The Godley–Tobin memorial lecture*

Godley versus Tobin on monetary matters

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This paper offers a comparison of the macroeconomic views held by Wynne Godley and James Tobin. Both authors were more concerned than their contemporaries with monetary matters. Both authors contributed, in different ways, to the stock–flow consistent approach, with Tobin providing to Godley the portfolio analysis he was missing. Both authors held Keynesian policy positions, but both were accused at times of not being Keynesian enough. While Tobin stuck with Neoclassical theory, Godley rejected it as he could never make any sense of it. The differences between these two authors are particularly evident when dealing with the traverse of economic activity from the short run to the long run. The biggest difference has to do with their conceptions of banking: Tobin argued that banks are barely different from other financial intermediaries, essentially providing a portfolio choice, and ultimately he relies on a variable multiplier view tied to the fractional-reserve theory of banking; by contrast, Godley emphasized the credit-creating ability of banks and their essential role in an economy where production takes time and where inventories are needed, with central banks providing reserves on demand, at the interest rate of their choice, as argued by central bankers today.

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1 INTRODUCTION

I should start by apologizing for a biased view. I worked intensively with Wynne Godley for about six years, between 2000 and 2006, although most of the time we communicated by phone or email, and not necessarily in person.¹ With regard to

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1. I could add that my view is further biased by the fact that Wynne named me as literary executor in his will. I have probably not done enough in this regard, except by writing three articles on Wynne's works (Lavoie 2012; 2013; 2021) and collecting Wynne's favourite essays in a book edited with Gennaro Zezza, Wynne's long-time young collaborator (Lavoie and Zezza 2012). Luckily, Alan Shipman (2019) has on his own initiative taken up the task of writing a

James Tobin, besides listening to a lecture of his at Carleton University, Ottawa, in the early 1980s, where he defended old Keynesianism against the attacks of New Classical economics, I only met him and discussed his views once, back in 1987, at the conference in honour of Nicholas Kaldor that was held in New York City and at the Levy Economics Institute. I thought, however, given the official title of this lecture, and despite a background that necessarily induces a biased opinion, that it would be appropriate to compare the views on monetary economics of these two eminent Keynesian economists.

Before going any further, at the risk of sounding a bit like Geoffrey Harcourt, I would like to tell a few anecdotes about my predecessors – the distinguished colleagues who were previously asked to deliver the Godley–Tobin lectures at the previous meetings of the Eastern Economics Association. James Galbraith, who gave the first one, I have known for many years. I have admired his ever-lasting defence of expansionary fiscal policy and of the Federal Reserve dual mandate, which he called ‘the most Keynesian and the most successful charter of any central bank’ (Galbraith 2020, p. 288), courageously opposing the fashionable mainstream view of the last 40 years. One thing strikes me when thinking about James. He is one of the few American economists that I know who is able and willing to make a full academic presentation in my mother tongue – French!

I have never met Robert Rowthorn, who gave the second lecture. I was at the University of Cambridge for a few weeks during a sabbatical in the autumn of 1985. I had noted the time of his lecture, the title of which seemed highly interesting, and I was about to find the location of his classroom and introduce myself to him when Geoffrey Harcourt, who had sponsored my visit, ran up the stairs along with John Eatwell, enthusiastically ascertaining that I had come to attend Eatwell’s lecture with him. Still being a young (31 years old) and shy researcher at the time, I did not dare to disappoint Harcourt, and so I sat in Eatwell’s classroom, which was next to Rowthorn’s, listening for two hours to a dreadful exposition of the Cambridge capital controversies. Anyway, although I missed this opportunity to meet him, Rowthorn’s (1981) paper on the neo-Kaleckian model of growth and distribution with overhead labour has been a key inspiration for my subsequent work on growth theory, as well as my understanding and explanation of the cyclical behaviour of the profit share, opposite to that of neo-Goodwinian economists.

As to Robert Shiller, who gave the third Godley–Tobin lecture, I only saw him once, when he was the main speaker at the lunch of the annual meeting of the Eastern Economics Association, in the early 2000s. Edward Nell was the only other person who I knew in the room. Shiller (2005) presented the chapter that was to be a second-edition update of his book *Rational Exuberance* – the chapter describing the coming of the real-estate bubble. As Shiller was talking about conventions, fads, newspaper stories, uncertainty and animal spirits to explain stock-market and real-estate bubbles, I told Nell that I felt that Shiller was in fact a closet Post-Keynesian economist. This might help to explain why, in contrast to most of his mainstream colleagues, he has taken a fairly positive view of Modern Monetary Theory (MMT), arguing that it made sense, at least up to a point (Shiller 2019).

biography. In addition, there are two papers recalling Godley’s life and works: Cripps and Lavoie (2017) and Zezza and Shipman (2020). There are also papers by Maloney (2012) and Mata (2012) which focus more on Godley’s time at the UK Treasury and as part of the New Cambridge school. A series of remembrances by various former colleagues of Godley has also appeared in a special issue of the *Journal of Post Keynesian Economics* (issue 1, 2021).

While I am presenting anecdotes, I might as well recall how it is that I did not see Wynne Godley when I was in Cambridge, UK, in 1985, only meeting him in person for the first time 14 years later in Ottawa. When in Cambridge, I had asked a few people to help me meet some of the economists interested in monetary economics, eventually succeeding in visiting Nicholas Kaldor and Anthony Cramp. However, when I asked about the whereabouts of Godley, I was vehemently told: ‘Don’t you waste your time meeting this ignorant fool!’. Newly tenured, this somewhat deterred me from trying any further to talk to him, although I had read with some awe his 1983 book written with Francis Cripps.

When I think of it, if I had attended as planned Rowthorn’s lecture, perhaps he would have offered me to have a chat with Godley at the Department of Applied Economics (DAE) and my research trajectory could have been entirely different. My philosophy of life is that it is a succession of random events that modify where we go and how we end up: Harcourt’s sudden appearance at the top of the stairs of this Cambridge building may just have been one of these deciding random events. I suppose that another deciding event was when I wrote to Wynne Godley after having read his 1999 *Cambridge Journal of Economics* article, telling him that four of us, all full professors, just could not get how he had reached a certain equation. It turned out the equation contained what Wynne later called ‘a lethal error’. But the mistake induced an email correspondence between Wynne and me, which eventually led to our meeting in Ottawa, and then subsequently at the Levy Economics Institute, six hours away from Ottawa by car.² So one could argue that, without this small mistake in an equation, the *Monetary Economics* book (Godley and Lavoie 2007), which helped market the concept of stock–flow consistent (SFC) modelling, might never have come to light.

Not yet being done with anecdotes, let me recall that Alan Shipman (2019, p. 230), in his biography of Wynne Godley, mentions that ‘Tobin visited the DAE in 1984 and struck a chord with Godley on two important levels, playing squash and visiting the opera’. While Godley (in Godley and Lavoie 2007, p. xxviii) himself adds that ‘Tobin spent a week during which he instructed us in the theory of asset allocation’, Wynne always told me that there was little retroaction on economic theory between the two of them when they met informally. Shipman says that Godley and Coutts ‘had paid particular attention’ to Tobin’s 1981 Nobel Prize lecture (Tobin 1982).³ This may be so, but Wynne has always told me that what truly inspired him in incorporating the portfolio analysis of Tobin into his own Keynesian model, turning it into a model of the whole economy, was the paper by Backus, Brainard, Smith and Tobin (1980).⁴

As in other Tobin articles, that paper presented a theoretical model which emphasized the stock adding-up constraints of portfolio behaviour; but more importantly, it

2. In a way it is not entirely surprising that Godley had volunteered to get acquainted with me, since he had cited works of mine on monetary theory (Lavoie 1984; 1985) in his recent papers (Godley 1996; 1999).

3. Claudio Dos Santos tells me that there is a 1984 manuscript in the Marshall Library at the University of Cambridge, authored by Coutts and Godley, which is titled ‘Introduction to a synthesis of macroeconomic theory based on Tobin’s Nobel lecture’.

4. This is also pointed out in Godley’s first complete SFC model (Godley 1996, p. 5). It is interesting to note, as Dimand (2014, p. 165) does, that the title of the Backus et al. (1980) article, when it was reprinted in 1996, was changed from ‘A model of US financial and nonfinancial economic behavior’ to ‘Towards general equilibrium analysis with careful social accounting’, the latter title representing better what Godley had in mind.

contained both a theoretical and an empirical transactions–flow matrix of the US economy, with several financial and non-financial sectors, including the rest of the world, integrating flow of funds with the national accounts, where each row and each column added to zero. As we claimed in our book, Backus et al. (1980) ‘presented the most explicit and most empirically-oriented version of the research programme that was being pursued at Yale University on the stock–flow consistent approach to macroeconomic modelling. Indeed, because the paper was empirically oriented, it contains many heterodox features which are not present in the other Tobin papers’ (Godley and Lavoie 2007, pp. 12–13). The complete transactions–flow matrix and the more realistic features of the Backus et al. paper thus particularly attracted the attention of Godley.

2 TWO KEYNESIAN ECONOMISTS

I began this paper by claiming that Godley and Tobin were two prominent Keynesians. This in itself was not always obvious. Both Godley and Tobin have been faulted in the past for *not* being Keynesians. For a lecture destined to be published in a journal called the *Review of Keynesian Economics*, I think it is fitting to discuss this theme.

2.1 Godley

It is rather difficult today to wonder whether Godley was a Keynesian economist, as he is so closely associated with Kaldorian economics and Keynesian policies, and even considered as a key inspiration for MMT. Shipman (2019, pp. 140ff) recalls however that in 1974 there was a serious clash between the representative Keynesians Richard Kahn and Michael Posner on the one hand, and on the other hand the research team led by Godley – the Cambridge Economic Policy Group (CEPG) – which developed into what became known as the New Cambridge School. As Shipman (2019, p. 145) says, ‘some Cambridge Keynesians went further in their criticism, viewing the CEPG’s approach as tending towards monetarism’. Advocates of the New Cambridge view were thus accused of being ‘closet monetarists’. Robert Dixon (1982/1983, p. 291) was particularly harsh. When describing the New Cambridge view of the relationship between the budget deficit and the trade deficit, he wrote that ‘*JPKE* readers will immediately perceive that this (virtual monetarist) vision of income distribution and the causes of income instability constitutes a total rejection of Keynes’s views on economic policy’, concluding that ‘there can be no doubt that both in its analytical core and in its policy assignment, doctrines associated with the New Cambridge School represent a dramatic break with the ideas of Keynes. New Cambridge theory seems more pertinent to long-run equilibrium than the world in which we have our being’ (Dixon 1982/1983, p. 294).

Further confusion arose when readers of the book by Godley and Cripps (1983, p. 17) on *Macroeconomics* found its introduction arguing ‘our present synthesis may be broadly characterized by saying that we make a “monetarist” financial system (based on the behaviour of stocks of money, financial assets and debts) drive a “Keynesian” flow system based on the response of expenditure to income’. Retrospectively, it seems that it would have been better to avoid the word ‘monetarist’, as the use of the word and that of long-run or steady-state positions, plus the critiques addressed against the Keynesian orthodoxy of the time, which was said to be ‘incomplete

and inadequate’ because ‘it did not properly incorporate money and other financial variables’, led several contemporary Keynesians to wonder whether Godley and his associates were not some kind of Cambridge Monetarists.

This was most obvious at the Keynes Centenary conference, held in Cambridge in 1983, where Godley (1983) presented an essentialist version of the *Macroeconomics* book written with Cripps. During the general discussion, someone ‘pointed out that Professor Godley’s model had a real whiff of monetarism about it’ (in Worswick and Trevithick 1983, p. 174), because stock–flow relationships figured prominently and because he was assuming that the economy operated near the steady state. The confusion was so great that Francis Cripps felt obliged to state in a response that ‘what they were doing was Keynesian monetary economics; it was not neoclassical let alone general equilibrium monetary economics’ (ibid., p. 176).

Luckily, not all outsiders were bedazzled by the New Cambridge use of the fundamental macroeconomic identity and their concern with financial stocks. Cuthbertson (1979, p. 12) for instance argued that while a number of policy conclusions looked similar to those of Monetarists, ‘the economic mechanisms that lie behind these New Cambridge policy conclusions are very different from those in Monetarist models’. Furthermore, he noted that ‘in terms of the underlying structure the New Cambridge model probably lies closer to the Keynesian model than it does to the Monetarist models’ (ibid., p. 12). Indeed Godley did engage with American Monetarists in a Carnegie-Rochester conference back in 1977 (Godley and Fetherston 1978), but the paper was ill-received as one would expect in such a setting, as commentators complained about various assumptions or results: central banks being able to peg the real interest rate, the low interest-elasticity of investment, the low reaction of prices to changes in output, and the rejection of the Mundell–Fleming open-economy model.

Interestingly, Robert Hall (1978, p. 87) objected to the claim that ‘Keynesians ignore equilibrium conditions in asset markets’, pointing to the ‘enormously influential contributions of the distinguished Keynesian, James Tobin, to refute this view’. A similar piece of advice was given by Robert Solow (1983) in his comment on Godley’s paper at the 1983 Keynes Centenary conference. After having admitted that Keynes had omitted stock–flow relations and that he had some sympathy with Godley’s supermultiplier approach based on the reciprocal of the tax rate and with the assumption of central banks holding constant the interest rate, Solow continued by recalling that an economy has several assets and hence several interest rates:

A completed Keynesian model must certainly contain a lot of portfolio theory; it will have to model asset exchanges as thoroughly as exchanges of goods and services. This vein has been thoroughly mined by Tobin, as summarized in his Nobel Lecture ‘Money and Finance in the Macroeconomic Process’. I would hope Godley would follow suit. (Solow 1983, p. 165)⁵

5. As reminded to me by Claudio Dos Santos, Tobin’s attention to flow-of-funds accounts and their integration with the national accounts and balance sheets goes back a long way. In a comment on James Duesenberry, who welcomed the arrival of quarterly flow-of-funds data, Tobin (1962, p. 191) remarked that the analysis of financial flows was insufficient, as financial stocks had to be taken into consideration: ‘The statistical moral of this basic theoretical point is that flow-of-funds accounts should be supplemented by balance sheets of equal detail Stocks are also altered by capital gains and losses; flows of funds cannot be properly interpreted without attention to the simultaneous changes in valuation of assets’.

2.2 Tobin

Well, we know that Godley did follow suit, when Tobin visited the DAE in 1984 and as portfolio analysis was eventually formally included in Godley's works. Tobin was also present at the 1983 Keynes conference, where he was asked to comment on the paper by Nicholas Kaldor. It's impossible to know from the discussion found in the proceedings whether Tobin and Godley interacted during the discussions of the papers. What we know however is that Tobin (1983, p. 28) began his comment by making clear that despite the fact that much of his work was critical of Keynes, he wore 'the label Keynesian with pride, especially nowadays'. Indeed, those economists that Tobin associated himself with most closely, as reported by Dimand (2014, p. xv), were economists that mostly strayed away from the orthodoxy of their time: Arthur Okun, Bill Brainard, Ray Fair, Robert Shiller (the closet post-Keynesian!), and Bill Nordhaus, a student and collaborator of Tobin, as well as co-author of Godley on two occasions, in a book and a paper devoted to industrial pricing.

In his book on the contributions of James Tobin, my fellow Canadian Robert Dimand (2014, p. xvii), whose doctoral thesis at Yale was supervised by Tobin, insists that 'self-identification as a Keynesian (later as Old Keynesian) was central to Tobin's view of himself as an economist'. Why then would some authors question whether Tobin was truly a Keynesian? The answer is that Tobin was an advocate of the 'Neoclassical Synthesis', hence being Keynesian in the short run and Neoclassical in the long run. His version of the synthesis was somewhat different from the standard version because he attached more attention than most of his colleagues to the workings of the monetary and financial system. In that sense, Tobin was very close to Paul Davidson (1972) and Hyman Minsky (1986), as all three of them judged that their colleagues at the time, both mainstream ones and Cambridge Keynesians (including neo-Ricardians), paid insufficient attention to monetary policy and the details of the financial system. In addition, all three of them came up with some version of q theory. However, as recalled by Dimand (2014, p. 11), 'Tobin set himself apart from Keynes's disciples at Cambridge University (such as Joan Robinson, Richard Kahn, and Nicholas Kaldor) and their Post Keynesian allies in the United States because he objected to "throwing away the insights of neoclassical economics" (in Colander 1999, 121)'.

It is in this sense that one may wonder whether Tobin was more Neoclassical than Keynesian, despite the fact that he vigorously opposed New Classical economics and the versions of New Keynesianism based on the rigidity of nominal wages and prices. Tobin defended his approach by arguing that while q theory was 'a neoclassical theory of corporate investment ... Keynes himself presented a neoclassical theory of investment' (Tobin and Brainard 1990, p. 543).⁶ This statement is similar to that of Kaldor (1983, p. 47) who argued that 'the real author of the so-called "neo-classical synthesis" was not Paul Samuelson, it was Keynes himself'. This is why many modern post-Keynesians are now more attracted to Kaleckian foundations, in an attempt to get rid of this Neoclassical excess baggage.

Dimand associates Tobin with four 'Keynesian' propositions: (i) excess demand will impact output, and not only prices, because of slow nominal adjustments; (ii) because of downward rigidity, there are lengthy periods of unemployment; (iii) investment can be volatile and driven by bouts of optimism and confidence; and finally (iv) the most central proposition, associated with chapter 19 of Keynes's *General Theory*

6. Rogers (1989, ch. 5) argues that Tobin speaks indifferently of the marginal productivity of capital and the marginal efficiency of capital, and relies on a Wicksellian natural rate of return.

and with Fisher's debt-deflation theory, 'a *falling* price level is contractionary even if a *lower* price level is expansionary' (Dimand 2020, p. 41, emphasis in the original). As a consequence, in some circumstances, the bouts of involuntary unemployment will not disappear on their own through market mechanisms, they will require government intervention. Tobin's fourth proposition, which is the most heterodox, started appearing in the late 1970s when Tobin was combating Friedman's natural rate of unemployment, Barro-like arguments, and Lucas's New Classical economics which were questioning the validity of Keynesian policies.

Tobin's arguments against these rival mainstream approaches that deny the existence of involuntary unemployment are found in particular in Tobin (1981). The book generated a long book review by Hyman Minsky. Minsky (1981, p. 199) starts his review by defining three traditions in macroeconomics: 'Macroeconomic orthodoxy or the neo-classical synthesis, which encompasses both orthodox (1950 and 1960) Keynesianism and traditional Monetarism, the new classical economics, and fundamentalist Keynesianism', which he associates with post-Keynesian authors (namely Chick, Davidson, Kregel, Moore, Robinson, Weintraub and Minsky himself). Minsky's review is highly critical of Tobin, whom he associates with the Neoclassical Synthesis. One reason may be that while Tobin (1981, p. vii) claims to be reviewing 'current macroeconomic theory', there is no reference whatsoever to any of the Post-Keynesians mentioned above, in particular no reference to Minsky's work on Fisher's debt-deflation theory, despite Tobin's use of the Fisher effect.⁷ Later, Minsky (1986, p. 112) concedes that 'from time to time Tobin shows signs of being a Keynesian rather than a neoclassical Keynesian'.

The distance between Tobin and Post-Keynesians such as Wynne Godley at the time can perhaps best be appreciated by a comparison of the two public addresses that they did at Dalhousie University, in Halifax, in the autumn of 1982. Both were asked to speak on the economic decline of the time. While Tobin (1984) presents some arguments in favour of employment hysteresis and hence concedes the need for 'prudent expansionary policies', thus claiming that the non-accelerating inflation rate of unemployment (NAIRU) is affected by the level of aggregate demand (definitively a Keynesian argument), he also argues that the recovery in Europe has been weaker and slower because of greater rigidity in real wages. He claims that the 'economy would function better ... if the discipline of wages by unemployed workers were exerted more directly and more quickly', thus putting forth an insider–outsider theory of unemployment, arguing as well that minimum-wage legislation is likely to raise the NAIRU (Tobin 1984, pp. 35–36).

In his Dalhousie contribution, Godley (1984, p. 68) faults Tobin and Buiter (1976), who tried to defend Keynesian policies against the attacks of Monetarists when discussing whether expansionary fiscal policy raises aggregate demand in a permanent or temporary way, for assuming that 'the monetary authorities ... are determined to keep the stock of money (i.e., a subcategory of the total stock of financial assets)

7. Similarly, more recently, Michel De Vroey (2016), a former Marxist and then partisan of the theory of the monetary circuit, devotes an entire book to a history of macroeconomic theory, without a single sentence devoted to Post-Keynesian economics. His book should have been titled 'a history of *mainstream* macroeconomic theory', as I told him during the 2017 Paris conference in honour of Edmond Malinvaud where he went out of his way to defend Lucasian economics, despite the current realization that it comes down to nothing else than a scam, as forcefully argued by Paul Romer (2016). Romer's paper was said to be forthcoming in *The American Economists*, but oddly it was never published.

on a predetermined path irrespective of fiscal policy'. He recalls that Tobin and Buiter (1976, p. 274) develop a stock–flow IS–LM model where money is exogenous, which they start by saying that this is 'a theoretical exercise addressed to a rather esoteric and artificial question in the logic of aggregate demand'. Godley (1984, pp. 68) insists that such use of a comparative static framework requires 'a lot of complex and opaque mathematical paraphernalia'. By contrast, in Godley and Cripps (1983), the stock of money is endogenous and models do not rely on comparative statics. Godley (1984, pp. 69) objects clearly to the mainstream claims that 'the long-run effects of an expansionary fiscal policy on real output and unemployment were uncertain and probably perverse' and that fiscal policy should be subordinated to monetary policy. He argued that 'the effect of fiscal policy on real demand, output and employment can be rapid and permanent while its effect on inflation is slow and uncertain' (Godley 1984, p. 73). This belief was underscored by a previous statement of his, rejecting the unavoidability of the NAIRU and even of the standard Phillips curve: 'I do not accept that it is a foregone conclusion that inflation rates will be higher if unemployment is lower' (Godley 1983, p. 170).

3 TWO STOCK–FLOW CONSISTENT APPROACHES

The previous section showed that Godley and Tobin had a different vision of what Keynesianism and Keynesian policies meant. We now look at how this is reflected in their vision of the stock–flow consistent approach.

3.1 Terminology

Godley and Cripps (1983) were already aware of the work being conducted by Tobin and his other Keynesian colleagues, such as Brainard, Buiter, Turnovsky, Blinder and Solow, but they thought that their analysis was overly complicated and tarnished by unrealistic behavioural hypotheses. Neoclassical Synthesis Keynesians 'could only give vague and complicated answers to simple questions like how money is created and what functions it fulfils ... Such questions tended to produce tormented replies' (Godley and Cripps 1983, p. 15). Indeed, in his Dalhousie lecture, Godley (1984, p. 78) had exclaimed, 'If only the Keynesian model had started off life with the national income flow identity embedded in a system of balance sheets recording stocks of assets and liabilities at the beginning and end of each accounting period!'. There was a need for Godley to incorporate Tobin's insights into his own thinking, as suggested by discussants, but he did not yet see how this could be done.

The transition from the 1983 *Macroeconomics* book written with Francis Cripps to the first self-contained stock–flow consistent model, the 1996 Levy Economics Institute working paper, was a long trek, with several detours. By 1996, Godley was convinced that he had achieved a breakthrough, in having managed to provide a full integration of two approaches: on the one hand, his own views about how a realistic modern monetary economy works, based on a credit-led economy, with endogenous money and processes arising in historical time in a context of uncertainty, as they had been described in the 1983 *Macroeconomics* book and as they arose in the tradition of a large number of Post-Keynesian authors; and on the other hand, the systematic approach advocated by Tobin, which included several financial assets issued and held by different sectors of the economy along with their adding-up conditions, and which combined standard national accounts with flows of funds, making sure,

as Godley (1996, p. 7) put it, that ‘there are no black holes’. Godley (1996, p. 3) notes that his ‘debt to Tobin is enormous; I could not possibly have made this model without his work, particularly on asset choice’. This acknowledgement is repeated later: ‘The way this has been modelled owes everything to the work of James Tobin’ (Godley 1999, p. 397).

However, in 1998, Tobin came out with a new book – Tobin and Golub (1998). When he heard about it, Godley was quite anxious for a while, as he once confided to me. He feared that Tobin would pull on him the trick that previously had hurt famous economists. We know that following the publication of Keynes’s (1930) *Treatise on Money* Schumpeter decided to give up the completion and publication of his own *Das Wesen des Geldes* (1970). Similarly, Joan Robinson (1977, pp. 8–9) reports that Kalecki felt ill and lay in bed for three days after having read Keynes’s (1936) *General Theory*, as it was the book that he had intended to write.⁸ Godley feared that Tobin would have improved upon his approach and would have already published the kind of book that he was planning to write, but these fears were alleviated when he read the book and realized that Tobin still clung to a comparative static analysis, without the dynamic traverse analysis that was incorporated into Godley’s 1996 and 1997 working papers.

At this point it is necessary to show how Godley and Tobin differ in their interpretation of stock–flow consistency. Claudio Dos Santos (2021, p. 50), who is responsible for the current dissemination of the expression *stock–flow consistent approach*, having used it extensively in his 2002 doctoral dissertation at the New School, points out that

stock–flow consistency is a term of the 1980s that expresses ideas developed by Keynesians in the 1970s and 1980s It is important to point out that DSGE models are not stock–flow inconsistent in a strict sense Stock–flow consistency is an attribute of many models – not only Keynesian models So critics are perfectly right in pointing out that the adjective “stock–flow consistent” is not only related to Wynne Godley’s work’.⁹

Indeed, I was rather appalled to find out that when Dimand (2014, p. 148) refers to ‘modeling stock–flow consistent Tobin-style Keynesian monetary growth dynamics’, he does not cite any of Godley’s works, but cites instead the numerous works of Peter Flaschel and his various comrades – for instance Asada et al. (2011) – which are indeed clearly in the SFC tradition as understood today. These works, however, often entertain a number of mainstream assumptions, for instance a constant growth rate of money or expected inflation being dependent on that growth rate. Still, a chapter by Asada et al. (2011), presumably mostly written by Tarik Mouakil, compares what they call their Keynes–Meltzer–Goodwin–Tobin model with the Godley and Lavoie (2007) models. They point out that ‘the similarities between growth SFC models ... and the KMG–Tobin model are striking’ (Asada et al. 2011, p. 54).

Likewise, when Tom Palley (2013; 2017), a former Yale doctoral student, presents the so-called Structuralist Post-Keynesian monetary models, inspired as he says by Tobin’s portfolio approach but with bank loans being the main driver, he does not

8. Maria Cristina Marcuzzo (2020, p. 505) reports however that this story, also told by G.L.S. Shackle, is denied by the editor of Kalecki’s *Collected Works*, Jerzy Osiatyński, on the basis of a conversation with Mrs Kalecki.

9. Regarding the stock–flow consistent label, Carnevali et al. (2019, p. 228) state that ‘significantly enough, it is never mentioned in the “Bible” of SFC modellers’. In reality, we did pick up Dos Santos’s stock–flow consistent expression in our book (Godley and Lavoie 2007). It appears no fewer than 15 times in the first chapter alone.

refer to the SFC models of Godley (1999) or Godley and Lavoie (2007) despite the obvious similarities. Palley's models, however, are always in implicit algebraic form, and he provides no simulations, so that an appropriate comparison between his Structuralist model and the more Horizontalist models of Godley is a delicate affair. Also, his models are not fully consistent in the current SFC meaning of the word: for instance, there are reserves, but no government sector; there is a corporate bond rate, but no equation determining the balance-sheet constraint of firms; or there is an LM curve, but no equation determining income. Palley (2017, p. 108) – despite being published ten years after Godley and Lavoie (2007) – concludes by saying that 'the next step is to develop a fully-reconstructed IS–LM model with the full set of stock–flow consistent relations between sectors', but he does not seem to be willing to acknowledge that such SFC models already exist, even if they embed some distinct assumptions.

Dos Santos (2021, pp. 50–51) suggests that an extensive description of Godley's approach and that of his followers would have been 'stock–flow consistent models of capitalist economies with realistic government institutions and developed financial markets which are closed in a Keynesian way and whose dynamics are carefully analysed by means of computer simulations'.¹⁰ While this is a correct description, obviously *SFC* sounds better and more attractive! Nikiforos and Zezza (2017), in their survey of stock–flow consistent macroeconomic models, also wonder whether the SFC terminology is adequate. They recall that dynamic stochastic general equilibrium (DSGE) models or the Solow growth model are indeed SFC in the sense that flows add to existing stocks.¹¹ They note however that standard open-economy models are not closed by feedback effects from other countries and hence not fully SFC in contrast to two-country models in the Godley tradition. They conclude that 'it is true that the name "SFC" is misleading and sometimes confusing for what the post-Keynesian SFC approach wants to convey' but that 'it is probably too late to change the name' (ibid., p. 1229). They believe that what is meant today by the SFC approach should by now be clear: besides the pillar of accounting consistency with its integration of the real and the monetary sides of the economy, it combines 'a demand-led closure and a sophisticated and realistic treatment of the financial side of the economy' (ibid., p. 1229).

3.2 General differences

The rest of this section tries to explain how Godley's modern SFC approach differs from that of Tobin or from other approaches that claim consistency. I first start with general considerations, which have been described in Godley and Lavoie (2007, ch. 13).¹² The crucial differences with regard to the role of banks will be dealt in a separate section.

10. Godley and I struggled in designing the proper term. Godley (1993, p. 63) initially suggested *real stock flow monetary model*, Lavoie and Godley (2001/2002) define a *coherent stock–flow monetary framework*, and Godley and Lavoie (2007, p. 11) mention a *sectoral monetary stock–flow consistent approach* to emphasize that stock–flow consistency goes beyond the addition of real investment to tangible capital, involving the various financial flows and stocks of assets and liabilities of the main economic sectors of the economy.

11. Going through the huge textbook on DSGE models by Wickens (2008), however, I searched in vain to find how money and credit were supplied to the economy in such models.

12. Dos Santos (2006) provides an extensive comparison of the SFC modelling assumptions proposed by Godley and Tobin, as well as their different intent, perhaps emphasizing their similarities more than I do here.

First, *Godley's SFC models are demand-led*, as underlined above by Nikiforos and Zezza (2017). Supply constraints are conventionally modelled as fuelling inflation, at least when the rates of capacity utilization or the rates of unemployment move out of a certain range.

Perhaps most importantly, *Godley's SFC models provide a fully explicit traverse towards the stationary or steady-growth state*. Godley's SFC models fully integrate a monetary flow analysis (linking monetary income and expenditure with a flow demand for credit) with a portfolio analysis (which explains the various demand functions for financial assets, including the demand for a stock of money, as well as debt stocks). They show visually, through simulations, how flows and stocks gradually change in line with each other through time – hence in the short, medium and long run – as the consequence of a change in any parameter. These SFC models are a true illustration of Kalecki's (1971, p. 165) statement to the effect that 'the long-run trend is but a slowly changing component of a chain of short-period situations'. Godley's models can simultaneously determine the evolution through time of the stock of money and wealth held by households and the flows of credit, investment, consumption and income. By contrast, in the works of Tobin, one-period models are still given an enormous amount of attention; the steady-state solution is assessed, but how it is reached is usually left rather vague. What Tobin essentially does is to study how the economy evolves as agents slowly adjust their portfolios towards their desired portfolio – no more. As Randall Wray (1992, p. 86) puts it, in Tobin's approach, 'flow variables are exogenous, so that the models focus solely on portfolio decisions'.¹³

In Godley's SFC models, market clearing through prices only occurs in some specific financial markets. Only bond and equity prices are market-determined. Other prices are generally administered, by business firms, financial institutions, or even the monetary authorities. In the goods market, there is no market clearing at all: produced goods may be unsold, there is excess capacity and fluctuations of inventories are a key part of the analysis. 'Decisions by households, firms and banks are mainly based not on price but on quantity signals which often take the form of realised stocks of wealth or inventories' (Godley 1997, p. 4).¹⁴ This is in clear contrast to the standard Tobinesque closure, where changes in product prices, asset prices, and rates of return provide the main market-clearing mechanism.

Godley's SFC models rely on procedural rationality, with agents reacting to past disequilibria relative to norms. Embedded in these models is the principle of adjustment to observed disequilibria by decentralized agents or institutions. By contrast, Tobin's models usually assume profit maximization and an access to an unlikely amount of information. As Dimand (2014, p. 142) puts it, 'Tobin thus added informal optimizing foundations for each component of the IS/LM model of aggregate demand: investment, saving, liquidity preference (money demand), and money supply'. On occasions Tobin (1981, pp. 34–35) refers to complex uncertainty, rules of thumb,

13. There is one exception: in a variant of their extended model, Brainard and Tobin (1968) provide simulations with income being endogenous, but all other simulations are done with income being exogenous.

14. Shiozawa et al. (2019) demonstrate that a fully decentralized input–output production economy, where prices only depend on normal unit costs, will converge to a stable quantity structure, despite firms reacting only to quantity signals, provided there are sufficient inventories and excess capacity. Their work thus provides justification for Godley's approach, as I explain briefly in a book review (Lavoie 2020).

satisficing procedures, and full-cost pricing. But these are only weapons to criticize the Lucasian neo-Walrasian rival; they are never used for constructive purposes.

3.3 Specific differences

After these general statements, we can move on to more specific considerations. We start with households, and then move on to business firms. We shall see that in Godley's models, non-financial firms are institutions that have a life of their own, rather than being simple veils. Because producing firms are institutions, they must take a variety of decisions, not based on standard profit-maximizing principles.

In Godley's SFC models, households make their consumption and portfolio decisions sequentially. The consumption decision is made on the basis of a Modigliani-type consumption function, with disposable income or expected disposable income and past accumulated wealth as the main two arguments of the function. This generates an expected saving level for the period, which, once added to past wealth, generates the expected end-of-period wealth. Portfolio decisions – the relative proportions of the different assets – are then taken on the basis of this expected wealth. This framework allows the use of a fairly standard consumption function despite a large set of distinct financial assets. Broadly speaking, this was also the framework advocated by Backus et al. (1980, p. 273) in the empirical version of Tobin's model. In his theoretical work however, Tobin assumes that consumption is a residual: it is the amount of income which is left over once households have purchased all the additional financial assets that they desire to acquire (their saving of the period). In that theoretical framework, everything seems to happen at once: time is condensed by the need for market clearing. One would achieve the steady state at once. To reintroduce some duration, Tobin is forced to introduce the hypothesis that households cannot achieve the desired asset ratios immediately, due to the existence of high transaction costs – a hypothesis that appears highly artificial and unlikely in today's computerized world.

In Godley's SFC models, households can make mistakes or make errors in expectations, and cash money or money deposits act as a buffer for households. Whenever there are mistaken expectations, something must give. In his models, when revenues are overestimated for instance, household cash balances or deposit balances at the bank get reduced to absorb the unexpected shortfall, as would happen in real life. No such mistakes and no such mechanisms exist in Tobin's world, although this drawback is recognized by Backus et al. (1980, p. 288) when they mention that demand deposits and currency ought to serve as 'buffers or temporary abodes of purchasing power', pointing out that 'the partial adjustment assumption seems particularly inappropriate' in this case.

In Godley's models, firms must take a production decision, and must decide on fixed capital and inventories investment. In the simplest models, firms simply produce what is being demanded. In the more sophisticated models with inventories, firms must assess the demand of the period and they must also decide on the additional inventories that they would like to hold. The decision to produce is thus intertwined with the decision to accumulate circulating capital. Firms invest on the basis of stock-flow norms, assessed on the basis of expected sales. Investment behaviour is essentially demand-led, as is the rest of the model. In Tobin's models, as well as in several other Neoclassical models, fixed capital investment relies on q theory. In a non-growing world, it is claimed that net investment should be positive whenever the q ratio is above unity, that is, whenever the stock market values equities more highly than the replacement cost of tangible capital. The logic of such an investment

behaviour is that it would be conducive to shareholders potentially maximizing the value of their equity. Clearly, in that instance, firms act as a veil, acting in the interest of households. This indeed was Crotty's (1990) critique of Tobin's q theory.

In Godley's SFC models, firms must make costing and pricing decisions. Prices depend on unit costs. Cost-plus pricing is part of the model: it distributes income between labour wages, entrepreneurial profits and the interest receipts of creditors. In the more complex version, a target profit level is designed to provide a reasonable dividend yield as well as to provide internal funds to finance capital accumulation, in line with the Post-Keynesian pricing mechanisms underlined by Harcourt, Adrian Wood and Alfred Eichner. In Tobin's models, either the price level is a given or the price level is determined by a market-clearing mechanism, which clears the demand for and the supply of goods. In Tobin's models, no pricing decision needs to be taken: the market does it, or it is arbitrary.

In Godley's models, firms must take financial decisions. In a Tobinesque world, firms are indifferent between finance by loans or finance by issuing equities. Only expected financing costs matter. In Godley's models, there is a hierarchy of financing means, and decisions do have consequences. Firms can decide whether they wish to issue more shares, or issue or retire corporate paper, or simply draw on their banking line of credit. In his growth models, producing firms also accumulate retained earnings, as do firms in Backus et al. (1980). The problem with the Backus et al. presentation, however, is that no sooner were retained earnings and financial decisions introduced as a realistic element of their model than another hypothesis cancelled the realism of their firms. Indeed, Backus et al. (1980, p. 266) assume that retained earnings are 'dividends paid matched by sales of shares'. In other words, 'business retained earnings ... are imputed to shareowners ... as if they were dividends ...'. Retention of earnings is an issue of equity by business and a purchase of equity by households and other shareowners' (ibid., p. 268). No such strange assumption is needed in Godley's models.

4 TWO VIEWS OF BANKS AND THE MONETARY SYSTEM

We now come to what ought to be the crux of my paper: how Godley and Tobin are differentiated with respect to their views of banks and of the money-supply process.¹⁵ Tobin saw banks as essentially no different from other financial intermediaries and he relied on a variant of the money-multiplier story. By contrast, Godley had a vision of monetary matters based on banks as creators of loans and on the Post-Keynesian endogenous money-supply view, where reserves are supplied on demand at the target interest rate set by the central bank and, in the tradition of Kaldor (1982), Moore (1988), Graziani (1989), and the whole theory of the monetary circuit. This, as we shall see, is now the viewpoint defended by central bankers (Bindseil and König 2013).

4.1 Godley

Godley (1999, p. 393) starts the presentation of his SFC model by criticizing the standard assumption of an exogenous money supply, saying that he will rely on

15. One thing that Godley and Tobin have in common, however, is that both assume that there is an imperfect substitutability between financial assets, in contrast to what has been fashionable over the last 30 years or so, with just a few exceptions.

the ‘new endogenous money (EM) school’ of Post-Keynesianism, which he also associates with Schumpeter and the late Hicks. His purpose is to incorporate ‘EM ideas into a complete, if very simplified, model of the whole economy’ (ibid., p. 394). The fact that the Post-Keynesian theory of endogenous money is emphasized at the very beginning of his first published SFC article demonstrates how important it is to Godley’s thinking. In Godley’s SFC models, as in his earlier book with Francis Cripps, banks are creators of credit money, and they play an essential systemic role. Godley’s SFC models are consistent with the theory of the monetary circuit, according to which production must be initially financed by bank loans to get the ball rolling, making the distinction between initial and final finance (Graziani 1989; Godley 2004; Lavoie 2021).

Under this view, the predominant role of banks is to create loans, providing credit to firms which carry on production in a world where goods take time to be produced and sold. As Zezza (2012, p. 156) puts it, ‘at the heart of the TMC [theory of the monetary circuit] is the notion, shared by Godley, that production requires time, and that costs of production have to be paid before receipts from sales can be obtained’. Godley’s banks are Kaldorian, responding to the financial needs of their creditworthy clients. In addition, bank loans to firms act as a buffer for the fluctuations in inventories and are required for dividends to be distributed. Inventories, or unsold production, must be financed by bank loans, otherwise the profits of producing firms, as assessed by accountants, just could not be distributed to shareholders. The money to be distributed would not be there.

Godley’s banks are also institutions that do take pricing decisions: they set deposit and lending rates. By contrast, in Tobinesque models, deposit and lending rates are market-clearing prices, which adjust the demand for and supply of deposits and loans respectively. In the simplest Godley models, lending rates are set as a mark-up over deposit rates, as in many Post-Keynesian macroeconomic models.¹⁶ In the more realistic models, lending rates are such that they allow banks to attain their target level of profits, as was the case with the prices set by producing firms.¹⁷ As to deposit rates, it is assumed in Godley (1999) and in Godley and Lavoie (2007) that rates on term deposit are hiked up or pushed down whenever the bank’s liquidity ratio goes outside its target range.

There is thus some relationship with Tobin’s assumption that banks optimize some loans-to-asset ratio, but the deposit rate is not market-clearing in any sense. For Godley (1999, p. 397),

banks are price takers with regard to the interest rates they pay on bills and price makers with regard to the rates they charge on loans and pay on money. It is a key behavioural assumption that banks set these rates so that they make profits Banks passively exchange any form of money (cash, demand and time deposits) for any other form The ‘supply’ of money is a redundant concept – there is no such thing.

Thus, the portfolio choices of economic agents as well as changes in the holdings of money arising from unexpected events or loan repayments are indeed taken into account in Godley’s approach to banks.

16. A recent example of such simplified assumptions is the model of Lavoie and Zezza (2020), which extends the model of Godley and Lavoie (2007, ch. 9) by adding fixed capital and corporate bonds.

17. Alternative assumptions can also be made, as found in the SFC model of Lavoie and Reissl (2019), where the bank’s lending rate adjusts to a market-determined interest rate on corporate paper.

4.2 Tobin

Tobin's view of banks is different. As is clear from Brainard and Tobin (1968), banks, like households, are assumed to make portfolio asset choices, based on rates of return, among free reserve assets, loans, and government bills. Loans play no special role in this approach – they have no priority – and banks could as well be non-banking financial institutions. This impression is reinforced by a reading of Tobin (1969) and Tobin (1982).¹⁸ There, bank loans are omitted altogether from the formal model, and when banks are mentioned, it is claimed that the 'traditional business of commercial banks is to accept deposits ... and to acquire assets of less liquidity and maturity Other intermediaries likewise transform their assets into forms better tailored ... to the preferences and circumstances of their creditors' (Tobin 1982, p. 193).

Backus et al. (1980, p. 265) also formally describe banks as pure intermediaries, but they do concede that, more realistically, bank loans play a special role in monetary production economy, admitting that 'banks regard business loans as a prior claim on their disposable funds, and meet these demands at the prevailing rate, only later adjusting this rate in the direction that brings loan demand closer to the bank's desired supply'. Similarly, Brainard and Tobin (1968, p. 110), concede that 'in the short run banks meet from excess reserves whatever loan demand comes their way at the established interest rate'. This 'more realistic' accommodating bank behaviour is more in line with the role of banks in Godley's models, but as was said earlier, it disappears from Tobin's theoretical models.

Dimand (2014, p. 141) praises Tobin for not relying on the quantity theory of money expounded by the Monetarists, where the quantity of money is set exogenously by the central bank through the money multiplier. Rather, he says, in Tobin's view, 'the central bank sets the monetary base (outside money, that is currency plus reserves with zero or other exogenously fixed rate of return), and then optimizing financial institutions created financial assets including inside money' (ibid., p. 141). The money supply is thus endogenous, but not endogenous according to the meaning given to the term by Post-Keynesian authors (including Godley) belonging to the so-called Horizontalist tradition, who focus on reversed causation, with loans determining the level of deposits and deposits determining the amount of reserves in the system. What is endogenous in Tobin's works is the money multiplier or the velocity of money, something which at best one could call weak endogeneity. As Dimand (2014, p. 142) continues, 'Tobin ... explicitly modeled money creation by optimizing banks to derive an upward sloping supply curve for money: higher interest rates induce banks to create more money by choosing lower reserve/deposit ratios'.¹⁹

18. Tobin (1969) assumes that the portfolio choice is between money and real (tangible) capital – an assumption criticized by Davidson (1972, p. 196) who argued that the choice ought to have been between money and equities or securities. Agents in Brainard and Tobin (1968), by contrast, choose between monetary assets and equities.

19. This approach to the money-supply process has also been found in a modified (and improved) form in the writings of some Post-Keynesians, mainly those associated with the so-called Structuralist tradition, based as they were on Tobin's (1963) *new view* of banking or inspired by the early writings of Minsky and Kaldor on this topic, as explained in detail by Rochon (1999). Palley (2013, p. 406) recalls that 'the structuralist approach links post-Keynesian monetary theory to the Yale school of monetary macroeconomics associated with James Tobin'. There always seems to be some quantitative constraint on lending in Palley's structuralist version of post-Keynesian endogenous money. When there is an increase in loans, either banks 'sell secondary reserves to fund additional lending' (Palley 1994, pp. 78–79) or they must

In Tobin's models, although the money supply appears to be endogenous, ultimately it is not. As Palley (2013, p. 410) puts it, 'bank lending remains completely invisible and is attributed no role in the money supply process Though the money supply is endogenous, the monetary base remains exogenous which is what gives the model its verticalist character'. This is even clearer when Tobin deals with fiscal policy. Both Tobin (1982, p. 182) and Backus et al. (1980, p. 267) assume that a *given fixed* proportion of the government deficit is being monetized, which goes against the principle of a truly demand-led endogenous supply of money. In the Post-Keynesian view and that of MMT, the proportions of money-financed and bond-financed government deficits are determined by the portfolio choices of the public.²⁰

While Dimand (2014, p. 71) compliments Tobin for adopting 'a more fruitful and plausible middle path' than the two extremes defined by the Monetarists and the Horizontalist Post-Keynesians, Wray (1992, p. 87) views Tobin's money-supply process as a variant of the erroneous money-multiplier story:

Although Tobin argues that his model incorporates an endogenously determined money supply, money is not endogenous in any meaningful sense. Tobin allows for portfolio decisions of wealth holders to affect the ability of banks to lend by determining the size of the 'deposit multiplier'. However, because he has assumed that spending is exogenously determined, the money supply in his model is not endogenously increased as spending rises. Banks in his model passively accept the quantity of deposits, then allocate these deposits among excess reserves, bonds and loans ([Brainard and] Tobin, 1968). Thus, Tobin's approach really does not deviate significantly from the exogenous approach, in which 'deposits make loans'. In contrast the post-Keynesian endogenous money approach insists that 'loans make deposits' (Wray, 1990; Moore, 1988).

Godley also felt quite uncomfortable with Tobin's view of banks. On at least two occasions he expressed his misgivings. In his second SFC paper, Godley (1997, p. 49, emphasis in the original) wrote:

In the perception I at present have, and which may turn out to be quite misguided, Tobin never makes the final step – essential to my story here – where bank loans are required to enable industry to function at all; the *raison d'être* of Tobin's banks, *so far as I can see*, is to enlarge the asset choice of households and facilitate the agility with which it can be made.

In his first SFC paper, he makes a similar point:

Banks in Tobin's paper are essentially agents operating in financial markets who do nothing but make an asset choice exactly like the asset choice of households and conducted according to the same principles. The role of banks is thus nothing more than to extend the range of asset liability choice open to households and firms. I am proposing something completely different from this. (Godley 1996, p. 19)

In my presentation at the 1987 Kaldor conference which I mentioned earlier, I argued the obvious, that is, that Tobin's (1970) ultra-Keynesian model in his paper '*Post hoc ergo propter hoc*' described an economy where the central bank provides just enough

borrow reserves from the central bank (Palley 2017, p. 99). This view perhaps also arises from the results of his empirical studies, where he found that 'bank loans do not Granger-cause the monetary base' while 'the monetary base does Granger-cause bank loans' (Palley 1994, p. 85).

20. There is an exception to this claim: when monetary authorities establish a floor system rather than a corridor system, as explained by Lavoie (2010) and Fullwiler (2013).

reserves to keep the interest rate constant, thus making the money supply endogenous. I claimed, however, that ‘Tobin seems to be developing the model for negative purposes not for constructive ones, i.e., he does not attach much importance to it, except as a tool to knock down Friedman’ (Lavoie 1991, p. 270).²¹ At the same conference Tobin (1991, p. 222) expressed his puzzlement at ‘the current excitement about endogenous money’. He reasserted his belief that central banks could effectively fix monetary quantities. He believed that the Federal Reserve had successfully made the supply of reserves exogenous during the 1979–1982 period. Also, he misinterpreted the endogenous-money approach to mean that ‘macroeconomic outcomes are beyond the control of the monetary authorities’ (Tobin 1991, p. 224), which is certainly not what advocates of endogenous money believed, having so many times criticized central banks in the 1980s and early 1990s for having created unemployment and recessions by hiking up interest rates to absurdly high levels.

4.3 The controversy around Tobin’s *old* and *new* views of banking

Over the last few years there has been a series of papers devoted to the various conceptions of banks, many of which have arisen from researchers working in central banks. Best known is the paper by McLeay et al. (2014, p. 14), from the Bank of England, who argued that ‘money creation in practice differs from some popular misconceptions – banks do not act simply as intermediaries, lending out deposits that savers place with them, and nor do they “multiply up” central bank money to create new loans and deposits’. These papers have criticized the textbook money-multiplier story as well as the loanable-funds approach, providing support to the long-held Post-Keynesian credit-creating view of banking which can also be found in Godley’s works. Different names have been proposed for this third view of banks: credit-creation theory (Werner 2016); endogenous-money theory (Ábel et al. 2016); financing through money-creation theory (Jakab and Kumhof 2015; 2019); originate inside money theory (Bianco and Sardoni 2018); bank-originated money and debt theory (Keen 2020).

Although apparently different, the loanable-funds theory of banking and the money (or deposit) multiplier theory are in fact related. In the loanable-funds theory of banking, banks are just like all other financial intermediaries, which lend funds that they have been entrusted with. In the caricature provided by Jakab and Kumhof (2015), which they associate with what they call the intermediation of loanable-funds theory of banking, savers bring gold or gravel and deposit these at banks, which can then be lent to borrowers. Ábel et al. (2016) and Werner (2016) simply call it the financial intermediation theory. In a sense, this is no different from the fractional-reserve theory of banking (as Werner 2016 calls it) associated with the money-multiplier story. Within that context, as Bianco and Sardoni (2018, p. 170) put it, ‘banks are intermediaries of loanable funds in a fractional reserve environment’. With bank reserves at the central bank also being called outside money, ‘saying that banks are intermediaries of loanable funds is just the same as saying that banks are intermediaries of outside money’ (ibid., p. 170). The reserves play the role of loanable funds; without excess reserves, no loans could be made.²²

21. Indeed, Tobin (1970, p. 303) said: ‘I hasten to say that I do not believe the ultra-Keynesian model to be exhibited (nor would Keynes), any more than I believe Friedman’s’.

22. This also applies to the New Keynesian credit view, as recently argued by Werner (2016) and Fiebiger and Lavoie (2019), and as previously summed up by Rochon (1999, p. 237) in his assessment of New Keynesian monetary theory: ‘While the money supply is credit-driven, it

All these authors blame Tobin (1963) 'for having played a critical role in establishing the ILF [intermediation of loanable funds] view of Gurley and Shaw as the new dominant paradigm' (Jakab and Kumhof 2015, p. 7), as he argued that banks faced the same constraints as other financial institutions, because bank deposits are also subjected to the portfolio decisions of households.²³ I must say that, many years ago, as a young scholar trained in the Post-Keynesian and Circuitist version of endogenous money, I was utterly confused when I read and tried to understand Tobin's (1963) *new view*, now said to be at the origin of the intermediary theory of banking, as compared to what he called the *old view*. Tobin seemed to associate the fractional-reserve or money-multiplier theory of banking, what he called the *old view*, with the idea that bank loans can be created '*ex nihilo*', at the stroke of a pen, as Post-Keynesians would have it, so that loans led to deposits. My understanding of the money-multiplier story was quite different from Tobin's: in the fractional-reserve world, it is the initial acquisition of cash or deposits by banks that leads to the appropriation of excess reserves, which then allows the creation of bank loans. No wonder I got confused by Tobin's *old* and *new views* of banking!

Despite the fact that Tobin claims that in his portfolio models one of the closures could be a closure where income is endogenous, in fact he does not deliver on that closure. As recalled earlier by a quote from Wray (1992), when dealing with banks Tobin essentially assumes that output is a given, while actual portfolios adjust to the desired ones. His analysis of banking is more static than dynamic. While Tobin recognizes that banks can create credit money *ex nihilo* in contrast to other financial institutions, he believes that banks can only do so if agents are willing to modify the composition of their portfolio in favour of bank deposits, thus being subjected to the same constraints as any financial intermediary. But the constraints are not identical. Non-banks, if they wish to create more credit, must first get either more deposits from the public or advances from banks. Tobin would argue that the situation is similar for banks: if their depositors decide to transfer their bank deposits at accounts in non-banks, then the banks in their turn will need to access funds from non-banks.

The difference, however, is that when non-banks acquire assets, they must obtain outside *financing* to start with, at the very first stage; when banks borrow, this may happen, but only at a later stage. This distinction is hard to make if one assumes a static economy where production does not change and where everything happens at once. The distinction is made in particular by Post-Keynesian Circuitists. At the start of the circuit, the credit creation by banks is associated with *initial finance*; it leads to an immediate increase on both sides of the balance sheets. The funds that need to be recovered by the end of the circuit are *final finance*, and are mainly the consequences of the portfolio decisions of non-financial agents. They arise from the decision about where to assign the flow of saving and the reallocation of wealth. As Jakab and Kumhof (2015, p. 8, emphasis in the original) say, 'the critical insight is that banks can create their own *funds* instantaneously'.²⁴

remains supply-determined, dictated largely by the policies of the central bank. Banks can only lend what they have at their disposal, either supplied by the deposits of the savers or the supply of high-powered money by the central bank'.

23. See also Bertocco (2011) for an early critical assessment of Tobin's (1963) *new view* of banks.

24. Similarly, Bossone (2001, p. 2240, emphasis in the original), an IMF researcher, claimed 20 years ago that 'banks are (and will remain) special because of their unique capacity to finance production by *lending their own debt* to agents willing to accept it and to use it as money'.

Godley has a completely different perception from Tobin of how banks can handle leaks in the deposits that they have created when they granted loans. This is quite clear in the Godley and Cripps (1983) book. First, they note that firms often draw on overdraft facilities, so that the outstanding quantity of loans is not under the full control of banks. They then underline that in practice it would be impossible for banks to fulfil their role if there had to be a continuous equivalence between the loans granted by a bank and the deposits it collects. Godley and Cripps (1983, p. 77) remark, however, that ‘this problem is readily overcome ... given a system of inter-bank credits’, making it even possible for some banks to specialize in making loans while others specialize in deposit-taking.²⁵ They conclude that ‘once a system of inter-bank credits is in existence, there is no logical or institutional constraint on the extent to which the whole banking system can supply additional loans Changes in the stock of loans and money will be governed solely by demand for loans and the credit-worthiness of would-be borrowers’ (ibid., p. 77).

5 CONCLUSION

I have attempted to compare the macroeconomic views of Wynne Godley and James Tobin, more specifically on monetary matters. I started by examining why these two great Keynesian economists were sometimes accused of not being truly Keynesian. Tobin relied on Neoclassical theory, while Godley could never make any sense of it. I have recalled how these two economists are associated with the stock–flow consistent approach – in short, the SFC approach – and how Godley’s version, despite owing much to the work of Tobin, is in my opinion a substantial improvement over Tobin’s version. The main reasons are that Godley’s models are populated with more realistic assumptions and behaviour, and they provide a traverse where all flows and stocks, real or financial, nominal or real, change through time. This combination of rigour and realism may explain its appeal among young scholars, even outside strictly defined Post-Keynesian circles, for instance in ecological economics and agent-based modelling.²⁶

I then explained that while Tobin could conceive of banks as creators of credit money and central banks as targeting interest rates, his key contributions rely on a central bank that imposes quantitative constraints on banks through the restrained provision of reserves, with banks being considered to be financial institutions subjected to funding constraints that are no different from those of non-bank financial intermediaries – Tobin’s so-called *new view* of banking which has been most criticized recently. As a consequence, even though he presents a sophisticated portfolio analysis, it is difficult to claim that Tobin goes much beyond a variable multiplier view of the fractional-reserve theory of banking. By contrast, Godley has a Circuitist view of the Post-Keynesian endogenous-money theory, where banks play a crucial role in providing initial finance and where bank credit is an essential component of a monetary economy where production takes time and where inventories are needed. Still, Godley’s banks have norms regarding asset or liability ratios, which they fulfil in an adaptive way. His central banks essentially

25. Hence, as Wray (1990, p. 140) puts it, ‘although Tobin realizes that changes in depositor preferences can affect the ability of banks to make loans, he does not appear to recognize the importance of bank liability management in freeing banks from quantity constraints’.

26. In addition, in 2019, the *Cambridge Journal of Economics* created a virtual issue on stock–flow consistent (SFC) economics.

play a defensive role, providing reserves and cash on demand, while targeting a short-term interest rate, as now recognized by contemporary central bankers.

As a shortcut, one could say that the focus of Godley's analysis is the creation of bank credit while that of Tobin's is the allocation of the financial assets which are the induced counterpart of this credit. Ironically, in this sense, Godley is closer to D.H. Robertson and Tobin closer to Keynes, for as Kahn (1972, p. 93, emphases in the original) recalls, quoting Robertson, Keynes was 'so taken up with the fact that people sometimes acquire money in order to *hold* it that he had apparently all but entirely forgotten the more familiar fact that they often acquire it in order to *use* it'.

With Tobin's emphasis on the need for banks to hang onto their deposits instead of letting them drift away to the balance sheets of other financial institutions, one would have thought that his vision is particularly appropriate for dealing with the current circumstances in which banks are said to be losing ground to market-based finance. Lavoie (2019) and Bouguelli (2020) provide examples showing that the vision of banks as clearly distinct from non-bank financial institutions is still the most appropriate way to understand and suggest solutions to the financial problems of the current world where non-bank financial institutions compete to attract the financial wealth of economic agents – the misnamed shadow banking system.

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