93*	*8.70*	*13.04*	*47.83*
	Top	*33.33*	*8.33*	*0.00*	*8.33*	*41.67*
	Rest	*8.22*	*21.92*	*24.66*	*10.96*	*30.14*
Bubbles in asset markets	All	16.83	*27.72*	8.91	19.8	24.75
	Europe	*21.43*	*28.57*	*7.14*	*21.43*	*18.57*
	U.S.	*6.45*	*25.81*	*12.90*	*16.13*	*38.71*
	Top	*27.27*	*31.82*	*4.55*	*13.64*	*22.73*
	Rest	*13.92*	*26.58*	*10.13*	*21.52*	*25.32*
Risk premiums	All	22.43	23.36	10.28	14.95	27.10
	Europe	*31.58*	*22.81*	*7.02*	*17.54*	*17.54*
	U.S.	*12.00*	*24.00*	*14.00*	*12.00*	*38.00*
	Top	*45.45*	*18.18*	*4.55*	*13.64*	*18.18*
	Rest	*16.47*	*24.71*	*11.76*	*15.29*	*29.41*
International financial contagion	All	17.07	21.14	6.50	16.26	34.96
	Europe	*21.21*	*25.76*	*9.09*	*19.70*	*18.18*
	U.S.	*12.28*	*15.79*	*3.51*	*12.28*	*54.39*
	Top	*27.27*	*27.27*	*4.55*	*22.73*	*18.18*
	Rest	*14.85*	*19.80*	*6.93*	*14.85*	*38.61*
Multiple interest rates	All	12.70	19.84	10.32	23.81	*30.95*
	Europe	*14.29*	*21.43*	*10.71*	*22.62*	*28.57*
	U.S.	*9.52*	*16.67*	*9.52*	*26.19*	*35.71*
	Top	*22.22*	*14.81*	*3.70*	*25.93*	*33.33*
	Rest	*10.10*	*21.21*	*12.12*	*23.23*	*30.30*
Systemic risk	All	13.95	23.26	17.05	15.50	27.13
	Europe	*18.18*	*27.27*	*15.58*	*12.99*	*22.08*
	U.S.	*7.69*	*17.31*	*19.23*	*19.23*	*34.62*
	Top	*24.00*	*16.00*	*12.00*	*16.00*	*28.00*
	Rest	*11.54*	*25.00*	*18.27*	*15.38*	*26.92*
Insolvency and illiquidity	All	12.00	34.40	11.20	12.00	27.20
	Europe	*13.58*	*38.28*	*9.88*	*12.35*	*22.22*
	U.S.	*9.09*	*27.27*	*13.64*	*11.36*	*36.36*
	Top	*19.23*	*26.92*	*0.00*	*19.23*	*34.62*
	Rest	*10.10*	*36.36*	*14.14*	*10.10*	*25.25*
Securization	All	11.33	40.67	10.00	19.33	16.67
	Europe	*10.99*	*46.15*	*9.89*	*15.38*	*15.38*
	U.S.	*11.86*	*32.20*	*10.17*	*25.43*	*18.64*
	Top	*24.00*	*36.00*	*0.00*	*24.00*	*16.00*
	Rest	*8.80*	*41.60*	*12.00*	*18.40*	*16.80*
Rating Agencies	All	9.04	41.81	12.43	*9.04*	25.99
	Europe	*12.12*	*44.44*	*13.13*	*9.09*	*18.18*
	U.S.	*5.13*	*38.46*	*11.54*	*8.97*	*35.90*
	Top	*17.14*	*37.14*	*5.71*	*14.29*	*25.71*
	Rest	*7.04*	*62.96*	*14.08*	*7.75*	*26.06*
Derivatives and other structured products	All	12.71	39.78	7.73	17.68	20.99
	Europe	*14.71*	*45.10*	*7.84*	*14.71*	*15.69*
	U.S.	*10.13*	*32.91*	*7.59*	*21.52*	*27.85*
	Top	*21.62*	*37.84*	*0.00*	*13.51*	*27.03*
	Rest	*10.42*	*40.28*	*9.72*	*18.75*	*19.44*
Bonus payments	All	14	50.00	9.62	5.77	25.00
	Europe	*8.33*	*51.85*	*9.26*	*4.63*	*22.22*
	U.S.	*5.00*	*48.00*	*10.00*	*7.00*	*28.00*
	Top	*12.20*	*43.90*	*9.76*	*9.76*	*21.95*
	Rest	*5.39*	*51.50*	*9.58*	*4.79*	*25.75*
Leverage	All	11.35	34.04	12.06	13.47	26.95
	Europe	*13.95*	*38.37*	*12.79*	*10.47*	*20.93*
	U.S.	*7.27*	*27.27*	*10.91*	*18.18*	*36.36*
	Top	*21.43*	*32.14*	*7.14*	*14.29*	*25.00*
	Rest	*8.85*	*34.51*	*13.27*	*13.27*	*27.43*

[Figure A.1 near here]

[Figure A.2 near here]

Figure A.1. — *The countries of residence of European participants*

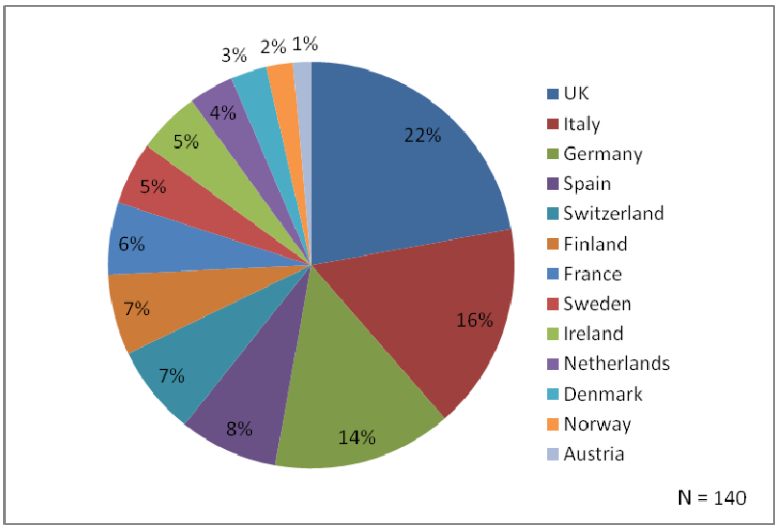
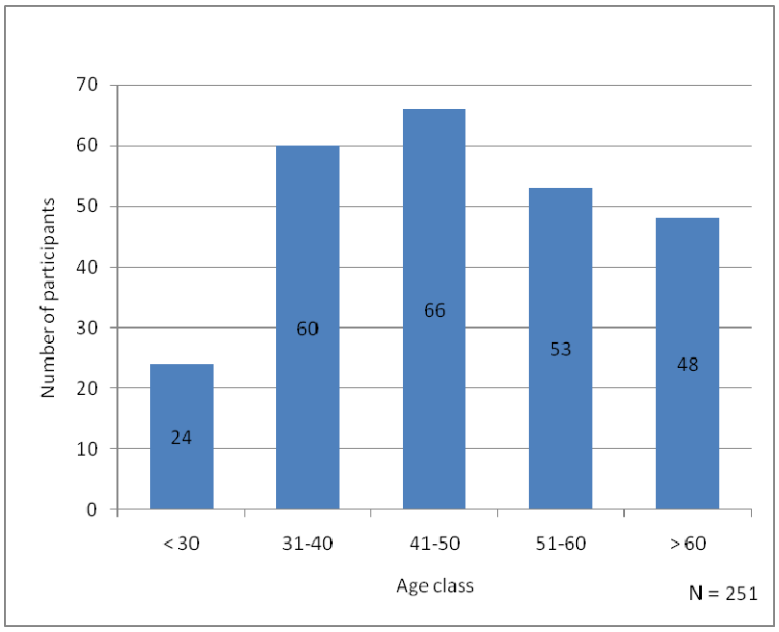


Figure A.2. — *The age distribution of all participants*



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