Dullien, Sebastian

Book Review

Macroeconomic Theory and Macroeconomic Pedagogy – A review of the book edited by Giuseppe Fontana and Mark Setterfield

Intervention. European Journal of Economics and Economic Policies

Provided in Cooperation with:
Edward Elgar Publishing

Suggested Citation: Dullien, Sebastian (2010) : Macroeconomic Theory and Macroeconomic Pedagogy – A review of the book edited by Giuseppe Fontana and Mark Setterfield, Intervention. European Journal of Economics and Economic Policies, ISSN 2195-3376, Metropolis-Verlag, Marburg, Vol. 07, Iss. 2, pp. 266-271, https://doi.org/10.4337/ejeep.2010.02.06

This Version is available at:
https://hdl.handle.net/10419/277190

Macroeconomic Theory and Macroeconomic Pedagogy – A review of the book edited by Giuseppe Fontana and Mark Setterfield

*Sebastian Dullien**

As Claudio Sardoni in this issue points out, Giuseppe Fontana and Mark Setterfield (2009) have edited a very interesting volume. Given the vast amounts of macroeconomic literature published since Hick's invention of the IS-LM model and the still existing predominance of this model in many undergraduate textbooks, it is clearly time for new approaches to teaching macroeconomics.

The first part of the volume deals with »3-equation New Consensus Macroeconomic Models«. According to the editors' (and authors') stated intention, in this section, they want to present the New Consensus Model in a way accessible to undergraduate students and as an alternative to the IS-LM textbook model. Part II wants to add »endogenous money theory« to the New Consensus Model, Part III makes amendments for financial fragility and unemployment hysteresis and Part IV gives some alternative views on stabilization policies.

The problem with this book (and especially in the first, but also the second and third part) is that it uses a rather peculiar interpretation of what the New Consensus is. At least the contributors who are not clearly rooted in the mainstream, that is Wendy Carlin, David Soskice, Roberto Tamborini and Philip Arestis start from a baseline model which is not really a New Consensus model.[1] Exemplarily, Carlin and Soskice (as well as Sardoni in this issue for explaining his comments) use a model with three macroeconomic equations:

1. A Phillips curve in the form of $\pi_1 = \pi_0 + a(y_1 - y_e)$
2. An IS-curve in the form of $y_1 - y_e = -a(r_0 - r_s)$
3. A monetary policy function in the form of $\left(r_0 - r_s\right) = \frac{1}{\alpha\left(\alpha + \frac{1}{\alpha\beta}\right)}\left(\pi_0 - \pi^T\right)$

The interpretation of these three equations runs roughly as follows: First, if current aggregate demand y is above the supply side potential output y_s, then inflation accelerates, as aggregate demand above potential output pushes up wage demands and prices. Second, the amount by which current aggregate demand is above or below potential output depends

1 The contributions by Wren-Lewis and Jagdjit Chadha are not subject to this criticism. They present approaches on how to teach the standard New Consensus models. However, thereby, their contributions are open to all the criticism voiced on DSGE modelling in general, both in this review and in Buiter (2009), Krugman (2009) or Dullien (2009).

* HTW University of Applied Sciences Berlin.

on how far the current real interest rate is away from its stabilizing level r_s. Finally, the central bank sets its interest rate in a way that inflation π reaches the central bank's target rate of inflation π^T by influencing the output gap and the Phillips curve according to the equations above. In a second step, extensions are added to the models above, such as fiscal policy which turns up as an additional factor in the IS-curve. Debt-financed increases in government expenditure or tax cuts push up aggregated demand and thus enter positively into the IS-curve. Basically, this is a Keynesian story: Involuntary unemployment happens if aggregate demand drops below potential supply and the central bank and fiscal authorities can counteract this by expansionary policies.

If this were an appropriate representation of the New Consensus, it would create a very attractive situation for many economists who have so far worked and published outside the mainstream. Indeed, the mainstream would have moved very close to a traditional Keynesian interpretation of dynamic supply and demand. For heterodox economists this would mean that their ideas could easily be docked on to the now predominant (but increasingly criticised by the mainstream itself – see Krugman 2009 or Buiter 2009) approaches, with opportunities to get some of their works published in mainstream journals with all the associated benefits such as improved opportunities of being appointed to a post at a prestigious university.

Unfortunately, I think the use of the three equations above is a misunderstanding of what the New Consensus is really about. Of course, one can interpret the term ›New Consensus‹ in different ways. Given my reading of the literature (and also the list of references used by many of the book's contributors), the New Consensus is usually to be defined as being varieties of the Dynamic Stochastic General Equilibrium (DSGE) models presented in Clarida et al. (1999), Woodford (2003) or Galí (2008). In these contributions, however, the New Consensus Model is much more than three macro-equations that can be reinterpreted in a traditional Keynesian or post-Keynesian way. By its very construction, the New Consensus model is fundamentally a New Classical model in which there is no involuntary unemployment, no possible gap between saving and investment and no real role for fiscal policy (see for more details on these points also Dullien 2009).

There is first the microfoundation: The models presented by the non-mainstream contributors in the book do not have rigorous microfoundations. Yet, a crucial part of the New Consensus is that it has microfoundations and that the markets for goods, labour and capital are always completely clearing and thus in equilibrium. This is no trivial issue as it implies certain conclusions on the transmission mechanisms of monetary policy and for the interpretation of fluctuations of employment. Maximisation of the individuals' utility in DSGE models takes place by variations of the paths of their consumption demand, their labour supply and their money holdings over time. These paths only deviate from their steady-state value if interest rates or real wages deviate from their respective steady state values. Lower interest rates lead to more money holdings and more present consumption (as the opportunity costs both of holding money and consuming more in the present period fall) which in turn influences the real wage via higher demand in the goods and labour markets (see below for more on this mechanism).

The central variation in output in DSGE models, however, is caused by variation of the labour supply by households, not labour demand as in the traditional Keynesian story. If the real wage deviates from the steady state value, individuals re-optimize their labour supply and hence hours worked and output produced in the economy. Real wages higher than in the steady state cause them to increase their labour supply, real wages below the steady state value cause them to lower their labour supply. Higher labour supply then leads to higher output which is consumed because households can afford to do so thanks to higher wages.

Fluctuations in employment in the DSGE models are hence always an *optimal* reaction of households to changes in labour market conditions. A temporary increase of employment above the steady-state level is thereby caused by an increase in the real wage to which the households react by cutting back their leisure and supplying more working hours in the labour market. Similarly, a fall of employment below the steady-state level in the DSGE model is caused by a fall in the real wage. Households then react to the lower real wage by cutting back their labour supply. Hence, there is no involuntary unemployment in DSGE models, just voluntary unemployment as a reaction to changes in the wage or to changes in lifetime income. Or, to put it in another way: Those who seem unemployed are just enjoying more leisure this year because they expect their real wages to be higher next year when they are in consequence going to work longer hours, just as in the traditional Real-Business-Cycle models.

Changes in the interest rate also work exactly in this way: While in traditional Keynesian thinking, a cut in interest rates might induce either firms to invest more in their physical capital or households to buy more consumer durables, thus increasing aggregate demand and bringing formerly involuntarily unemployed workers into new jobs, the causal chain in DSGE models is completely different: Here, a cut in interest rates makes consumption today relatively more attractive than consumption tomorrow. Hence, households will try to shift some of their lifetime consumption towards the current period. As both the goods market and the labour market were already clearing before the interest rate cut (hence everyone who wanted to work at the going wage rate had a job and all goods were sold and consumed), this increase in consumption leads to excess demand. As firms try to hire new workers to satisfy this demand, nominal wages increase. As prices are (partly) sticky thanks to Calvo pricing, this additional consumption demand leads to an increase in real wages and a compression of profits. Higher real wages in turn lead the households to offer more labour (substituting leisure for work) which in turn leads to a new (higher employment) temporary equilibrium in the labour market. Here again, fluctuations in output and employment are a result of inter-temporal substitution of labour and leisure.

The reason for fluctuations in output and employment in DSGE models is hence not that wages are sticky and therefore an adjustment of real wages to shocks cannot take place (as it has been in the fixed-wage version of the old neoclassical synthesis) nor is it that aggregate demand can just fall short of aggregate supply because of a lack of an inherent tendency to full-employment output (as usually claimed by post-Keynesians). Instead, the reason for fluctuations is that nominal wages are flexible, but prices are not and hence demand shocks change nominal and real wages more quickly than prices. This in turn leads to high-

frequency changes in the labour supply. The DSGE model is a model in which nominal wages and quantities adjust instantaneously while nominal prices can only adjust with a lag.

This might be a plausible story for New Classical economists. However, this is definitely not the story contained or told in the contributions of Carlin, Soskice, Tamborini and Arestis and I doubt that this is the story they want to convey to their students.

The second – and related – point is the so-called IS-curve in the DSGE model which has usually a form similar to $y_t = Ey_{t+1} - \frac{1}{\sigma}\left(i_t - E\pi_{t+1}\right)$. While this form looks vaguely similar to a traditional IS-curve, it has some important differences: First, the y here denotes logarithms of output relative to output in the next period. The so-called IS-curve in the DSGE world is thus just a behavioural equation which puts consumption in the current period into relation to consumption in the next period. It has nothing to do with the Keynesian income multiplier. It has also nothing to do with bringing investment and saving to equilibrium (Größl/Fritsche 2010) as the traditional IS-curve does. In fact, there is no saving in the standard DSGE model. Savings are always 0 (as there is no capital stock to save in and all individuals are identical implying that not one individual can borrow from another for consumption purposes as they all have the same preference and the same endowment). All the stories of the Keynesian paradox of thrift or of a shortage of saving relative to investment leading to higher inflation just cannot be told with the DSGE model's IS-curve.

The third point is fiscal policy. Carlin and Soskice use their model to show how fiscal policy can be used to shift the IS-curve. Such a reaction would just not happen in a standard DSGE model (albeit there might be some extensions which at least under implausible parameter ranges come to a similar reaction). In the DSGE model formulations where the basic model is expanded by a government sector and hence saving at least in government bonds becomes possible, any debt-financed tax cut would just be offset by individuals saving more in order to prepare for future increases in taxes to service the debt. Any debt-financed expenditure increase might increase output but dampens consumption, but again in a way which I believe is strongly against what Carlin and Soskice would want to tell their students: In the DSGE world, output increases when there is deficit spending by the government because the individuals fear that the higher government debt today will lead to higher taxes in the future. Hence, they will perceive the increased government spending as a negative effect on their life-time wealth. In consequence, they cut back not only on their current consumption (hence the fall in consumption), but also on the number of hours of leisure they will enjoy. In consequence, they increase their labour supply which in turn will lead to higher output. While such an increase in government expenditure might increase output, it does so at the expense of the individuals' utility – a contradiction to standard Keynesian prescription.

All these problems of the New Consensus model are not addressed in the contributions, albeit Arestis at least voices some concern with some of the conclusions from this class of models. It is interesting to note in this context that in contrast to many contributions in this volume, Romer (1999 and 2000) in his attempts to construct a new class-room macro model based on three macroeconomic equations and without the LM curve, but

with a rather traditional Keynesian IS-curve, does not cite the New Consensus and especially not such widely quoted key papers such as Clarida et al. (1999) even though he must have clearly been aware of them at the time of publication of his model.

The teaching models of Romer or Carlin and Soskice clearly have their merits. They might even be better for the analysis of real world problems than the more complicated models with explicit and rigorous micro-foundations, such as those described in Clarida et al. (1999) or Woodford (2003). Just as clearly, however, they are not in the same tradition. While this means that they might not meet the standards now often required by mainstream publications, it also means that they do not share the fundamental philosophical problems of DSGE models. For intellectual integrity, but also to make these points clear to students, I think that authors should thus not try to put their contribution in the New Consensus tradition if they do not belong to it. Here, Romer has been much more consistent than some of the heterodox contributors to the Fontana and Setterfield volume.

The extensions to the New Consensus in Part III as well as the review of Claudio Sardoni in this issue are also subject to criticism along this line. The addition, for example, added by Marc Lavoie such as the Phillips-curve with a horizontal part are valid and valuable. However, they are clearly not part of a micro-founded New Consensus model and I am sceptical as to whether they can be incorporated into a world of ever-re-optimizing representative agents that change their labour supply instantaneously with changes in the real wage. A similar point applies to Sardoni's questions for extension: While the topics he proposes are worthwhile questions to be asked in a suitable textbook macroeconomic model, the New Consensus models by their basic philosophy and construction are not able to cover them.

While it is clear that the IS-LM-framework taught in undergraduate studies has a number of shortcomings, I am not sure whether moving towards teaching a DSGE model derivative would improve the situation. As any central banker, finance ministry official or even bank analyst can tell you, most real-world analysis of the impact of fiscal and monetary policy in the most recent financial and economic crisis have still been conducted using a model along the lines of IS-LM. This is not due to the fact that the people in these institutions do not know the New Consensus models, but rather that DSGE modelling has not been able to produce realistic policy predictions for the real-world problems at hand. The reason for this does not seem to be one or two missing extensions. Instead, DSGE models work at the microeconomic level in a way that most people would clearly deny to be a realistic representation of the real world. DSGE modelling thus rather seems like a dead end. I thus very much doubt that it is in the students' best interest to drop IS-LM for a simplified version of a DSGE model. Even for those who move on to a Master's degree, it might be helpful in their later life to have learned at least one useful macroeconomic model before being exposed to DSGE modelling in their graduate studies. Of course, it remains a worthwhile endeavour to construct a good replacement for IS-LM. There is no reason, however, to pretend to do this in the New Consensus tradition.

References

Buiter, W. (2009): The unfortunate uselessness of most ›state of the art‹ academic monetary economics, URL: VoxEU.org.

Clarida, R., Galí, J., Gertler, M. (1999): The science of monetary policy: A New Keynesian perspective, in: *Journal of Economic Literature*, 37(4), 1661 – 1707.

Dullien, S. (2009): The New Consensus from a traditional Keynesian and post-Keynesian perspective: A worthwhile foundation for research or just a waste of time?, IMK Working Paper, No. 12/2009, Düsseldorf.

Fontana, G., Setterfield, M. (eds.) (2009): *Macroeconomic Theory and Macroeconomic Pedagogy*, Basingstoke: Palgrave Macmillan.

Galí, J. (2008): *Monetary Policy, Inflation, and the Business Cycle*, Princeton: Princeton University Press.

Größl, I., Fritsche, U. (2010): New Keynesian DSGE models and the IS-LM paradigm, IMK Working Paper, No. 1/2010, Düsseldorf.

Krugman, P. (2009): Lionel Robbins lecture, London School of Economics, June 10, 2009.

Romer, D. (1999): Short-run fluctuations, mimeo.

Romer, D. (2000): Keynesian macroeconomics without the LM curve, in: *Journal of Economic Perspectives*, 14(2), 149 – 169.

Woodford, M. (2003): *Interest and Prices: Foundations of a Theory of Monetary Policy*, Princeton: Princeton University Press.

Macroeconomic Theory and Macroeconomic Pedagogy: A response to some criticisms

Giuseppe Fontana and Mark Setterfield***

It is with great pleasure that we participate in this Special Forum discussion of our *Macroeconomic Theory and Macroeconomic Pedagogy* (*MTMP*) (Fontana/Setterfield 2009). Before discussing the comments by Claudio Sardoni and Sebastian Dullien, we would first like to outline the substance of *MTMP*. The book contains sixteen chapters written by active research scholars with an introduction by ourselves and a foreword by C.E. Walsh. The main purpose of the book is to present contemporary macroeconomic theory – specifically, New Consensus Macroeconomics (NCM) and alternatives to the NCM – to introductory

* University of Leeds, UK, and University of Sannio, Italy.
** Trinity College, Hartford, Connecticut, USA.