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Prof Adam Fforde
Victoria Institute for Strategic Economic Studies,
Victoria University
PO Box 14428 Melbourne, VIC 8001
adam@aduki.com.au

Abstract: This paper reports on personal experience writing and teaching a 2nd Year Subject in Globalisation and the World Economy in Semester 2, 2014, before the full ending of Quantitative Easing and 7 years after the closure of Lehman Brothers. Given the evident failure of mainstream economists to predict the Global Financial Crisis (GFC) or on the whole to revise their teaching subsequently, this situation poses fine problems for a lecturer and class leader, in that it is not at once obvious how in teaching terms the evident failure to predict the GFC can be fairly and adequately managed. The point here is that whilst almost all economists failed to do so, the analysis in Lindauer and Pritchett 2002 suggests that economists' confidence in economics as a science and their belief that market failure is relatively insignificant has continued. The point of this paper is to explain how this (only in part) pedagogical problem was solved through a particular teaching encounter. The focus is upon the management of epistemological issues: for example, how to engage students in a broad discussion of possible implications of the failure of mainstream economic analysis in general to predict the GFC and how to avoid various well-known pitfalls (such as pretending that it was simply a mistake, by contrast with what the lecturer now says in hindsight), whilst retaining student interest. The course was a success, so far as evident from student remarks and participation, and the usual formal ex post evaluation.

Keywords: teaching globalisation, epistemology, economic theory, economics education, pedagogy; teaching after the financial crisis

Biographical Notes: Prof Adam Fforde is probably the most widely-cited scholar working on contemporary Vietnam (as of around mid-April 2017, about 2100 citations according to Google Scholar). He is a part-time Professorial Fellow at the Victorian Institute for Strategic Economic Studies, Victoria University. He has mainly made his living as a development consultant, but has continued to publish academically. He taught fulltime at NUS 2000-2001. He studied Engineering and Economics at Oxford (1973) before taking Masters and Doctoral Degrees in Economics at Birkbeck College London and Cambridge respectively. His published PhD (1982) was about agricultural cooperatives in north Vietnam and he studied Vietnamese at Hanoi University in 1978-79. His two academic publishing streams are on Vietnam and on development practice and 'deep method', with an interest in wider issues in

policy government, drawing on his consultancy experience and training in economics, and thus his just published book *Reinventing development – the sceptical change agent*.

Goals of the paper

The goals of this paper are to share with colleagues my experience teaching a 2nd/3rd Year semester subject[1] called 'Globalisation and the World Economy'. I taught this as a sessional lecturer – that is, as a 'one-off' – taught once - and was free to teach what I liked, though the outline was approved beforehand by the Economics Faculty. As a scholar, I am mainly an applied researcher, with most of my publications on Vietnam, where I am perhaps the most widely-cited author, but I have a second publishing stream on matters of method [Fforde 2005, 2009, 2013, 2016, 2017]; even more heterodox is that I have made most of my living since my post-doc as a development consultant, mainly in Vietnam, where I have had much opportunity to observe the certainties of many advice-givers. A maxim in contemporary aid practice (as elsewhere) is the value of reflective practice, and this paper attempts to share with colleagues how I set about putting together, and then teaching (lectures and classes) the semester subject. It will become clear that I treat economics as a non-predictive science (Fforde 2016, 2017). For me it follows that it is vital to secure good management and support of judgements as to the value of economists' accounts, so as to engage better with possible capture and validation by forces outside of economic science. The issue is how to do this without using one's position as a teacher to assert the validity of this or that particular account of globalisation and the world economy; interestingly, this led me to place perhaps more rather than less emphasis upon introducing students to the relevant facts and review of just what National Income Accounts say they do—what, actually, is GDP?

Goals of the subject[2]

The goals of the teaching exercise were not, ex ante, very clear. This was quite deliberate: I was not teaching Engineering or Differential Calculus. I wanted students to be exposed to data and theories in ways that allowed and supported the exercise of their own informed judgement; and developed a supportive subject outline (see Appendix; full teaching materials are available from the author on request). I do not view teaching and learning, especially when students will enhance their capacity to make informed judgements, as wisely framed in terms of metaphors of delivery and learning outcomes. With this stance,

[1] In the local terminology, subject means an elective one semester course, here 'Globalisation and the World Economy'. There was no strict sequentiality, meaning that students had to have done other subjects beforehand. The form taken was two lectures a week and a single 'class' (that is, in the local terminology, a weekly 1 hour session with about two dozen students led by either a lecturer or a PhD student, with topics given out in advance for discussion, opportunity to discuss the content of the lectures and readings, and presentations). Student numbers were such that there were 5 classes of which I took 3 and a PhD student took 2. I made the point during the first lecture that I would use no mathematics with the expected outcome that some students did not come to subsequent lectures.

[2] At the University where this was taught, a semester 'subject' is taught by a lecturer in a semester and marked as such. Typically there are 4 such subjects per semester. This is potentially confusing (I found it so when I first started teaching) as many other universities would call this a course, but the University is sufficiently sovereign to continue this practice.

students as they explore how they may get good marks quickly ask the key question – 'what if you disagree with our answers?' To which I reply: 'if I like and respect how you get there you will get good marks'. Ex post, the goals I think, had I asked students, would have produced a range of answers. As is well known from development (aid) work, repeated evaluations of the same activity tend to produce a range of accounts.[3] And all economists know from Welfare Economics 101 that interpersonal and intertemporal comparisons of welfare cannot be made other than subjectively.[4] So far as I can judge, the students in their different ways valued the experience rather highly.

I start by considering an aspect of the context: the Global Financial Crisis (GFC)—known in some places by different phrases, but referring to the economic difficulties marked by the collapse of Lehman brothers—and some broad arguments about economists' beliefs. This explains my starting-off point and should help to explain how I framed the teaching experience. I then return to the more technical issues of how the subject was taught.

The GFC and trends in economists' beliefs

Because the Global Financial Crisis was both extremely damaging and generally unforeseen,[5] and also an economic topic, it would be expected to have generated increased student interest in economics and some degree of revision amongst economics lecturers. A recent study of research on teaching undergraduate economics (Allgood et al. , 2015) reports that in the USA whilst over one million undergraduates take introductory economics, only about 30,000 graduate yearly as economics majors [ibid., p.294]. This is less than in political science, history and sociology [ibid., p.287]; further, the "coursework for the economics major has not changed substantially since 1980" [ibid., p.317]. In other words, two aspects of the GFC – the widespread failure of economists to predict it, and the associated pressure for some fundamental change in the content of economics as a taught discipline – seem to have had little effect. Comparison can be made with the Keynesian revolution after WWII, which supported large-scale state intervention, and the change, in a very different direction, of the late 1970s and 1980s toward the far more-market friendly stance reported by Allgood et al., 2015. Interestingly, they strikingly, do not make this comparison, which comes down to situating the content of economics as taught in its changing historical context.

This view contrasts with, for example, Lindauer and Pritchett (2002) which offers a clear and powerful explanation of factors influencing economists' beliefs in the early 1980s. They contrast these with beliefs two decades earlier, influenced by experiences of the Great Depression and WWII, and in so doing imply, by contrast with Allgood et al., that economists' views are not defined by their understanding of unchanging economic laws:

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[3] "The mixed findings from … evaluation studies are typical. Where several evaluation studies are found the most usual finding is that results vary." [Tilley, (2000), p.4]

[4] Readers may conclude that I reject the idea that teaching can and should be understood as necessarily and always a delivery of definable knowledge leading to certain learning outcomes.

[5] Underlying this statement, of course untrue for heterodox approaches such as Marxism, for whom crisis is an essential part of their framing of capitalist dynamics (Fforde, 2010; 2011), is evidence that the great mass of economics teaching is limited to what I would call the neoclassical orthodoxy, which, in a nutshell, asserts a realist position, specifically that the standard models (especially of microeconomics) map closely enough to observable reality to be taken by students as good (predictive) guides to action.

> "When you were in your thirties, you would have experienced the Great Depression. You would therefore know for a fact that a capitalist economy is unstable: stock markets can and do crash, unregulated banks fail, and unemployment can soar to very high levels and stay there. Whether or not you believe activist government responses are effective, you know they are popular—the architect of those policies won four of the first six presidential elections of your life. … You would also have witnessed the amazing ability of a war economy to mobilize production. … the big facts of your (hypothetical) life in 1962 practically compel three big ideas: government can be the driving force behind rapid industrialization; accumulation is the key to rapid economic growth; and integration into the world is necessary for certain key products, but it is neither necessary nor sufficient for rapid growth" [Lindauer and Pritchett (2002), p.2-3, 4].

For the later generation:

> "The events of 1962 to 1982 suggested that the previous consensus had it exactly backward on almost every dimension of the development strategy. The new conventional wisdom reversed policy recommendations and called for a new role for multilaterals" [ibid. p.8]

This can be encapsulated in the new belief that market failure, previously believed to be large, justifying extensive state intervention, in fact was not. The extent of market failure was, as an empirical issue, now believed to be far less than in the past. Left to their own devices, markets were now believed, more often than earlier, to work. Clearly, the GFC offers *prima facie* a considerable challenge to such beliefs, comparable to the Great Depression of the 1930s. One would thus have expected some major changes afterwards, contrary to what was reported by Allgood et al. (2015).

But then, Lindauer and Pritchett also argue that two decades after 1982, much had again changed: "Fast forward again, to 2002. What are the big facts of our lives?" [ibid., p.9]

Generally these "big facts" are a combination of evidence (such as Easterly's 'Lost decades' Easterly, 2001) that,

> "if adjustment and the Washington Consensus are finished, what are the obvious, commonsense, big ideas dictated by today's big facts …? Are there no lessons to be extracted from the failures and successes of the last forty years? Perhaps this is just a false nostalgia for simpler times, but it seems harder than ever to identify the keys to growth. For every example, there is a counter-example. The current nostrum of one size doesn't fit all is not itself a big idea, but a way of expressing the absence of any big ideas" [ibid., p.13]

Lindauer and Pritchett (2002, p. 26) concluded that more and more effective analyses of particular situations was needed [ibid., p.26]. Had this happened in persuasive ways, given the stakes implied by the GFC and economists' general failure to predict it, then one would expect Allgood et al. to have reported on radical changes, similar to those between the early 1960s and the early 1980s, to what was taught and avidly consumed by students. But this, it appears, has not happened. If we believe what they have to say, the course context has not changed from 1980, and such a powerful conservatism is supported by their remark that there is very little variation in content between textbooks [Allgood et al., p. 304]. Students

will then, perhaps, ask what the empirical basis for economic science is, given recent history.

The teaching problem/opportunity

This situation poses problems for teaching, in that it is not obvious how the evident failure to predict the GFC can be fairly and adequately managed in the classroom–that is, how should it be taught?. The point here is that *almost all* mainstream economists failed to do so, but that by contrast Lindauer & Pritchett's analysis suggests that economists' confidence in economics as a science and their belief that market failure is relatively insignificant has continued. My paper explains how this problem was solved through a particular teaching encounter. A central point is that students are best treated as adults rather than children, or, in other words, that issues that in scholarly terms exist at high levels (e.g., confirmation bias – Fforde, 2016) are best presented to students 'experientially;' in other words to so present lectures so students can work things out, based upon readings and their own reflections. It is my experience in Australia and Singapore that this teaching stance is experienced by students as liberating, hard work and efficient in terms of the perceived costs of progress.

A few weeks before the second semester of 2014 I was asked to teach a 2nd year course at Melbourne University, specifically: Globalisation and the World Economy. This paper shares with colleagues how I went about this, and especially how I managed the tensions created by the Global Financial Crisis, which were mainly manifest in how to organise the treatment and presentation of economic ideas without falling into the traps of either drowning students in arguments for and against what different people said had happened, or getting wrong the balance between presenting empirically interesting accounts of relevant topics and helping students to understand the underlying theories. This could be phrased as the attempt to balance 'constructivist' and 'realist' perspectives. It explicitly or implicitly (depending on what students are told) requires that students deal with epistemological issues. I had a number of unsolicited emails from students saying that they found the course refreshing, eye-opening and unexpected; and students' formal evaluations that were carried out as part of the usual administrative procedures were very positive.

Teaching strategy

This section presents the course outline and lecture structure. Here I want to discuss the teaching strategy.

If students are to feel confident in managing arguments about evident serious mistakes in policy advice and economic analysis, then it is not sufficient to offer an explanation as to why a particular economic analysis was wrong, and another right. This is partly because of the issue of 'confirmation bias', in that the student is encouraged to accept a lecturer's explanation by the simple fact that the lecturer will mark the exam. In a contentious area, why should the teacher's explanation be treated as correct? To get around this, something extra is needed. Students need to be given a sense that there are ways to approach, or in other words that epistemology is useful and nothing to be intimidated by. This in turn requires a suitable strategy to empower and guide students in how they assess different

accounts, which is more than providing an explanation of how certain accounts are wrong. The basic point is that students should experience 'stuff' (their usual word) that offers explanations for the nature of the accounts they are given to read, or have explained in lectures, that are epistemological. The easiest way is to tell them openly and up-front that that is exactly what you are doing, and then lead into some framework that makes sense, which treats economic ideas as part of historical reality.

This can be (and was) put as follows:

- Globalisation is itself influenced by ideas and beliefs about the world economy, including economics; a key issue here is that of policy rationalities (by which I mean how policy is thought to work both as a knowledge and as a conceptual organising framework for action).[6]
    - Ideas and beliefs vary globally, and have varied over time, with major changes and differences with arguably powerful effects
    - Whilst the topic has very rich empirics (lots of data) this data is itself both complicated, and is viewed through particular lenses. The nature of the data is itself interesting.

This means that the lectures and materials were telling students that ideas matter, and so they would need to cope with this, and so coping (better or badly) with the problem of how to assess different theories and approaches – this is far more than just theory X is wrong. In other words, it is about epistemology. The course, they were told, stresses the importance of various change processes, including changes in dominant economic ideas, and in the recent history of the world economy, helping students to consider where things are heading and at what pace. They were also told that this overall approach was reflected in the arc of the course, and (importantly) how it would be assessed.

In the initial lectures, the course took the form of an introduction to ideas about theory, as a quick overview, and then looked at issues of theories and empirics with a preliminary look at the standard portfolio of economic models students are expected to know, then to the question of how to gauge these empirically (Weeks 1 & 2). The course then revised some basic empirical tools used by economists (NIA, BoP and Flows of Funds) so as to look more clearly at reports of important structural trends in the world economy, including interactions between urbanisation and 'servicisation', and that some basic demographic patterns may have strong effects on savings patterns and global interactions (Weeks 3 & 4). Thus by the end of Week 4 the lectures discussed epistemology, standard but basic economic theories, empirical tools and important accounts/narratives of what is happening (such as World Bank reports). This operated as a foundation to investigate ideas about the

[6] The point I intended to make to students here is to avoid the common assumption that reality is known with sufficient clarity and accuracy that cause-effect logics in an account or theory map predictively to observable reality. Most social science accounts, including economists' models, contain cause-effect logic framed as X leads to Y. Assuming that doing X will lead to Y, in reality, is only one particular policy rationality. A large literature argues that this does not comport with the evidence, and other policy rationalities exist (Bridgman and Davis, 1998; Shore and Wright, 1997; and Fforde 2010). For an early and classic statement from American political science see Pressman and Wildavsky (1973). Fforde (2017) argues strongly for a policy rationality that assumes predictive ignorance.

role of policy in causing change, and then competing theories of globalisation (Weeks 5 and 6). Parts II and III led students through several topics. Students experienced this as empowering. The Appendix gives the Subject Outline.

Some relevant points here. Above all, and first, formal evaluations and class-room feedback showed that the students appreciated the approach and valued it highly: it worked for them. They felt that they had learnt about the GFC.

Second, the assessment structure was designed to support the overall approach. I did not assume that the only incentive operating was that of the marks. Judging by engagement (both in lectures and classes) I feel it safe to argue that students both wanted good marks and to learn. It is easy to spot students who focus more on the one than the other.

In terms of marks, students had two essays and a take-home exam. This meant that a wide range of marks could be awarded for the first essay to drive home what was wanted *without* this having too much of an effect on the final mark: learning to do what was required was therefore cheap in terms of marks. Students participated in classes and were told that they were expected to use the quality press (such as *Australian Financial Review, The Economist, The Financial Times,* etc.) to investigate issues arising in the lectures, and to use this to contribute to the class. This was in part designed so that they could see, in the aftermath of the GFC, what views were out there, and also (and this was policed in terms of my own behaviour in the classes I taught and in instructions to the person who took the others) experience respect for their own arguments if well-presented.

In general the classes were good at developing peer-support (including support to non-native English speakers from native speakers) and mutual respect. Students got a small mark for attending and participating actively. Also, by arrangement, students had to make a personal presentation, bringing a PDF of an article they considered relevant, and to present and discuss it, relating it to an issue raised in the lectures. Students often asked about the relevance of possible articles, and also how to manage their essays. The rule adopted was that such questions were answered publicly, through the on-line teaching system. In my view this encouraged a general stance of empowered assisted active learning. It was stated a number of times that a good answer that I disagreed with would be given a good mark. My teaching experience here is that students are correctly sceptical about such protestations, so that the tone of discussions in class, and the attitude I took in lectures to positions I clearly did not respect, were important in getting trust. Willingness to police, to enforce rules requiring participation and encouraging the less vocal, and how this was done, helped signal that I was more rather than less trustworthy.

In terms of incentives beyond the mark, I think it was clear that many students valued positively a range of aspects of the experience, including being treated like an adult, where their own judgements were clearly appreciated. This could be and was enhanced both by the overall stance of the subject, and its policing, for example in encouraging the less vocal to contribute, in treating discussions as real, and in a sense that the lecturer and class-teachers were themselves learning from the process. As already mentioned, this implies that sophisticated philosophy of science and methodological issues were engaged with experientially. An aspect of this was the repeated advice to students to back-hoe (i.e., they should actively seek out relevant knowledges for themselves, and treat this positively in class) into unfamiliar territory, such as statistical method (Fforde, 2005).

The first 'content' lecture started with a discussion of a World Bank report (*Global Economic Prospects* June 2014); which deliberately used a two-step where the data was initially approached (quite overtly) naively, and then (again signalled as such) with a sense that data is given meaning in some way – in other words that epistemology matters. This allowed students to engage actively, and with some sense of the value of acquired techniques for doing so, with a very authoritative Report from a powerful institution. I would add that there was a palpable sense of lift in the classroom as students engaged with these issues, helped by what could be called a shared pedagogy, or perhaps an explicit narrative of the value of discussion of scientific methods, called epistemology.

This lecture pointed to the specific numbers used, and the fact that the Report was strongly policy oriented; it argued conventionally that X is needed to cause Y, where X is largely to do with policy – *macroeconomic*, then *structural reforms*; its basic unit of analysis is the country, which has a government that does policy, and data that measures characteristics of economic activity in and of that country. I noted that the Report clearly dodged around some serious issues, putting them into the body of the text rather than in the up-front headline analysis. For example:

> "In the US, there are signs that the recovery in some asset markets is running ahead of the economic cycle, driven in part by very low interest rates. If conditions stay very loose too long some of the same kind of vulnerabilities that built up prior to the crisis of 2008 could re-emerge" (World Bank, 2014, p.22).

This was not done to criticise the Report, but to help students see it from a distance and to identify and think about how its argument was constructed. It helped that this was a big Rport from a big organisation; and as undergraduates they were reading it and, as citizens, thinking about what it meant to them. The lecture then contextualized the Report. A number of options existed for how to do this; I adopted two. Here I was very careful to avoid simplistic 'world theory' (by this I mean the familiar tendency to argue in terms of broad aggregates that do not stand up to disaggregation – for example, statements about 'Africa economies' that include South Africa and Zimbabwe in the same 'big number', when their economies are very different); but as this was to some extent unavoidable I flagged that I was doing so. Again, students found this acceptable and some found it intriguing.

First, I argued that the world could be seen geographically as showing a 'Christian Crescent' running west from the eastern end of the Eurasian landmass (the east of the Russian Republic), through the (internally) contested central European zone of (ex-Communist) countries, through the historical heartland of Europe, now the EU, then across the Atlantic and then south through north America to Latin America. I argued that the populations in this zone share secular and religious preoccupations, but, since the Reformation, and earlier with the split into the Western and Eastern Christian churches, a characteristic 'multiplicity of truths'. Religious wars after the Reformation, and before, tend to make these populations believe in the value of a secular state.

Second, I argued for the historical novelty of reports such as that just put to them. Reading *World Bank 2014* of course appeared quite normal to them – it was their *Global Economic Prospects.* It contains vast amounts of data on GDP, trade, inflation, etc., arranged on a country (or regional) basis. This is the standard method to frame analysis and description of the world economy. But I pointed out that such reports are very new, and reflect ideas and

economic approaches rising to prominence after WWII. I argued that as a broad generalisation, before WWII state bodies in countries like Australia were not set up to focus upon economic management to anything like the extent they became later. Treasuries were not focused upon policy, but upon treasury functions. Central banks were not focused upon policy either, but upon things like management of government borrowing. I argued that this all changed after the War, and with the change came data – all countries (including poor ones) had to have national income accounts, balance of payments data and economic policy to go with them— so they needed trained economists and they recruited them.[7] They brought economic ideas that were then bound up with economic policy rationalities— how to do this and that.

These two simple points gave students space to think about (and in classes to a certain extent play with) the value of an epistemological perspective. Again, active policing of classes I think drove home various points: that they were doing the playing, not me; that there were rules to how this was done, and that these included a sense of the epistemology concerned; and, in a very simple sense, that it was feasible – these texts could be discussed, in class, by these students, in ways that were meaningful.

I was able to say, and did, that in publications like that of the World Bank we are seeing a reflection of something very much of its time and place: they could then more easily ask, what does this framing *do*? How does it work? And I could sidestep the why questions they asked by posing it, but arguing that whilst we can discuss how such reports explain their subject, in fact a far more difficult question is why this change happened.

I could also then encourage them— and did—as they could see in the World Bank Report – to see policy *conceptually*, apparently varying much in terms of both economists' views and in institutional examples such as the World Bank and easily-accessible alternatives. What mainstream accounts share, they could easily see, was, first, a belief that actions can predictably lead to certain outcomes, and second, something that can do it. The first means that this mainstream policy rationality requires predictive theory (that economists' models work in that sense, doing more than just explain); the second usually means, as we read references to policy, the state. In this sense, conceptually, there should be no difference between economics and engineering. The puzzle is, that economics is evidently not predictively successful – it explains, but it does not predict; it is a social not a natural science. But this is not what the World Bank reading suggests. Students seemed to like this idea.

An easy alternative policy rationality to offer them was referring to Deng Xiaoping's statement about China's step-by-step, rather than blueprint-based, transition from plan to market [Naughton 1994]. Here policy rationality, just how government conceived of its role, is quite different.

In this paper I cannot go into detail as to what followed, but this introduction to the subject had struck a balance within which students were now expected to exploit ideas and arguments I would teach, or that they found in readings given them, or that they found for

[7] This point was made more real by reporting that my father was recruited as one of the first economists employed by the Bank of England, just after WWII. That this was so recent – but three generations earlier – some found very striking.

themselves, to think about globalisation and the world economy, *and what was said about it*. It is my strong impression, not least as the subject was not taught as part of any sequentiality, in the modern modular manner (what one student called the 'bite size meaty chunks' format), that this is something contemporary students, in part due to their high school (and earlier) experiences, find rather easy.[8]

The somewhat bald statement that economics was and is not a natural science, in that it is not predictive, was rhetorically valuable, supported by the idea put to them that the core and most interesting thing about prediction was that it gives, in terms of procedure, a requirement that accounts or theories be compared, which forces convergence, arguably lacking in the epistemological criteria applied by economists. They did not find this idea challenging or novel, but I think it is actually both.[9]

I argued that once we admit that economic theory is not predictive, we are in a world (of analysis and thought) where criteria applied to decide what we think of a model or account gets complicated. We can manage this in different ways. One is to think how beliefs, about economic matters, are important not so much because they are right or wrong, but because they influence behaviour. Another is to be aware of ideas about how beliefs form and how they work in their own terms. This foundation was then used to engage students with some relevant economists' models, relevant, approached from four angles:

- The nature of these models, as models
- Some evidence for how economists' beliefs have varied over time, so that belief in some models has been replaced by belief in others

[8] I would think that for colleagues teaching subjects with sequentiality, who can assume a certain shared knowledge of subjects such as economics principles, or basic quantitative methods, would permit a review of those subjects framed epistemologically. A very valuable area for students is to review National Income Accounting, for few have been able to think through implications of its basis in factor income generation, so that an implicit production function choice underlies, inter alia, any subsequent discussion in terms of real factor inputs (with implied distributional assumptions), and so sectoral GDP data. Another, related confirmation bias and statistical method, is put well in a quote from Cohen (1994): "What is wrong with NHST [Null Hypothesis Significance Testing]? Well, among other things, it does not tell us what we want to know, and we so much want to know what we want to know that, out of desperation, we nevertheless believe that it does! What we want to know is, "Given these data, what is the probability that H_0 [the Null Hypothesis] is true?" But as most of us know, what it tells us is "Given H_0 is true, what is the probability of these (or more extreme) data?" These are not the same, as has been pointed out many times over the years." [p.997] Review of these basis issues through an epistemological framing may add value to the original courses, often taught to first year students, when they are older.

[9] Fforde (2017) and Fforde (2016) both drew upon this particular teaching experience. The point I put to the students, which I think they found both unexceptional and not novel, though it is actually in scholarly terms very novel, is that the key point about prediction is not that it requires that a theory predict, *but that as a criterion of a scientific method it requires that theories be compared in a sense exhaustively*'. For those students living in a world of multiple truths, the truth is not determined, in some sciences, within the science, but outside it. I learnt a lot from the students' sense that this was obvious. They found it, I think, quite unexceptional that the persuasiveness of economists' views would by highly contingent (and they were exposed to arguments about just how), and so they took theories as competing explanations, not exhaustively compared by something like a predictive criterion. This is I think very interesting, as a possible comment on how modern educated populations of their ages now tend to treat matters of belief.

- The very basic, core, content of some models and their implications for what is believed about how the world is
- Some evidence for what economists actually do when they choose what and how to model

These angles were woven into an exposition (drawing upon Fforde (2013) which in turn drew upon Ray, (1998)) of standard economic accounts of core aspects of the world economy.[10] I argued that *if* we consider economists' models to be explanations, not intended essentially to be predictive, of aspects of reality, then changes in economists' beliefs will not be explained by changes in predictive power. Lindauer and Pritchett (2002) – a very readable and accessible mainstream text— offered an intriguing account of changing economists' beliefs. Their central is economists' changing beliefs about the extent of market failure and so the extent to which state intervention is valid. I argued that this core issue, which was for economists at the heart of the transition of Thatcher and Reagan, is both central and very hard to get at empirically. I pointed out that Lindauer and Pritchett offered very little to support empirically their account of changing economists' views, but that both authors were prestigious and widely-cited.

This led us into a new area, related to the nature of data, that my students had already encountered in the World Bank report, which is that whilst theories appear predictive (they contain either a 't' or they are comparative static), they are not: the facts indicate that they do *not* have predictive power. More interestingly, they are aggregate and universal, so they have big problems dealing with diversity and difference. Is GDP in Boston and in Ghana essentially the same thing? Do the same economic laws apply? Such questions open discussion to the idea that economic arguments tend to assume, epistemologically, ontological and epistemological *universalism*. Apart from being interesting, this allowed students to think epistemologically.

In stepping back and asking about the nature of these models, I argued that these models – the standard growth models— tell us how stuff is turned into stuff – *inputs* (for the simple Ricardian model, labour; for the more complex Harrod-Domar and Solow, and the Heckscher-Ohlin models, land, labour and capital) are used to produce *outputs.* These are, thus, simple *production* metaphors, gaining persuasive power by thinking in terms of a comparison with, say, a farm or a factory, where we think we actually can see stuff being turned into stuff. As we shall see later, I argued, pointing out that this is standard economics, and in fact thinking in these terms at the level of an economy, is tricky. GDP, for example, is not a measure of stuff produced, but a measure of the sum of incomes earned by factors of production, adjusted in some way to account for of changes in prices. Conclusion? Students liked the idea that it was useful to know your data; and, this exercise in modelling is best seen as conceptual, not predictive. It aims to offer different explanations; and which is believed to be the best explanation, and how that is decided, is another matter.

[10] Ray (1998) was chosen as a basis for Fforde 2013 in part because it is (with Tadaro and Smith's multiple edition work) by far the most widely used textbook in development economics courses [Fforde 2013, p. xxviii].

This naturally led the course to a discussion. First, the core question of model selection. I argued that predictive power offers (requires of) natural scientists, as an element of their method, something that allows for (in fact *requires*) choice between theories. Chapter 6 of Fforde (2013) was given as a reading, reporting arguments from McCloskey (1985) that economists' arguments can be seen as *rhetorical*, designed to persuade, and in ways that usually do not deploy predictive power as a reason to believe in a particular theory. Further, I pointed to a work by Yonay and Breslau (2006) on economists' choices of what to model. They report that whilst empirical validity is important, this is because of the vague (their word) nature of criteria used to judge the acceptability of a model's depiction of 'reality', "Mediation [between the model and the real world] is accomplished by vaguely defined but generally accepted conventions regarding the movement from reality to models" [Yonay and Breslau, (2006), p.91]

Thus, the nature of the theory Ray presents, as Yonay and Breslau argue, appears as empirically grounded, but not in a predictive manner. Given the GFC and its aftermath, this certainly kept students' interest, allowing for conclusions that helped explain what they think they see around them.

If it is believed that markets often fail and accumulation is the key to growth, then it will seem natural and obvious to establish a state bank – the World Bank (established in 1944) – thus an explanation of why a bank is the main global source of development orthodoxy. If it is thought that trade is unfair and the rules rigged by the rich countries, then establish the United Nations Conference on Trade and Development (UNCTAD) set up in 1964. Further, if over time it comes to be believed, on the contrary, that free trade is the key to growth, then it will seem naturally obvious that a World Trade Organisation be established to supervise and liberalise trade (WTO, established in 1995, the successor to the GATT). And if it is believed that each country faces its own conditions, support will be offered with few strings attached (the Marshall Plan 1948-52); but if it is believed that there are single truths, economists will be paid to offer solutions (e.g. the US assistance to the ex-Communist countries of Europe after 1990). So we could think about what works rhetorically in the world today. In the course, not perhaps unexpectedly, after the discussions of epistemology, and so feeling somewhat confident that they were able to treat ideas both as potentially valid explanations and as part of the historical process, the focus was returned, not to theory *per se*, but to empirics (of which theory was part), encouraging students to investigate. That they liked doing this was confirmed by my (and the other instructors) observations in the classes.

The next two lectures developed this foundation. The Appendix contains the Subject Outline.

The theme of diversity was developed by introducing students to the cross-country growth regressions literature. If there are valid 'policies that work' globally, then regressing indicators of economic success against policy proxies should produce stable and robust results. For example, poor countries focusing on policy measures to support export growth should be found to grow faster than those that do not. And so on. Some published results argue this, and others argue to the contrary. Viewed as a research program, indeed what one finds is contention. Not surprisingly, then, the evidence from some statistical work is that such relations are not robust. The research, viewed as a program, does not seem to

converge— yet there is also evidence that many economists tend to have strong beliefs that policy in this sense works, and is known to do so (Fforde, 2005).

This suggests that there is some common assumption at the level of the research program, shared by the individual research projects, that is awry. What could this be? Students are familiar with arguments that what drives certain beliefs are matters of power, and specifically power asymmetries. Many have been directly, or perhaps indirectly, exposed to discourse analyses that make such power asymmetries valid, for example relating to constructions of 'white trash', race, etc. I preferred another approach that I think created space for them to develop critical judgement (and in passing to perhaps better manage power asymmetries manifest through knowledge construction), which is at root the idea that certain apparent evidential support can be seen as spurious—better thought of as meaningless. Wider reading into the history of globalisation will easily expose students to colonial and imperial histories, American 19th century protectionism (Ha-Joon Chang, 2003), and British land policy in Kenya etc., all to be found online or in a good library.

I used Kenny and Williams' (2001) reading to bring certain problems squarely into the open. They argue that lurking behind attempts to do much of this variety of econometrics is a combination of 'epistemological and ontological universalisms.' This for them means the idea—here an assumption— that people are the same, and can be understood the same way, wherever. This idea of course implies that actual messy histories and contemporary variation between countries does not matter. Rocks are rocks are rocks: in other words, that homogeneity holds— the sample is drawn from a single population. There is; there exists, an economic growth process.

> "Overall, attempts to divine the cause or causes of long-term economic growth, testing a wide range of possible determinants using statistical techniques, have produced results … that are frequently contradictory to results reported elsewhere. That is, empirical evidence is hardly unanimous in support of a particular view of the growth process" [Kenny and Williams, (2001), p.1].

And so students had to engage with a fundamental question– 'Are we 'sampling from a single population'?' Or— does theory work across different contexts? Does the data support 'One Size Fits All?' And reference to the World Bank Report showed there was a question— how do we describe the world economy? Obviously, the Report was framed in universalistic terms, specifically GDP, fiscal deficits, inflation etc. so clearly there was a belief that this made sense, suggesting that it is not important to think much about whether words, meanings and uses are varied, negotiable, contested or all the other things many social scientists discuss. The World Bank's Report treated GDP, inflation etc., as terms essentially referring to the same thing, globally. So their view is that things are the same, in that sense. Students could then ponder on the specific characteristics of such views, in other words, deploying epistemological arguments. This was supported by Kenny and Williams' argument that economists assumed epistemological universalism. What is by this? I answered the belief or assumption that things are to be understood in basically the same way, across different contexts. The way we see, or model, or explain relations between things, is assumed not to vary. In natural science terms, this means believing or assuming that gravity affects relations between rocks identically on Earth as on Mars. Put this way, students were not swamped by theory, and started to feel that, whilst things were moving rather fast, this

was not rocket science. I think that the initial two-step exposure to the World Bank Report, initially coming at it naively, and then returning with an epistemological framing, encouraged them to engage positively and more deeply with the material. This showed them something more general, enabling texts such as McCloskey's to become part of their tool-box.

I gave them Fforde (2005) to read. The paper looks at the number of citations to Levine and Zervos (1993) (L&Z), in the *American Economic Review*. Levine and Zervos used tests of robustness to examine global economic growth databases. These tests looked at what happened to statistical significance when the functional form was varied. They found that, in general, significance went away, suggesting that indeed 'sampling was not from a single population', so that the published results in the cross-country growth regressions literature were spurious, and bad guides to action. Whilst the majority of citations of L&Z *ignored* their central point, which was that the apparent causes of variations in economic performance were not showing regularities. A minority, though, did take the point, often expressed in terms of an increased scepticism about one-size-fits-all policy positions.

This then enabled me to draw three powerful conclusions for how my students could now engage (this was in Week 2 of a 12 Week course) with study (through the literature and other sources) of globalisation and the world economy. First, in terms of the measures we use (GDP, inflation, normal policy ideas) the world economy is likely far more diverse than they suggest. In other words, they refer to different things, not the same things, in different contexts. This leads to empirically-backed multiple truths that are not robust, as we see in the cross-country growth literature. But the point is that mainstream theory did not find this lack of robustness, rather it asserted that cause-effect relations had been found.

Second, that whilst there is evidence that some economists accept this—the core result of Levine and Zervos, the evidence (Fforde, 2005) suggests that the majority do not; they continue to believe that theories have wide validity. This was linked for students to what I had said before about the basic stance taken towards policy rationality—predictive power based upon some agency to use it – the state policy. The two issues here obviously enough, are the 'One Size Fits All' policy solution, and the confidence that theory works, both which predate the GFC.

Third, we think carefully about how we approach this situation, and how it comes at us in terms of data and explanations; it is good to be wary. Economic theory is empirically founded but not reliably predictive, and this can be understood by being aware of the nature of models and the criteria used to approve and assess them, that is, by thinking epistemologically.

Lecture 4 concluded by folding these ideas back into the course; that is, by making beliefs and ideas part of what is interesting about how these things are, and how they are changing— again, not rocket science.

On the one hand we find powerful ideas that suggest that what works here, works there; and that things our languages refer to, e.g., GDP, are not varied. But this, in terms of intellectual development, is challenged both empirically and in other ways, such as politically and the changing levels of respect some have for expertise. It is challenged empirically because pretensions to predictive power are demonstrated—revealed to be

false—a good example being the GFC itself. It is challenged in other ways too. For example, on some interpretations of Trump and Brexit, populations are increasingly sceptical of the value and authority of expert statements, and because the very term 'multiple truths' becomes an oxymoron. It is one thing for, as we find in extant Christianities, different denominations to have utterly different and inconsistent theologies (compare, for example, Calvinist doctrines of the elect with Arminian doctrines, arguably very influential in Anglicanism, which state that grace is there for all). Here truths are multiple but seem able to coexist within a shared Christianity. It is quite another for two groups of economists to have, without any apparent way to reach a resolution, contradictory and apparently predictive beliefs about, say, the effects of tariff cuts on popular welfare. I think that students increasingly treat such positions, not as truths, but as belief sets, likely embedded in particular policy rationalities and so to be treated *epistemologically*, for, as I understand it, the very term epistemology was originally devised to permit a more scientific rather than theological approach to the understanding of religion.

On the other hand, beliefs in similarity rub up against—create frictions with—the increased social interactions that define globalisation: statements that 'we know that what works here, will work there' find it far harder to gain authority across cultural and social borders that mark frontiers between powerful cultures. I reminded students that we can compare, for example, Chinese and Western development assistance. And, it was argued, this makes it all the more fascinating to watch. The students agreed.

So at this stage in the course, one of my central goals was to give students the powerful tool of the concept of epistemology, and by suggesting that economic ideas are important, historically (driven home by exposing them to the World Bank Report), students were encouraged to look at *how* economic theories worked, what beliefs they encouraged, and how their empirics worked— thus, for example, making NIA interesting as far more than just an aid to economic analysis.

What followed built, I think rather easily, upon this foundation. Interaction with students suggested that they almost always found, coming as they do from modern primary and secondary educational systems, and also multiculturalism, it quite natural and normal to treat things as true for you. They also found it easy to think of identity as self-determined, and labels imposed by others as distasteful and uncivil.

Some particular issue

Metrics

I spent some time in the course on National Income Accounting (NIA), Balance of Payments (BoP) and Flows of Funds (FoF) data. The latter aimed at enabling students better to grapple with global macroeconomic imbalances, but also made the same point as the work on NIA—pragmatically, it is worth investing in understanding statistical methods. The former, however, reiterated our point made about standard theories about international economic interactions (Ricardo, Heckscher-Ohlin) that their basic view of an economy was that it transformed stuff into stuff, i.e., production functions. This, I think, tends to make students undervalue the power of NIA as it must make (as we all know) some factor income

distribution assumptions and so moves away from NIA being a gauge of economic activity viewed as factor incomes generation. GDP is simply deflated final demand (or sectoral total factor incomes).

I took the opportunity to link this to Polanyi and the idea that factors of production are not produced commodities, partly as Polanyi gives a historical account of the emergence of capitalism that is succinct and easy for students to challenge and understand. I also gave them a reading from Kuznets (Kuznets, 1941) which elucidated the assumptions behind NIA and also dating from the post-WWII period when, as I had argued earlier, policy government as we now find it first developed, with economics and economists placed central. I exposited NIA via a discussion of how GST/VAT works. As citizens, students found this useful.

Servicisation

Whilst it is an observed fact that developed economies now have very low shares of GDP in the industrial sector, it is not so well-known that trend rates of growth of services in poor countries are now far higher than they were. This allowed students to engage with interesting stories, to think in terms of NIA as factor income generation, and to react to Sheehan (2008), arguing that the standard economic theory explaining industrialisation (Murphy, et al. 1989) can easily be applied to servicisation too. Specific sub-sectors looked at included tourism and financial services.

Global Financial Crisis (GFC)

As already mentioned, the GFC was treated as crucial background for the subject in two ways: one, as a continual reference point to the failure of mainstream economics to predict it; and two, in the discussion of capital markets and crises in the second part of the semester course— or subject, as it was locally called.[11] See Appendix I for the Course Outline.

Discussion

I feared that many attempts to introduce epistemological considerations into a 2nd year undergraduate course on a topic such as globalisation would be far too theoretical. This fear proved mistaken. The approach taken here relied upon a teaching stance that empowered students, treating the idea of epistemology as a tool, marked by the rule that 'if you make a good argument and I disagree with our conclusions I will give you a good mark' if deserved .This meant, I think, that discussions about the how and why of theory then became grounded in students' experiences, as modern citizens of our 'new republics', that matters of truth and identity should, whilst subject to powerful social forces, be a matter of individual choice. This again offers a way to engage with students, perhaps posing the

[11] The four readings for week 10, Capital market and crises, were: Boyer (2012); Carrick-Hagenbarth and Epstein (2012); Clarke and Newman (2012) and Crotty (2009). By this stage I was not worried that the students would be unable to deal with these critically.

question, if not the contradiction, that asks how their own individual choices exist socially. I have no good answer to this! Hopefully it would be the subject of future work.[12]

Given this, the front-loading of the taught course with epistemological matters could then be handled, especially as it mixed with discussions of metrics (NIA, BoP, and FoF) and evidence (L&Z; Fforde, 2005). This stance was reproducible and profitable; and I would certainly use it again. But I would not suggest that it is either necessary or sufficient for others. My background is eclectic and has encouraged and resourced me in ways that others may lack. I do hope, however, that its stance and flavour, as well as some useful tips and references, are useful to colleagues.

Conclusions

In the aftermath of the GFC, the failure of most economists to predict it and the evident lack of radical change to undergraduate economics basic course content, it is possible to teach students how to appreciate and understand economics *if an epistemological approach is taken*. This treats economics as a non-predictive science, comparable to other social sciences, and so to be taught by exposition of its subjective empirics and particular ways of theorising about the world. Modern students, coming out of primary and secondary schools environment where 'it is true for you' and issues of identity treated as flexible and self-determined (in a nutshell 'typical millenials') can learn about the important science of economics if the approach is framed as such . Evidence suggests that they enjoy it, and it allows them to appreciate the important roles economists' beliefs have played historically. I would also hazard that they could have given a bit of a shock to mainstream economists and others as their understanding of the complications involved in assessing economic accounts (such as the role of prediction) was now somewhat advanced, and had teeth (meaning that they could ask very embarrassing questions).

[12] Two issues that fascinate me are: first, the re-education, or education 'anew', of economists in Australia from the 1980s, when Keynesian orthodoxy was replaced, often with taught beliefs that market failure was not widespread. I am interested in how, technically, this was done. For example, use of consumer's surplus to analyse welfare changes with the implication that the marginal utility of income does not vary. In such ways what appear as individual judgements are actually socially-constructed, as Lindauer and Pritchett can be read to imply.

Appendix I – Course[13]

The economics of globalisation and study of the world economy is the focus of this subject. Coping with this will bring us up squarely with the need to assess differences in economic behaviour and variations in belief over time and across cultures. This strongly encourages a reflective stance when addressing different economic theories and policy rationalities, and this in turn should make the subject more attractive to students from outside economics. The topic also enjoys strong empirics: the subject matter is essentially rich and complicated. Students will therefore learn to manage assessment of competing theories and approaches to understanding and viewing globalisation and the world economy, and will be helped to do so. Whilst reference will be made to formal models, and their logic and implications explained, the subject will not use mathematics to formally explicate models. The subject will stress the importance of various change processes, including changes in dominant economic ideas, in the recent history of the world economy, helping to students to consider where things are heading and at what pace.

These fundamental issues are reflected in the 'arc' of the subject. The subject will be framed as a breadth subject, using the range of approaches present amongst students who are both economists and non-economists to explore ways of dealing with different theoretical approaches and knowledges and how they impact the world economy.

Part I begins with a quick overview, and then quickly moves to investigate issues of theories and empirics with a preliminary look at the standard portfolio of economic models economic students are expected to know, and how to gauge these empirically. We will then revise some basic empirical tools used by economists (NIA, BoP and Flows of Funds) so as to look more clearly at reports of important structural trends in the world economy, including interactions between urbanisation and servicisation, and some basic demographic patterns that have strong effects on savings patterns and global interactions. After looking at ideas about the role of policy in causing change, we will then examine competing theories of globalisation in more detail (Weeks 5 and 6).

Part II will start in Week 7 and examine various global markets, covering aspects of: Goods and services markets (with a detailed look at global energy markets); Capital markets (with a look at crises); Labour markets (with a look at migration); and Non-produced assets (with a look at climate change and problems of land at the frontier.

Part III will start in Week 11. Before concluding and reviewing the subject, we will look at two interesting topics – the experiences of Russia after the fall of the Soviet Union, as a possible example of the role of economic ideas in globalisation, with important contemporary implications, and tendencies towards economic blocs within the global economy.

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[13] Teaching materials including reading-lists and PowerPoints are available from the author on request. To quote the film 1974 Dark Star: "Talk to the bomb. You have to talk to it, Doolittle. Teach it PHENOMENOLOGY" [according to http://www.imdb.com/title/tt0069945/quotes accessed 28/5/2017]- teach the students EPISTEMOLOGY. See earlier footnotes for the meaning of 'subject' at the University where this was taught.

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