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Keynes's theories of the business cycle: Evolution and contemporary relevance

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Keynes's Theories of the Business Cycle: Evolution and Contemporary Relevance

by

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ABSTRACT

This paper traces the evolution of John Maynard Keynes's theory of the business cycle from his early writings in 1913 to his policy prescriptions for the control of fluctuations in the early 1940s. The paper identifies six different "theories" of business fluctuations. With different theoretical frameworks in a 30-year span, the driver of fluctuations—namely cyclical changes in expectations about future returns—remained substantially the same. The banking system also played a pivotal role throughout the different versions, by financing and influencing the behavior of return expectations. There are four major changes in the evolution of Keynes's business cycle theories: a) the saving–investment framework to understand changes in economic fluctuations; b) the capabilities of the banking system to moderate the business cycle; c) the effectiveness of monetary policy to fine tune the business cycle through the control of the short-term interest rate or credit conditions; and d) the role of a comprehensive fiscal policy and investment policy to attenuate fluctuations. Finally, some conclusions are drawn about the present relevance of the policy mix Keynes promoted for ensuring macroeconomic stability.

KEYWORDS: John Maynard Keynes; Business Cycle; Fiscal Policy; Monetary Policy; Financial System; Uncertainty

JEL CLASSIFICATIONS: B31; E12; E32; E44; E63

I. INTRODUCTION

The earliest published writing by John Maynard Keynes on the topic of business cycles is a letter of September 28, 1913. In it, Keynes writes to his friend D. H. Robertson saying that "your work has suggested to me what appears at first sight a superb theory about fluctuations… I believe it synthesises an enormous number of your facts" (*Collected Writings* XIII, 1).[1] So Keynes started a 30-year long period of writing on economic fluctuations and what came to be called the "business cycle." However, notwithstanding all the literature that his work and life has produced, there is still an identifiable gap that this paper intends to fill. We refer to the lack of an analysis of the evolution of Keynes's theories of the business cycle.

Many books and articles, with a variety of approaches too large to be mentioned here, have been written on particular interpretations of Keynes's works, notably on the *General Theory* (*GT*, from now on) but also the *Treatise on Money (TM*), the *Tract on Monetary Reform* (*TMR*), and his *Treatise on Probability*. The discussion on his "evolution" from one work to another has also been the topic of an abundant literature, notably the change from the *TM* to his most celebrated work, the *GT*.[2] Even writings that were not published in his lifetime but are related to the topic of this paper, such as the above-mentioned 1913 article (*CW* XIII, 2–14), have become an object of discussion.[3] But there is no analysis that traces the evolution of his approach to the subject of the trade cycle from his earliest writings to his final days. That will be the task of this paper.

Many of Keynes's writings on the business cycle were not published in academic outlets during his lifetime. Some are merely lecture notes. Others, such as Keynes's 1913 article, were only published after his death. It is possible that some letters containing presentations of his views on the topic remain undiscovered or lost.[4] Some of the writings actually published belong to "transition phases" and periods where Keynes

[1] In what follows, *CW* will stand for the *Collected Writings of John Maynard Keynes*.
[2] See Patinkin (1982), Moggridge (1992: ch. 20–21), Marcuzzo (2003), Skidelsky (2003: ch. 28), and Hirai (2008), among many others.
[3] See, on this paper, Bridel (1987, 89–91), Bridel and Presley (1997), Seccareccia (2003), and Skidelsky (2003, 132). We will discuss this paper further below.
[4] One example is the limited correspondence with Marcel Labordère, a major influence in his early years, as will be mentioned below.

was writing his books. In that sense, these can be considered "sketches" of future, more elaborate argumentation. With all these caveats in mind and based on what is included in the *CW*, one can identify six different theories with varying degrees of exposition and theoretical explanations. The argument of this paper is that the driver of the business cycle remained essentially the same, i.e., changes in current expectations of future profitability, with a decisive role for the financial (mainly banking) system. The driver's relatively unchanged nature may reflect the enduring Keynesian "vision" of an economic system characterized by decision-making in a context of uncertainty, with flimsy knowledge about future prospects. Theories differ, however, in the description of the saving–investment relationship, as well as the role and capabilities of different economic policies to moderate business fluctuations.

Keynes's earliest theory of the business cycle is presented in the above-mentioned 1913 reading to the Political Economy Club, and will be the subject of section II. Section III will present the argument promoted in two articles, one published in London's *Sunday Times* in 1921 and another published in *The Manchester Guardian* in 1922. Section IV analyzes his ideas on the determinants of economic fluctuations as discussed in the *TMR*, while section V presents the arguments developed when Keynes first started working on the *TM* through the time it was actually published. Section VI dwells on the so-called "Harris Lectures" in New York in 1931, a transition phase in Keynes's thinking. Section VII discusses the chapter on the trade cycle in the *GT* and offers some policy advice for controlling the business cycle included in articles and official memoranda after the *GT's* publication. Section VIII concludes.

One further caveat regarding the scope of the paper: We limit ourselves here to analyzing Keynes's different theories and presentations; we will not address the different economists who influenced Keynes, leading him to develop and/or change his views. In this paper we will concentrate primarily on Keynes's writings, with brief mentions and references to the names and works that bore on his thought. A proper historiographical analysis would necessarily have to tackle these other influences, from Mikhail Tugan-Baranovsky, Dennis Robertson, Ralph Hawtrey, Knut Wicksell, Frederick Lavington, Roy Harrod, and many more. However, that task requires a book-length treatment and is beyond the scope of this paper.

II. OVERINVESTMENT WITH FINANCIAL INNOVATIONS

Keynes's 1913 article, titled "How Far Are Bankers Responsible for the Alterations of Crisis and Depression?" was inspired, in his own words, by D. H. Robertson's fellowship dissertation (later published as Robertson [1915]). The influence also went the other way around, as recognized by Robertson himself.[5] Keynes's 1913 article also reflects the influence of Marcel Labordère, particularly his distinction between "real capital" and "apparent capital" (Bridel and Presley 1997, 459; Skidelsky 2003, 393). In this sense, Keynes's autoreferencing letters (such as the one to Robertson of September 28, 1913 acknowledging his influence) should be treated with care and a bit of skepticism when conducting a conceptual historiography of the evolution of his theories.

Keynes emphasizes that there is no "orthodoxy" in what refers to theories of the business cycle, each with its flaws, each with its contributions, some focusing more on the "real" economy, some with a more monetary angle. His article makes reference to the latter. Some theories of overlending blame the banking system for lending more than the capital available, while others blame it for lending to projects that are not profitable. Keynes shows his dissatisfaction with both.

Keynes (*CW* XIII, 8) lists several factors that provide the impulse to the cycle: new profitable opportunities, new inventions, "opening of new countries," a sudden increase in business confidence, and an increase of government demand for military purposes. The propagation mechanism, however, necessarily involves the financial system, mainly banks. Out of current income, a portion (A) is spent, a portion (B) is saved to be later invested in productive purposes, and a portion (C) is set apart and deposited at banks, Keynes says. Banks may lend to firms who produce consumption goods (C.i) and to firms that invest in capital goods (C.ii). The only reason for an overinvestment situation is an increasing proportion of C.ii, and bank lending is responsible for that. However, fault does not lie entirely with bankers. It is a problem of incentives, moral risk (in modern terms), uncertainty, and financial innovations.

[5] See Presley (1992) for the relationship and intellectual exchange between Keynes and Robertson. See also Lawlor (2006) for other early influences on Keynes (including Alfred Marshall) and Cristiano (2014) for a thorough analysis of Keynes's early economic thought.

The system's fragility lies in the increasing proportion of financial assets linked to fixed investment or outright loans to capital goods producers on banks' balance sheets (*CW* XIII, 9). Short-term finance, overdrafts, and underwriting bond issuances all have the possibility of transforming into fixed assets on the banks' books because of bankruptcy, market illiquidity, etc., and bankers have difficulties in preventing this development for at least three reasons. First, it is difficult for them (individually considered) to distinguish in an overinvestment situation exactly which borrower is a solid debtor, how they will use the loan, and how liquid the collateral will actually turn out to be, even in the case of short-term finance and overdraft credit. Second, individual bankers may lack the incentive to refuse lending to particular firms/investors in such situations, particularly in growing sectors. A third motive refers to financial innovation. The development of the short-term bond market and underwriting practices in London[6] created a potentially higher burden on banks in case of a failed issuance or failing project, Keynes (*CW* XIII, 9–10) argues, putting a brake on the roll over of short-term credit.

However, as has been mentioned before, these factors are not the drivers of the business cycle. Keynes (*CW* XIII, 11) identifies two main reasons for the period's boom phase and the financial fragility: "an erroneous supply of opportunities for investment individually of a sound and satisfactory kind" and government indebtedness destined to military expenditure purposes. The business cycle is driven by investment decisions based on expectations of future profitability,[7] enabled and amplified by the development of credit and financial practices. This view is corroborated in two further published documents.

The first is a 1910 article published in the *New Quarterly* (*CW* XV, 44–59) in which he argues in favor of free trade, against tariffs, and against capital flight measures. In what is relevant to this current paper, Keynes identifies the main drivers of investment decisions: expectations about future yields, influenced by "fashion, advertisement or

[6] See Mikkelsen (2014) for the development of underwriting practices in the sovereign bond market in London during 1880–1914.
[7] Kregel (1977) claims that Keynes's emphasis on speculation about future profitability reflects a previous tradition in English neoclassical economists found in Marshall and Pigou. As mentioned in the introduction, an analysis of the genealogy of and various influences on Keynes's thought is outside the scope of this paper.

purely irrational waves of optimism or depression," as well as available information (*CW* XV, 46). Similar factors influence risk perception, another major determinant of investment. No mathematical relation can be made about yield–risk preferences, Keynes says. Finally, the third major economic factor is the "ease to recover invested capital," or the liquidity of investment, depending on the depth of the market. Keynes is referring mainly to a comparison between investments in the UK financial market and foreign financial assets, but the point still stands for fixed investment, as we saw above.

It is important to do a quick detour at this stage on Keynes's graduation thesis on the topic of probability, delivered the previous year and later published with some modifications as a book (*CW* VIII). In it, Keynes downplayed the conditions for numerical calculations and comparisons of probabilities. Furthermore, he had a different approach to probability than the traditional frequency theory, which deals with events. In Keynes's view, probability theory dealt with "knowledge obtained by argument" (*CW* VIII, 3) or, in other terms, with the relations between propositions. In what concerns this article, there are a few concepts to highlight. First, rationality refers to degrees of belief in propositions, not to events (*CW* VIII, 10). Second, one has to distinguish between the probability of a certain argument (based on the premises) and the "weight of the argument," or the evidence we have on which to base our argument. In his own words: "The weight, to speak metaphorically, measures the *sum* of the favourable and unfavourable evidence, the probability measures the *difference*" (*CW* VIII, 84; italics in the original). New evidence may sometimes lower the probability of an argument but can increase its weight (*CW* VIII, 77). We will return to this concept further below.

In turn, in his lectures on "Theory of Money," in 1912, 1913, and 1914 (*CW* XII), Keynes examines the ways in which the quantity theory of money manifests itself (he would later reject it). Within the scope of this paper, the main channel refers to the availability of credit, falling interest rates, increasing prices for certain securities, launching of new firms, rising prices (and the expectations of future increments), new investments, rising wages, and a higher general aggregate price level (*CW* XII, 707–17). A similar but complementary theory is presented in a lecture in the spring of 1913 (*CW* XII, 783): an increase in the gold supply stimulates borrowing because of higher inflation expectations. This can happen with a lower or even a higher interest rate.

The final issue to tackle is the policy response to the business cycle, particularly in the overinvestment phase. Keynes calls for a weakening of investment incentives. The problem is that monetary policy is, when tightened moderately, relatively ineffective because of an inelastic credit demand (*CW* XIII, 12–13). Most new finance is destined to roll over existing debt, so that it is actually in the interest of the individual banker to grant this new credit. And when monetary policy is severely tightened, banks themselves are very hurt because of the depreciation of assets on their balance sheets. The other major government policy to pursue is to influence prospective yields–risks (*CW* XV, 53).

III. MERCHANTS, EXPECTATIONS, AND CREDIT

Between August and September 1921, Keynes produced a series of five articles for London's *Sunday Times* under the general heading of "Europe's Economic Outlook." In May 1922 he also edited a "Reconstruction Supplement" for the *Manchester Guardian*, a journal for which he reported on the Genoa Conference as well.[8] The demobilization after the war had set off a deflationary period with mass unemployment, while wages had not fallen as much as prices.

The third and fourth articles printed in the *Sunday Times*, along with the introduction to the "Reconstruction Supplement," contain a new description of the business cycle with some continuity and some breaks from the 1913 piece. In these articles, the driving actors of fluctuations are merchants, middlemen, and their expectations. Writing amid a "severe cyclical fluctuation," Keynes attributed it mainly to "a bad season in Asia and the miscalculations of merchants" (*CW* XVII, 259). Merchants and middlemen interact between producers and consumers, based on expectations of rising prices, and leveraged with borrowed funds. Rising prices lead to false expectations of further inflation, increased production, rising wages, "abnormal profits," and a continuation of the cycle until stocks accumulate and the upward trend is broken. Then liquidation ensues and the process moves into reverse (*CW* XVII, 262–63 and 429–30).

[8] See Skidelsky (2003, 303–6).

It is interesting to discuss two aspects of the economic policy response to the fluctuations. The first one refers to the preferred policy response: raising the short-term nominal interest rate as the boom develops and lowering it as a recession settles. The increase should be sharp and remain at that level once-and-for-all (*CW* XVII, 263). On average, however, this short-term interest rate oscillates around the long-term real profit rate.

The second point refers to the wage policy, mostly discussed in the fourth *Sunday Times* article: "It would be as wrong to fix wages for a long period on the basis of conditions at the bottom of the slump, as it was so to fix them at the top of the boom," states Keynes (*CW* XVII, 269). Wages should move with productivity, or by taking "an extra share of the *ordinary profits* of industry" (*CW* XVII, 268; italics in the original). However, a policy that tries to *enforce* stable real wages would lead to social unrest, as Keynes was to say a few months later (*CW* XIX, 47).

Lecturing at the Institute of Bankers in November–December 1922, Keynes presents elements of this view as corroborated by contemporaneous developments in Germany (he had been there a few months before) and by the situation in the United Kingdom. Two main concepts link these lectures with the previous articles. First, the reinforcing effect of inflationary expectations by businessmen, their credit demand, and their purchases in a cyclical fashion. The same holds for a recession and a deflationary pressure. In this context, small and persistent increases in the nominal interest rate fail to reverse the fall in the real interest rate (*CW* XIX, 7–8). And again, the same holds true for the deflationary phase: the expectation of persistent deflation cannot be abated by small decreases in the interest rate.

The second element is that—precisely to put a stop to the deflationary trend—deflationary expectations *must be reversed* (*CW* XIX, 65–66). The exchange rate can be an important element in this situation, but perspectives at the time discussed an *appreciation* of the sterling pound in order to return to prewar parity, as eventually happened. Here again Keynes says that if a policy of appreciation (and deflation) is pursued, then better do it quickly and all at once rather than across a transitional period full of uncertainty (*CW* XIX, 61).

The first lecture contains a presentation of the Cambridge version of the quantity theory of money and a sketch of the analysis under that framework (*CW* XIX, 11–16), which will be dealt with more in depth in the next section.

IV. *THE TRACT ON MONETARY REFORM (TMR)*

Skidelsky (2003, 316) states that "what started Keynes on the road to the Keynesian Revolution was the incomplete British recovery from the depression of 1920 to 1922." The *TMR* (published in December 1923) gives a role to active economic policy (primarily monetary, but also fiscal) because of the diagnosis of economic fluctuations (mainly referred to as "the credit cycle").

Here again self-feeding expectations are the drivers of rising and falling prices, mainly through the work of leveraged businesses who see their proceeds increase vis-à-vis their commitments in times of rising prices, and the other way around in times of deflation (*CW* IV, 17–18). The nominal rate of interest fails to keep up with the *expected* increase in prices, and therefore the real interest rate falls in episodes of inflation, while the exact opposite happens in times of deflation (*CW* IV, 20 and 23). The self-feeding nature of inflationary and "profit" expectations is due to both psychological factors and to observed trends in economic activity. Rising prices lead to speculating about profits through asset holdings, converting "the business man into the profiteer" (*CW* IV, 24). But in its initial phases, both upward and downward expectations are realized and reconfirmed. The fear of deflation leads to selling stocks and seeking refuge in money or financial assets, strengthening the deflation (*CW* IV, 34).

Keynes used the Cambridge version of the quantity equation to explain why and how economic policy should step in to counter these fluctuations. The Cambridge equation, as presented in the *TMR*, is:

$$n = p(k + rk') \qquad (1)$$

where n is the quantity of cash, p is a price index, k is the consumption unit equivalent that people are willing to hold to meet an expected flow of expenditure, k' is the

consumption unit equivalent people are willing to hold in deposits for the same purpose, and *r* is the proportion of cash reserves held by banks out of those deposits. In long-run equilibrium, the proportion of extra income people want to hold in cash equals the proportion of extra income they want to spend or invest (*CW* IV, 64). But outside that equilibrium, no exact relation can be argued between *n* and prices: "The characteristic of the 'credit cycle' (as the alternation of boom and depression is now described) consists in a tendency of *k* and *k'* to diminish during the boom and increase during the depression, irrespective of changes in *n* and *r*" (*CW* IV, 67). Self-feeding expectations of inflations lead to increased borrowing and investing, while deflationary expectations lead to money hoarding. The movement of *k* and *k'* "depends on the mood of the public and the business world," and its control by economic policy is indirect; authorities do have control over the desired counteracting movement of *n* and *r* (*CW* IV, 68–69).

The Treasury's *financing policy* coupled with the central bank's control of the bank rate is capable of controlling credit creation (*CW* IV, 144–48) with the primary objective of stable prices. No discussion is made of *fiscal* policy. Other goals can be taken into account but should not override this principle. There are two major qualifications to this statement. First, banks may oppose the policy, eventually delaying or thwarting its efforts (*CW* IV, 145). Second, open-economy considerations may get in the way of the bank rate mechanism. Capital flows react faster than home prices to changes in the interest rate, particularly in a floating exchange rate system, as in the immediate postwar period (*CW* IV, 129–32). If a dilemma arises between the objectives of price stability and exchange rate stability, Keynes was firmly on the side of the former (*CW* XIX, 118).

In the months after the publication of the *TMR*, Keynes delivered speeches and participated in panels presenting the book's argument, for instance, at a conference organized by the League of Nations and at the Royal Economic Society's annual meeting. In terms of argument, what he adds in these speeches is a further emphasis on the power of economic policy to influence the *expectations* of price movements in either direction (*CW* XIX, 190). In modern terms, authorities would be "building credibility" so that future actions to counteract fluctuations would need to be less drastic.

In May 1924, however, a change of tone is noticeable in Keynes's writings, for instance in two articles published in *The Nation*. While references to saving and investment were barely present in the *TMR*, in these articles Keynes states that the credit cycle (influenced by monetary policy) is no longer behind the movements in unemployment, but instead it is a lack of investment to keep up with savings (*CW* XIX, 221 and 226). There is renewed talk of a "lack of supply of home investment involving new capital expenditure" (ibid.). Keynes supports therefore a massive plan of public investment to mobilize employment and resources that were lent abroad.[9] "Prosperity is cumulative" was the leitmotiv of this change (*CW* XIX, 220), an idea that will reverberate through his future work, notably the *TM* [10]

V. *THE TREATISE ON MONEY (TM)*

The writing of the *TM* was a long and tortuous journey for Keynes, starting with the first table of contents written in July 1924 and ending with its publication in October 1930. Drafts and articles produced during this time show the evolution of his theories, including his views about the business cycle. The analysis of the credit cycle started to occupy a larger proportion of the development of his theory. The main novelty of his "new book" was to be the explanation of the generation of the credit cycle (*CW* XIII, 21). In the early drafts of the table of contents, seven chapters were on the "explanation and cure of the credit cycle" (*CW* XIII, 17).

In these early beginnings, Keynes began to recast his *TMR* argument in terms of the saving–investment mechanism. This was a period of continuous debate with Dennis Robertson, who was about to publish his book, *Banking Policy and the Price Level* (Robertson 1926), with a generous recognition of Keynes's comments and suggestions. Writing in early 1925, Keynes states that businessmen's improved expectations must be accompanied by liquid savings for investing in working capital (more than the demand for liquidity/finance for fixed capital) if a recovery is going to take place (*CW* XIII, 23).

[9] Skidelsky (2003, 344) credits these articles as the first time that Keynes proposed or supported a public works program.
[10] See Hirai (2008) for a study on the transition of Keynes's thought from the *TMR* to the *TM* and then to the *GT*. The transition from the *TMR* to the *TM* is presented in chapter 4.

Overinvestment is one of the likely explanations of a crisis. In May 1927 there are the first traces of what would be the theoretical framework of the *TM*, the "fundamental equations." The argument is presented in some speeches, writings, and in his contributions to the Macmillan Committee (such as *CW* XIX, 761–66; *CW* XIII, 52–59; *CW* XX, 72–85). Keynes finished working on the *TM* on September 14, 1930; the book was published on October 31.

The core of the *TM's* theory is expressed in its two "fundamental equations"—two identities about the dynamics of consumption goods prices and "prices of output as a whole"—and the behavioral assumptions that drive the variables in them. His main focus in the *TM* was on prices and not on the level of output (*CW* XIII, 145). There are two equations because Keynes distinguished between the price level of consumption goods and the price level of investment goods (*CW* V, 121–24). He also distinguished between income or costs (calculated at normal rates of remuneration) and consumption spending plus saving corresponding to the nominal value of output. The difference between what the consumption goods or the investment goods sectors sell and their costs (again, taking into account only the normal rate of profit, i.e., that which leaves entrepreneurs with "no motive either to increase or to decrease their scale of operations" [*CW* V, 112]) represents "profits" and is *not* included in income nor savings.

Consumer price inflation is driven by the equalities and discrepancies between the sectoral allocation of output between consumption and investment (a decision made by entrepreneurs) and the allocation of income (mainly but not exclusively by workers) between consumption and savings (*CW* V, 123). When what is produced in the form of investment goods differs from the portion of income that is saved, then there are profits (in the sense defined above) and the price level is altered. Furthermore, if capitalists spend some of their income on consumption, their profits increase and their wealth is not diminished. While on the contrary, if capitalists cut back on their consumption (in order to increase their savings) their losses will cumulate. These are what Keynes called the "widow's cruse" and "Danaid jar" paradoxes, respectively (*CW* V, 125).

The price of investment goods, however, is governed by different motives. It reflects the prospective yield, the rate at which this future yield is capitalized, and the rate at which the desires of the public to hold their savings in the form of banking deposits (relative to

securities) matches the banks' willingness to create those deposits and acquire their discarded securities (*CW* V, 128–29 and 180). The public's portfolio preferences are indicated by the state of "bearishness." The natural rate of interest is that at which the value of new investment (i.e., the spending on new investment) equals the cost of production of new investment and the volume of current savings (*CW* V, 137).[11] At this point, profits are zero and the price level of consumption goods is in equilibrium.

Starting from a position of equilibrium with prices yielding the normal rate of profits (and therefore with zero "profits" in Keynes's sense of the term), Keynes classifies the sources of disruption of equilibrium into three big groups: changes due to monetary factors; changes due to investment factors; and changes due to industrial factors. Within each group, different types of shocks may happen. Table 1 sums them up.

Table 1: Types of Disturbance of Equilibrium in the *TM*

Type of change	Cause
Changes due to monetary factors	1. Changes in money supply different from the trend in economic activity
	2. Changes in speculative demand for money
	3. Changes in transaction demand for money due to changes in velocity of circulation
Changes due to investment factors	4. Changes in the market rate of interest due to alterations in credit
	5. Changes in the natural rate of interest due to changes in the incentives to invest and/or to save
	6. Changes in the market rate of interest necessary to compensate external disequilibrium
Changes due to industrial factors	7. Changes in the volume of output
	8. Changes in labor costs

Source: Author's elaboration based on Keynes (*CW* V, 232–33).

"Changes of type IIB [5 in the above] … correspond, I think, to what is usually discussed under the designation of the *credit cycle*" (*CW* V, 233: italics in the original). The credit cycle may materialize in numerous ways, but it generally arises through variations in the rate of investment rather than in the rate of savings. It can involve a

[11] Smith (1984, 204) states that the concept of the natural rate of interest in the *TM* is of a different nature to Wicksell's natural rate, because in the *TM* it has a wholly monetary nature, while in Wicksell it applies to a nonmonetary economy. In the *TM*, the natural rate of interest is influenced by portfolio decisions, by the money supply, and by pure monetary expectations of profits.

shift in the production of consumption goods toward the production of capital goods with the same level of output or, more commonly, an increase in the production of capital or consumption goods that brings about an increase in output and employment (*CW* V, 252–53). In all three cases, they are ignited by the expectations of profitable new investments—that is an increase in the natural rate of interest (*CW* V, 271)[12]—because of new inventions, an increase in asset prices, or cheap money, etc. It usually starts in the context of unemployed factors and it usually requires "the acquiescence of the banking authorities" (*CW* V, 256). After some point, it brings about a redistribution of income toward producers (at the expense of wage earners), increasing profits (in the sense described above) and further stimulating an increase in output. But sooner or later wages will start to rise, new output will flow into the market, and prices will fall (as do profits) while the bank rate increases. Bearish sentiments in producers and speculators then drive output, prices, and profits down (*CW* V, 260). One factor is that for some producers their increased level of production, happening at decreased efficiency (productivity), can only take place if there are "profits" (in the *TM* sense), otherwise they have to cut back on output and employment.

This typical course of the cycle assumes no policy reaction of behalf of authorities. Policies must be directed toward the control of the investment rate (*CW* VI 189). Conscious control of investment must go through banking policy because it's the banking system that is the enabler or disabler of investment (*CW* V, 251). The main instrument in the monetary authorities' control is the short-term interest rate, which strongly influences the long-term interest rate, the main variable for controlling (mainly fixed) investment (*CW* VI, 315–16). This is partly due to investors' sensitivity to their immediate experience and their lack of knowledge about the more distant future (*CW* VI, 322–23). The ignorance of the future and the reliance on "the present and the recent past" for projecting future conditions are already present in the *TM* (*CW* VI, 323) and will be a recurrent theme in the *GT*.

[12] Keynes's description of entrepreneurs' behavior in the *TM* is worth quoting: It is "in fact mainly governed by current experience supplemented by such broad generalisations as those relating to the probable consequences of changes in bank rate, the supply of credit and the state of foreign exchange" (*CW* V, 144). A very similar description is offered in the *GT*.

However, because of more volatile fluctuations in the natural rate, interest rate policy tends to react to price changes instead of leading them. But there is another nonprice instrument monetary authorities can use: tightening or loosening credit restrictions and credit rationing, via "terror, agreement and convention" (*CW* VI, 328). In more acute conditions, the central bank can directly acquire long-term securities and bring down the long-term interest rate. In a closed system, monetary authorities have the weapons and the power to influence new investment so as to tame or attenuate the business cycle. The main complications are of an international order. When external equilibrium (and the interest rate required to maintain it) stands in the way of internal equilibrium (the equality between domestic investment and savings), monetary authorities must sacrifice one of the two.[13] Moreover, this incompatibility may arise not only out of divergence in competitiveness between countries, but also through differences in the "demand schedule for borrowers," something very similar to what in the *GT* Keynes calls "the liquidity preference curve" (*CW* V, 314). When international equilibrium causes domestic disequilibrium, particularly in a slump, then it is the role of government investment to subsidize investment or carry out its own investment programs (*CW* VI, 337). This is a more elaborated version of the idea put forth in May 1924 to defend public investment. Now, discrepancies between internal and external equilibrium arise not merely because of divergences in wages, but also in financial conditions, and it is the role of the government through its investment policy to pick up the slack. The evolution of Keynes's thought on the matter will reinforce the importance of controlling the investment rate, and demonstrate a vanishing faith in the power of the interest rate and monetary policy to be effective instruments in that fight and an increasing reliance on fiscal policy (and mainly public investment) to perform that task.

VI. BUSINESS CYCLES IN THE PATH TO THE *GENERAL THEORY (GT)*

The transition from the *TM* to the *GT* has been thoroughly scrutinized, for instance with the works mentioned in footnote 2. For the purposes of this paper, the exact dates of this transition are not relevant. However, there are significant elements in this transition that are relevant for Keynes's theory of the business cycle that we want to review in this

[13] See Crotty (1983) for Keynes's arguments in favor of capital controls.

brief section. In June 1931, Keynes gave a set of lectures in the United States. Three of these lectures constituted what are known as the "Harris Foundation Lectures" on the analysis of Great Depression.[14] The explanation was set within the framework of the *TM*, as well as policy proposals. The main characteristic of the boom years previous to the crash of 1929 was "an extraordinary willingness to borrow money for the purposes of new real investment at very high rates of interest" (*CW* XIII, 345). It was a construction boom, but in which savings had reasonably kept up with investment and not much inflation had developed. The Great Depression was therefore a matter of falling investment. A too-high interest rate had ignited a fall in investment even prior to the crash in October 1929. The fall in investment had a cumulative negative effect on profits at a time when the Fed was raising interest rates. This depression would most likely reach a stopping point at a low level of output (*CW* XIII, 356). That means in the Harris Lectures, Keynes hinted at the possibility of an underemployment equilibrium, or at least a long-lasting position with below full-employment levels of output. A few months later, in September 1931, that conclusion was explicit (*CW* XIII, 373–74).[15]

Second, by March 1932 he had accepted the necessary equality between saving and investment, "bowing the knee" to the criticisms by Hawtrey, F. A. Hayek, and Robertson (*CW* XIII, 275). Already in 1931 he had expressed that if the concept of "profits" was to be abolished and lumped together with saving then the latter would *always* be equal to the volume of investment (*CW* XIII, 235). However, when accepting the necessary equality between saving and investment, Keynes counterattacked the "classical theory." For he says that "the old 'common sense'" view supposes that "a decreased expenditure in consumption leads (ceteris paribus) to an increase in [the value of current investment]" (*CW* XIII, 278–79). And this is where the old view fails, for a decrease in consumption expenditure does not necessarily lead to an increase in investment, but rather to a fall in output, leaving savings and investment unaltered

[14] On the Harris Lectures, see Kent (2004). He argues that the second lecture published in *CW* XIII was *not* the lecture Keynes gave. I thank Jan Kregel for bringing this article to my attention.
[15] The full analysis of the transition between the *TM* and the *GT* is beyond the scope of this paper. However, this visit to the United States had a profound impact on Keynes, who became much more pessimistic about the possibilities for a recovery, led at least by the US. Furthermore, his analysis of the state of the US banking system has a remarkable similarity with the description of a "liquidity trap" cum debt-deflation theory (see the memorandum entitled "A note on economic conditions in the United States," [*CW* XX, 561–88]; see also *CW* [XXI, 40] and Bibow [2020, 27–29] for an analysis of the above-mentioned memorandum). I therefore agree with Skidelsky (2003, 480) when he says that in Keynes's mind "America replaces Britain as the example *par excellence* of the distressed economy." The 1931 US visit was largely responsible for this change.

(ceteris paribus). In fact, this argument merely flowed from the widow's cruce analogy mentioned before. Fluctuations are no longer caused by disparities between saving and investment.

Rather, fluctuations are due to the character of a monetary economy (*CW* XIII, 408–11). By that, Keynes means an economy and a monetary theory of production, in the sense that money is not neutral. Keynes specifically sets apart this theory from those in which fluctuations have a monetary character.[16] In his lectures, Keynes defined a monetary economy as one in which "money affects motives and decisions so that monetary policy in the short and long run is essential to prognostication" (Rymes 1989, 47). The monetary character affects long-period positions and monetary policy has a lot to say in that regard (Rymes 1989, 73). The explanation of the business cycle in those lectures (particularly in 1934) already has the shape of the theory presented in the *GT*, and we turn to it in the next section.

VII. *THE GT* AND AFTER

Though subject to severe fluctuations, Keynes expresses in the *GT* that the economy "whilst it is subject to severe fluctuations in respect of output and employment, it is not violently unstable" (*CW* VII, 249), which leaves room for theories of the business cycle. The business cycle is also marked by a downward turning point, the crisis, but not by an equivalent upward turning point. The system can remain in a subdued position for an extended period of time. The business cycle is caused by cyclical changes in the marginal efficiency of capital (MEC) and the crisis is explained by a sudden collapse in MEC (*CW* VII, 313–15). It is therefore necessary to dedicate some space to explaining this concept and its determinants.

The MEC is the rate of discount that equalizes the prospective returns on investment to its replacement cost (*CW* VII, 135). In that sense, it is a *monetary* rate. The expectation

[16] See Hagemann (2002) for a compilation of articles contemporaneous to Keynes on monetary theories of the business cycle. The compilation includes a particularly interesting article discussing the validity of equilibrium analysis for a study of the business cycle by Adolph Löwe, with arguments also presented in Löwe ([1926]1997). See also Hagemann (1999) for a development of business cycle theory in German in the first decades of the twentieth century.

of prospective returns is formed on the bases of current circumstances, unless there are reasons to expect a change (*CW* VII, 148). Expectations have a precarious bs, led not only by observation of others and fashions, but also institutional developments such as liquid financial markets, business management practices, etc. However precarious these bases are, they may well be stable and long-lasting as long as the conventions that uphold them remain unchanged. There is the problem that these conventions can change violently and abruptly, and confidence is not easy to restore. Precisely because of these characteristics, Keynes argued the business cycle was one of the "worst cases" to test econometrically because of the data's lack of homogeneity (*CW* XIV, 286–94).

Keynes explicitly puts in quotations marks that the business cycle is driven by "errors of optimism and pessimism" (*CW* VII, 321–22). The later stages of the boom phase are characterized by profit expectations that "are destined to disappointment" (*CW* VII, 321). An investment that would yield 2 percent in a full employment situation is carried out on the expectations of 6 percent yield. One major cause of these overoptimistic expectations is the low estimation of risk by the businesses borrowing and banks lending (*CW* VII, 145). Disappointment fosters pessimism in the opposite direction, discouraging investments that could have a positive yield. Paralysis eventually validates this self-fulfilling prophecy. Furthermore, the crisis leads to increases in liquidity preference[17] and a counteraction of lowering interest rates by the monetary authority. In his 1937 article in the *Quarterly Journal of Economics*, however, the talk is not about "errors of forecast," but rather about the "flimsiness" of the forecasts: "the fact that our knowledge of the future is fluctuating, vague and uncertain" combined with the "necessity for action" (*CW* XIV, 113–14). The influence of present circumstances and present opinions in the formulation of future expectations leaves the door open to sudden and violent changes. It is not a matter of irrational investors in the now-traditional sense of the word (i.e., systematic errors). Even if proven mistaken, the basis for a rational calculation does not exist and judgements are conventional (*CW* XIV,

[17] The definition of liquidity preference and the schedule of liquidity preference in the *GT* (*CW* VII: 167-171) are very similar to the definition of the "state of bearishness" in the *TM* (*CW* V: 128). While in the *GT* the liquidity preference curve relates the rate of interest to a given quantity of money, in the *TM* "it is the result of the sentiment of the public and the behaviour of the banking system" (ibid.). This connection seems to contradict Keynes's own reconstruction of the evolution of his thought expressed in a letter to Harrod (*CW* XIV, 85), in which the realization of the interest rate "as being the meaning of liquidity preference" came *after* his realization of the principle of effective demand. The role of the banking system is recovered by Keynes in the article "The 'ex ante' theory of the rate of interest" (*CW* XIV, 215–23).

114). The recent and present experience reinforces current trends in one or other direction. Furthermore, these fluctuations in sentiments affect not only yields expectations but also liquidity preference, reinforcing each other in the boom and in the slump.

There is a return, in that regard, to his writings from the early 1900s, such as the *Treatise on Probability*, and through the mid-1910s. The similarities with the 1913 explanation are paramount (see section II above). Writing in 1931 after his trip to the United States, Keynes explained the 1927–29 boom there as a situation in which "the readiness… to agree to pay rates which, cautious calculation should have shown, could not be earned by the enterprise" (*CW* XX, 573).

The length of the downward phase is influenced by the lifecycle of capital assets, by the time required to get rid of stocks, by the reduction in working capital, and by a fall in the propensity to consume. A falling MEC and a rising liquidity preference leads to lower stock exchange prices and a negative wealth effect, with a consequent impact on consumption. Regarding policy solutions for the downward phase, one proposal is to increase the propensity to consume. Another solution would be a socialization of investment, in which the state takes over the aggregate organization of investment (still carried out through private companies) so as to avoid the damaging effects of an unstable MEC. What is *not* a good solution is a higher interest rate, for it deters investment that may, under reasonable circumstances, be profitable. The solution is not to abolish the boom, but rather to maintain it (*CW* VII, 322). But how was a boom going to be managed?

Keynes analyzed economic management in situations near or at full employment in two works after the publication of the *GT*. In "How to Pay for the War" he devised methods of economic management for during a war and a postwar economy (*CW* IX, 367–439). But a war is not a product of any cyclical behavior. In "How to Avoid a Slump," published in January 1937, he developed an analysis of economic stabilization (*CW* XXI, 384–95). Both writings are traditionally taken as presentations of Keynes's support for countercyclical fiscal policy. In the latter, Keynes expresses his disagreement with further fiscal stimulus in a situation close to full employment and argues in favor of a disaggregated and regional approach to fiscal policy. He states that

accelerated rhythms of expansion lead to increasing profit expectations, which are liable to be disappointed (*CW* XXI, 387). But what is also striking is his emphasis on *sustaining demand* and preventing recessions before depressing influences gather force: "Too much alarm about a hypothetical boom will be just the way to make a slump inevitable" (*CW* XXI, 392). And for that, Keynes favored adequate investment planning,[18] with a scheme of available projects to be deployed at the earliest signs of sluggishness.[19] What should be avoided is playing with short-term interest rates to deter the boom, because it leads to higher long-term interest rates, discourages investment, and is difficult to reverse.

Finally, one should also mention the use of commodity buffer stocks at the national and international levels as another measure to smooth income and trade fluctuations (*CX* XXI, 466–70).[20] At the international level, a buffer stock would alleviate the pressure of falling demand in commodity-producing countries—a reaction to lowered demand in industrial economies. Vice versa, buffer stocks would prevent rising commodity prices and speculations in the boom phase, reducing the transmission of business cycles from one country to another (*CW* XXVII, 121).

VIII. CONCLUSION

The emphasis Keynes puts on the precariousness of forming expectations about the future in the *GT* was present throughout his academic work. It is an ontology, a "vision" in Schumpeter's (1954) terms, that remained unshakeable in his experience of booms and depressions, and was in fact strengthened by it. However, Keynes was brought up in an economic tradition that did not suit this ontology well. Pro-laissez-faire bias, belief in the inherent adjustment forces of the market, analyses assuming certainty-equivalent knowledge by agents, and theories where money was superimposed on a framework of barter economies were ideologies and epistemologies that conflicted with Keynes's ontology. Therefore, he took a long route of escape from these "modes of thoughts and

[18] See as well *CW* XXVII (p. 361), where Keynes manifests his preference for stimulating investment over stimulating consumption for dealing with short-term cyclical fluctuations.
[19] See Bortz (2017) for an analysis of social conflict and its relevance for policymaking in Keynes's theories.
[20] On Keynes's proposals for buffer stocks, see Dimand and Dimand (1990) and Fantacci et al. (2012).

expressions" (*CW* VII, xxiii). How far away he got is a matter of debate. This paper traces this route, focusing on his analysis of the business cycle from his early beginnings as an economics professor to the days when he tried to ger rid of these old ideas.

Table 2: Distinctive Elements of Keynes's Theories of the Business Cycle

YEARS	DRIVER	S-I	BANKING SYSTEM	MONETARY POLICY	FISCAL POLICY
1913 (Political Economy Club paper)	New inventions, waves of confidence	Not always equal, difference lies in lending capability of banks	Moral hazard & adverse selection; financial innovations foster liquidity and overinvestment	Not discussed. Solution is to curb investment	Not discussed
1921 (*Times – Guardian*)	Mistaken expectations by merchants	Not always equal	Accommodative in booms, restrictive in recessions	Effective and powerful.	Not discussed
1923 (*TMR*)	Changes in disposition of public to save/invest	Not always equal	Idem, affecting saving/investment decisions	Effective but not always. Also important via quantity adjustments	Not discussed. Importance of influencing confidence
1930 (*TM*)	Changes in natural rate	Not always equal	Decisive. Active rate/rationing affects investment decisions (more than savings)	Relatively powerful, but not always, and not in open economy context	Important in depressions
1931 (Harris Lectures)	Changes in the rate of investment	Not always equal	Decisive. Accommodative in booms and restrictive in recessions.	Necessary but not all too powerful	Public investment important in depressions
1936 (*GT*)	Cyclical changes in MEC	Necessarily equal	Important	Problematic, perhaps counterproductive	Decisive. Public investment.

Table 2 summarizes the different stages in the development of his business cycle theory. From this analysis, I conclude that the driver of the business cycle remained essentially the same: expectations of future profits leading investment decisions that are bound to disappoint (notwithstanding their rational character) feeding back on themselves. What changed was the theoretical (epistemological) framework in which Keynes conducted his analysis. This change had a significant influence on the policy approach to dealing with fluctuations. Furthermore, policy recommendations, notably with regards to monetary policy, took into account the developments in financial markets. The objective of persistently low long-term interest rates, with a scheme for public investment to be

deployed and retracted as fluctuations commanded, became the backbone of Keynes's approach to economic management. These ideas enslaved (with partial and fluctuating force) practical people and those in authority for decades to follow, and still do up to this day.

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