Saltwater vs Freshwater:
A small survey of postgraduate macro courses

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Abstract
Information on the extent of New Keynesian teaching at the postgraduate level is thin on the ground. The aim of this short note is to provide some evidence. In order to do so we surveyed students across top schools on the contents of postgraduate macroeconomics courses taught at those institutions. There is little evidence in our results of a marked bifurcation among top universities as suggested by some: we find that New Keynesian economics has been taught in most schools in recent years, albeit to varying degrees.

1 Introduction

Many see the saltwater/freshwater divide as ubiquitous in academic macroeconomics. The essential division is between those that see Keynesian economics as central to the discipline (saltwater) and those that at best see Keynesian economics as irrelevant, and at worst are actively opposed to it (freshwater). The division stems from the New Classical counter revolution of the 1970s and 1980s, exemplified by Lucas and Sargent’s (1979) view that 'Keynesian macroeconomic models are incapable of providing reliable guidance in formulating monetary, fiscal and other types of policy.'

By the 2000s, many thought these stark divisions had softened, if not disappeared. The 1980s and 1990s had seen the emergence of New Keynesian economics, which attempted

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to recast Keynesian economics within the framework championed by Lucas and Sargent. While some from within the freshwater tradition still had severe doubts about the ability of these models to provide policy advice (Chari, Kehoe and McGrattan, 2008), they had become central to the modelling efforts of the major central banks and most academic economists that worked on monetary policy. Goodfriend and King (1997) described these models as a New Neoclassical Synthesis.

The existence of this quasi-consensus was thrown in doubt by the response to the Great Recession of 2009. When President Obama tried to get Congress to pass a fiscal stimulus package aimed at combating the recession, a number of prominent freshwater economists (including Lucas) poured scorn on the economics behind the proposal. The ability of temporary increases in government spending to stimulate the economy when monetary policy was incapacitated by nominal interest rates being at their zero lower bound was a standard property of New Keynesian models. These comments by freshwater economists seemed either to represent an ignorance of the New Keynesian model, or a dismissal of it.

The picture painted by some on the saltwater side is of a deeply divided discipline, with some graduate schools failing to teach New Keynesian economics. The picture sometimes suggested by those on the freshwater side is that Keynesian economics represents a doctrine of the past that is no longer taken seriously by those teaching the subject at postgraduate level. Yet information on the extent of New Keynesian teaching at the postgraduate level is thin on the ground. The aim of this short note is to provide some evidence.

The following section describes our survey of postgraduate courses at top schools and presents the main findings.

2 The survey

We asked postgraduate students at top 15 schools (according to IDEAS) to tell us what their recollection was about the percentage of their first-year core macroeconomics module which involved ‘price and/or wage rigidities (including New Keynesian models).’ Results show that in recent years such topics have been taught in the majority of top
graduate programmes, although to varying degrees.

## 2.1 Survey details

The selection of schools to be included in the survey was based on the IDEAS ranking of economic institutions as of September 2013.\(^1\) Included schools were (ordered by ranking): Harvard University, Massachusetts Institute of Technology (MIT), London School of Economics and Political Science (LSE), University of Chicago, Princeton University, University of Oxford, University of California Berkeley, New York University (NYU), Columbia University, Stanford University, Paris School of Economics (PSE), Universitat Pompeu Fabra (UPF), Yale University, Toulouse School of Economics (TSE), and the University of Pennsylvania (Penn).\(^2\) Student contacts were obtained from online graduate student directories, which were available from every university’s website at the time, except for Chicago.

The survey was conducted between September 2014 and July 2015, via email. Current PhD students – and masters students, where applicable – at the selected institutions were asked the following two questions:

1. When did you take core Macro? Please answer with school year (e.g. 2010/2011, 2011/2012...).

2. Approximately what percentage of the core Macro sequence that you received covered models involving price and/or wage rigidities (including New Keynesian models)? Please round your answer to the nearest 5% mark.

These questions were accompanied by a small description of the survey and, when appropriate, by any necessary clarifications regarding the object of our questions (for example, due to non-standard coursework structures). For American departments the

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\(^1\)The latest available at the onset of the project (https://ideas.repec.org/top/old/1309/top.inst.all.html).

\(^2\)UPF was included in place of Barcelona Graduate School of Economics (BSGE), which does not offer a PhD programme itself. The BGSE masters in Economics is the standard track for admission to the UPF PhD programme.
questions concerned the first-year macro sequence of the respective PhD programmes. In Europe, however, the equivalent PhD-level coursework is often offered as part of separate masters degrees, which are a prerequisite for admission to PhD programmes. The coursework structure of European masters degrees can be more heterogeneous than that of US PhD programmes. For that reason, although every effort has been made to ensure comparability by attempting to focus on the right programmes and courses, some care is required in interpreting the results. Further difficulties arose in the case of the Paris School of Economics, due to the co-existence of several different tracks giving access to the PhD programme. For this school we decided to restrict the sample to those students who had followed the APE masters (‘Analyse & Politique Économiques’) track, which we judged to be the closest to a standard PhD-track programme based on information received from PSE students and academics.

Disappointingly, we have been unable to collect any information on the Chicago PhD programme, for which graduate student contacts were not publicly available. Furthermore, we have been told by both the course administrator and the academic in charge of the programme that they have a policy of not divulging the email addresses of postgraduates, even after we made it clear what we wanted them for.

In total we received 280 valid answers. The large majority of responding students had taken core macro in 2009/2010 or later – although there were some (few) exceptions (the earliest reported was 2006/2007). Including the latter does not change the results materially. Replies from those who took core Macro in 2014/2015 were disregarded, as these were generally based on incomplete (mid-year) information. For most schools the sample broadly covers five academic years: 2009/2010 to 2013/2014. One noteworthy exception is Berkeley, for which we are missing information on 2013/2014. The distribution of the sample by academic year is summarised in Table 1.

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3 European PhD programmes are roughly equivalent to years 2- or 3-onwards of American programmes, depending on the duration of the preceding masters.

4 For example, we received information that the masters programme at UPF used to be quite flexible, with students largely choosing which courses to take.
Table 1: Distribution of survey sample by year core macro was taken

<table>
<thead>
<tr>
<th>IDEAS rank</th>
<th>pre-2009</th>
<th>2009/10</th>
<th>2010/11</th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Harvard</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>19</td>
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<td>0</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>LSE</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Princeton</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Oxford</td>
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<td>1</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>14</td>
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<tr>
<td>Berkeley</td>
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<td>7</td>
<td>6</td>
<td>4</td>
<td>0</td>
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<td>6</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>7</td>
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<tr>
<td>Columbia</td>
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<td>1</td>
<td>7</td>
<td>5</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
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<td>3</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>PSE</td>
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<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>UPF</td>
<td>12</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Yale</td>
<td>13</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>TSE</td>
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<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Penn</td>
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<td>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
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<td>-</td>
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<td>30</td>
<td>58</td>
<td>54</td>
<td>55</td>
<td>78</td>
</tr>
</tbody>
</table>

2.2 Results

The key question in our survey of students at top 15 schools asked about what percentage of their first-year core macroeconomics module involved ‘price and/or wage rigidities (including New Keynesian models).’ For most schools we obtained a sufficient response – and in general a broadly consistent one across academic years – to make us believe the results are meaningful. We also asked those academics running the courses to give us an outline of what they taught. Here the response was much more partial, but when available it appeared to corroborate the information collected from students.\(^5\) Table 2 summarises the results.

The mean of all replies stands just above 20%. However, the individual results suggest the prominence of models including price and/or wage rigidities in core macro sequences

\(^5\)In fact we began by surveying course teachers, but despite a number of prompts we only obtained very partial coverage. Whether student perception is a better guide than teacher plans to what is actually taught is of course a difficult question. In the case of Chicago, besides not having been able to survey the students, we also received no information back from the academics running the course.
Table 2: Percentage of core macro involving price and/or wage rigidities

<table>
<thead>
<tr>
<th>IDEAS rank</th>
<th>reply count</th>
<th>mean (%)</th>
<th>std. dev. (pp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvard</td>
<td>1</td>
<td>22.1</td>
<td>9.4</td>
</tr>
<tr>
<td>MIT</td>
<td>2</td>
<td>21.1</td>
<td>11.2</td>
</tr>
<tr>
<td>LSE</td>
<td>3</td>
<td>15.3</td>
<td>9.5</td>
</tr>
<tr>
<td>Chicago</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Princeton</td>
<td>5</td>
<td>10.2</td>
<td>10.1</td>
</tr>
<tr>
<td>Oxford</td>
<td>6</td>
<td>42.0</td>
<td>11.9</td>
</tr>
<tr>
<td>Berkeley</td>
<td>7</td>
<td>24.8</td>
<td>11.0</td>
</tr>
<tr>
<td>NYU</td>
<td>8</td>
<td>4.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Columbia</td>
<td>9</td>
<td>36.5</td>
<td>20.6</td>
</tr>
<tr>
<td>Stanford</td>
<td>10</td>
<td>12.9</td>
<td>10.3</td>
</tr>
<tr>
<td>PSE</td>
<td>11</td>
<td>21.7</td>
<td>16.0</td>
</tr>
<tr>
<td>UPF</td>
<td>12</td>
<td>24.1</td>
<td>9.1</td>
</tr>
<tr>
<td>Yale</td>
<td>13</td>
<td>18.5</td>
<td>12.2</td>
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<tr>
<td>TSE</td>
<td>14</td>
<td>15.0</td>
<td>5.6</td>
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<td>Penn</td>
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<td>3.9</td>
<td>6.6</td>
</tr>
<tr>
<td>All</td>
<td>-</td>
<td>20.7</td>
<td>16.2</td>
</tr>
</tbody>
</table>

can vary quite substantially across schools, ranging from under 5% at Penn and NYU, to upwards of 35% at Columbia and Oxford. The majority of other schools – Harvard, MIT, LSE, Berkeley, PSE, UPF, Yale and TSE (8 out of the remaining 10 schools) – fall into the 15-25% interval. Princeton and Stanford are the two exceptions, standing a bit lower, at close to 10%. For most schools the mean of reported percentages is broadly stable across subsamples, split based on the year core macro was taken (e.g., 2011/2012 to 2013/2014 vs pre-2011). One exception is PSE, for which a significant change in course contents seems to have occurred around 2011, to include more price/wage rigidity related models (the post-2011 mean is above 30% vs. around 20% for the full-sample). This was corroborated by anecdotes received from some of those familiar with the course. There is also some evidence suggesting the weight placed on models with price/wage rigidities may have increased at Oxford (over 45% for post-2011 vs. under 30% before) and Yale (up from around 10% before 2011 to over 20% after), but decreased at Princeton (from around 15% before 2011 to about 5% after). Some caution should be exercised in interpreting
these changes though, as the dispersion of replies tended to increase – and their number to decrease – the longer ago students had taken the course.

With respect to the dispersion of replies, the standard deviation of reported percentages is around or below 10 percentage points (pp) for most schools (see Table 2). But there are two exceptions. Most notably, for Columbia the standard deviation is over 20pp, with replies ranging from 10% to 85%, and no clear signs of dispersion subsiding among students who had taken core macro more recently. We suggest this might be because a significant part of the sequence at Columbia focuses on empirical evidence, some of which touches directly on – or on issues related to – price/wage rigidities. It is plausible that some students could have interpreted this as falling under the umbrella of ‘models involving price and/or wage rigidities’ (as phrased in the question), while others didn’t. The higher standard deviation of PSE replies for the full sample broadly reflects the ‘structural break’ discussed above (around 2011).

Overall, there is evidence that models involving price and/or wage rigidities (including New-Keynesian models) have been a staple of most graduate programmes at top universities in recent years, albeit to varying degrees. While, as discussed, results may not be fully comparable across schools, it is striking that in the post-2011 sample – for which recollections are likely to be more accurate, and which should reflect more closely the current structure of core macro sequences – no student of any school other than Princeton, NYU and Penn gave a 0% reply (i.e. indicating no such models are taught). And even for some of the latter institutions the available information does not suggest New Keynesian models are ignored altogether: in the case of Princeton there were a couple of 0% replies, but all referred to the 2011/2012 academic year, and the undisputed mode is 5%, not zero; and in the case of NYU, according to information received from course instructors, their coursework structure is somewhat ‘unconventional’, with first year macro focusing fully on ‘methods’, but with opportunities to learn about models with price/wage rigidities in (optional) second-year courses.
3 Conclusions

Our results suggest that models 'involving price and/or wage rigidities (including New-Keynesian models)' have been taught in core macro courses at the vast majority of top schools in recent years, although there has been significant variation in the amount of time devoted to them.\(^6\)

While saltwater economists might question the small amount of time devoted to such topics at a couple of these institutions, and similarly freshwater economists might query the high percentage of time spent on them at some other schools, there is little evidence of a marked bifurcation among top universities as suggested by some. Whether the variation found should be seen as natural in a healthy dynamic discipline or indicative of a more serious and damaging division among macroeconomists, we will leave readers to judge.

References


\(^6\)We were unable to survey Chicago for reasons given in the main text. If there is sufficient interest, we could extend these results to institutions beyond the IDEAS top 15, to include some other schools at least once associated with freshwater macro.