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PRAGMATISM AND PROBABILITY: RE-EXAMINING KEYNES'S THINKING ON PROBABILITY

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As we celebrate the centenary of John Maynard Keynes's Treatise on Probability *(1921), we are still faced with unresolved, fundamental questions about his foray into the philosophy of probability. One of these unresolved questions concerns whether Keynes (1931) later changed his mind in response to intense criticism from Frank Ramsey (1922, 1931) and abandoned the logical theory of probability. This essay draws from Cheryl Misak's recent biography of Frank Ramsey (2020) to argue that Ramsey had an even wider influence on Keynes's work than has been recognized, and that this influence was not just on his philosophy of probability but also on his economics. Understood in this fuller context, it seems even more clear that Keynes embraced and built upon Ramsey's subjective theory of probability in* The General Theory of Employment, Interest, and Money *(1936).*

I. INTRODUCTION

As we celebrate the centenary of John Maynard Keynes's *A Treatise on Probability* (1921), we are still faced with unresolved, fundamental questions about his foray into the philosophy of probability. One of these unresolved questions, perhaps the most fundamental one, concerns whether Keynes (1931) later changed his mind in response to intense criticism from Frank Ramsey (1922, 1931) and abandoned the logical theory of probability he had advocated in *Probability.*[1] The purpose of this essay is to argue that Ramsey had an even wider influence on Keynes's work than has been recognized, and that this influence was not just on his philosophy of probability but also on his economics. Understood in this fuller context, it seems even more clear that Keynes

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[1] For several quite different arguments that Keynes did not change his theory of probability in response to Ramsey's criticism, see Carabelli (1988), O'Donnell (1989), and Runde (1994). For the argument that he accepted Ramsey's criticism and rejected the logical theory of probability that he had propounded earlier, see Bateman (1987, 1996).

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embraced and built upon Ramsey's subjective theory of probability in *The General Theory of Employment, Interest, and Money* (1936).

This essay builds on two recent interpretations of Keynes's work, which come from quite different perspectives. The first perspective is Robert Shiller's argument that Keynes was a narrative economist. Shiller (2019) opens with a clear and convincing argument that Keynes was a narrative economist, but his argument is limited to Keynes's writing in *The Economic Consequences of the Peace* (1920). Shiller's argument never considers Keynes's works in theoretical economics, especially his three famous works of monetary economics: *A Tract on Monetary Reform* (1923), *A Treatise on Money* (1930), and *The General Theory* (1936). An examination of these works of theoretical economics, however, demonstrates that Keynes was not always a narrative economist; after *The Economic Consequences of the Peace*, when Keynes turned to economic theory, there is a significant lacuna during which his work cannot be characterized as narrative economics.

The second perspective from which we draw is Cheryl Misak's recent work on Frank Ramsey. To explain Keynes's evolution from a more narrow and traditional form of doing theoretical economics in the *Tract* and the *Treatise,* to his incorporation of popular narratives in *The General Theory*, we draw heavily upon Cheryl Misak's recent work on the ways that Ramsey was shaped by (and shaped) his Cambridge contemporaries. Misak's exposition of the pragmatist influence in Ramsey's thinking demonstrates a pathway through which Keynes was able to include narratives in his theoretical work.

II. KEYNES AS A NARRATIVE ECONOMIST

In his recent book *Narrative Economics*, Robert Shiller identifies John Maynard Keynes as being a notable early practitioner of narrative economics. To understand Shiller's argument about Keynes, it is first necessary to understand what he means by "narrative economics" and, hence, what a narrative economist does. One might assume, for instance, that Keynes is a narrative economist because he was one of the greatest English prose stylists of the twentieth century.[2] Likewise, one might assume that Shiller means that Keynes was not a particularly aggressive user of mathematics in his economics, choosing instead to create narrative explanations of economic events. If you thought either of these things, you would be wrong.

Both of these assumptions are wrong because narrative economics is not about the creation of new narratives by economists; instead, Shiller defines "narrative economics" as the study of the popular narratives that drive actual economic events. Therefore, a narrative economist is someone who studies the narratives that other people use, not someone who creates narratives. Thus, Keynes was a narrative economist not because of *his own* narratives but rather because he explained the economic consequences of *popular* narratives.[3]

[2] Davenport-Hines (2015, p. 335) notes that Lionel Robbins felt that "[o]nly Churchill surpassed him …; but Keynes achieved his effects without the Prime Minister's grandiloquence."

[3] Shiller (2019, p. 81) asserts as one of his seven propositions of narrative economics that "important economic narratives may compromise a very small percentage of popular talk." Thus, "popular" narratives do not need to be ubiquitous, or even common, although the one that Shiller uses to qualify Keynes's being a narrative economist was both ubiquitous and common.

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Somewhat surprisingly, Shiller makes no use of any of Keynes's well-known trilogy in monetary economics, *A Tract on Monetary Reform*, *A Treatise on Money*, or *The General Theory of Employment, Interest, and Money*, to illustrate his argument that Keynes is a narrative economist. He relies instead solely on *The Economic Consequences of the Peace.*

> In his 1919 book *Economic Consequences of the Peace*, Cambridge economist John Maynard Keynes predicted that Germany would become deeply embittered by the heavy reparations imposed by the Versailles treaty ending World War I. Keynes was not the only person to make such a prediction at the end of the war; for example, the pacifist Jane Addams led a campaign for compassion for the defeated Germans. But Keynes tied his argument to evidence about economic reality. Germany was indeed unable to pay the reparations, and he was correct about the dangers of forcing Germany to try. Keynes predicted how Germany would likely interpret the reparations and the associated clause in the treaty asserting that Germany was guilty of war crimes. *Keynes's insight exemplifies narrative economics because it focuses on how people would interpret the story of the Versailles treaty given their economic conditions.* (Shiller 2019, p. xvii; italics added)

Shiller goes on to explain that not only did the embittered narrative Keynes described spread in Germany, it helped lead to another major conflagration and massive economic destruction.

Shiller does not explore the origin of the embittered narrative; likewise, he does not explore the question of how the narrative spread. These are odd omissions since far and away the greatest part of *Narrative Economics* is empirical analysis of the spread of certain words (and phrases) in the popular media, books, and scholarly publications.[4] Keynes's book sold very well around the world, so it is not impossible to imagine that Keynes helped to spread it; but all the historical accounts of his role at Versailles, whether in formal negotiations or in his travels to Germany while the negotiations were taking place, suggest that he sensed the German narrative already forming in the truculence, despair, and disappointment he encountered *before* he wrote his book. And, of course, to be true to his own definition, Shiller needs Keynes to be reporting on the narratives of others, not inventing new narratives of his own. Keynes seems to have become a narrative economist by selecting a nascent popular narrative that he heard emerging and correctly predicting that it would grow in force and importance.

For Shiller's purposes, however, it does not matter the exact origin of an emerging popular narrative that would be transformed into a particularly destructive force in European history. What matters for our purposes is that by limiting himself to discussing Keynes's work in an early piece of his that is not normally considered a work of economic theory, Shiller highlights the questions of whether, how, and why Keynes incorporated narrative into his work as an economic theorist.

[4] Shiller's two primary means of studying the spread of narratives are "Pro Quest News and Newspapers (proquest.com), which allows online search of newspaper articles and advertisements back to the 1700s," and "Google Ngrams (books.google.com/ngrams), which allows users for word and phrases in books all the way back to the 1500s." Shiller uses these sources to document narratives that spread contagiously (exponentially).

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III. THINKING ABOUT THE *TRACT* AND THE *TREATISE*

As noted, Shiller does little more in his book with the idea of Keynes as an exemplar of narrative economics than is conveyed in the passage above. Why Shiller fails to examine Keynes's works in monetary theory is unclear, for not only does he not examine Keynes's trilogy, he says nothing about the omission. But in the case of the *Tract* (1923) and the *Treatise* (1930), the reason may be that Keynes does not argue in either book like a narrative economist. Instead, he argues in both books much more like a traditional economist, which is to say he uses *economic theory* (as opposed to popular narratives) to explain real world events for his readers.[5]

Thus, for instance, he explains at length in the *Tract* (Chapter 2) how inflation works as a tax reducing the public debt; and he explores at even greater length (Chapter 3) how the quantity of money in circulation can affect the price level. At every turn, he seems to be sharing economists' specialist knowledge with his reader, not explaining how popular narratives affect economic behavior. And this makes sense since the book is drawn from essays he wrote for the *Manchester Guardian Supplements* that he had edited the previous year. The *Supplements* are part of an effort to explain the economic disorder of postwar Europe to a general public; they are "economics for the masses," as it were.

Because the *Tract* deals with contemporary events in Europe at a time when hyper-inflation had taken off in several countries, it would seem that Keynes had many popular narratives from which to draw. Some of these narratives are still extant, such as the habit of paying for meals at the time one orders, rather than at the end of the meal, because the price would rise while one ate. Perhaps the closest that Keynes comes in the *Tract* to explaining how people would react to inflation because of their economic conditions is in Chapter 1 when he explains entrepreneurs' responses to changes in the price level. Faced with the reality that they will be able to sell their products at rising prices during a period of inflation, Keynes argues that entrepreneurs will help create a "cumulative" (1923, p. 42) effect on prices as they expand production: "If prices are expected to rise and the business world acts on this expectation, that very fact causes them to rise for a time and, by verifying the expectation, reinforces it; and similarly if it expects them to fall. Thus a comparatively weak initial impetus may be adequate to produce a considerable fluctuation" (1923, p. 42).

What Keynes provides here is *not*, to paraphrase Shiller, an explanation of how people would interpret the story of inflation, given their economic conditions. Keynes is not talking at all about how stories about inflation affect people and become contagious; he is rather elaborating on a *theory of individual optimization* (profit maximization) to create an account of self-fulfilling expectations. What we have in the *Tract* is *homo economicus* writ large, not a study of how popular narratives work in the economy.

Keynes continued to write and reason like a traditional theoretical economist in the *Treatise*. His primary theoretical development in the book is his Fundamental Equations, derived from the equation of exchange (MV=PT); but despite the fact that the equations

[5] There is an infinity of reasons why Shiller may not have examined whether Keynes's work in economic theory can appropriately by labeled as "narrative economics." But one simple answer may be that "Keynesian economics," as defined by the IS-LM model and its subsequent econometric estimation, is definitely not narrative economics in Shiller's sense of the term. This allows Shiller to avoid completely questions about the relationship (or lack of) between Keynes's own work and what came to carry his name.

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are tautologies that do not themselves rest on any firm behavioral assumptions, Keynes generates explanations that depend on very traditional optimizing behaviors, such as profit maximization. Thus, for example, he develops a concept he terms "Profit Inflation" to describe the situation when profits are rising because investment is greater than savings.[6] His concept of profit deflation works exactly the other way around; profits are falling because savings exceed investment.

In the *Treatise*, Keynes does not identify stories (popular narratives) that drive the economy. His method is to define rational economic behaviors and to use these behaviors to explain how the economy works. In fact, Keynes argues so closely from his Fundamental Equations in the *Treatise* that Don Patinkin (1976, p. 53) refers to him as employing a "magic formula mentality." Peter Clarke (1988, p. 313), likewise, refers to Keynes's use of his "magic tool kit" in the *Treatise.*

Nowhere is this more clear than in Chapter 30 (Book II), "Historical Illustrations." Here Keynes offers five case studies to demonstrate the power of his model to explain well-known episodes from economic history. Here, if anywhere, one would expect to find Keynes discussing the narratives that drove these historical events. But, alas, we find the magic formula mentality at work, not popular narratives. Beginning with the great European inflation that followed the import of gold from the New World ("Spanish Treasure"), Keynes illustrates the power of his model to provide a new understanding of what happened. To the modern reader, especially one unfamiliar with Keynes's new analytical framework, Keynes's explanations seem arcane and obtuse. Likewise, his sometimes awkward use of "Profit Inflations" and "Profit Deflations" to animate economic history makes it all the more clear to us today that Keynes is working in his own *theoretical* narrative (of optimizing behaviors), not explaining how *popular* narratives work to affect the economy.

IV. BEGINNING TO THINK ABOUT *THE GENERAL THEORY*

One would be hard-pressed, then, to argue that Keynes's work in either the *Tract* or the *Treatise* was narrative economics. Keynes simply does not build his analysis in either book on popular narratives or their effects on the economy. The question then arises, of course: "Is *The General Theory* an example of narrative economics?"

This answer follows easily from Shiller's book, which devotes an entire chapter (10) to "confidence theories," their nature, their history, and their power to drive economic events. "Since the early nineteenth century, a major class of narratives about confidence has influenced economic fluctuations: people's confidence in banks, in business, in one another, and in the economy. Economically, the most important stories are those about *other people's* confidence and about efforts to promote public confidence" (Shiller 2019, p. 114; italics in original).

Keynes, of course, built *The General Theory* around the argument that capitalist economies are driven up and down by animal spirits as investors fluctuate between

[6] It is worth noting that Keynes does not discuss entrepreneurs' expectations in the *Treatise* (or the *Tract*) in terms of herd behavior or animal spirits. Instead, he writes as if their expectations are reasonably accurate reflections of economic fundamentals, or "intelligent expectations." See Bateman (1996, pp. 84–89).

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confidence and panic. Finally, then, in his third book on monetary economics, Keynes returns to the use of popular narratives to explain what drives economic events.

As Shiller's analysis suggests, however, Keynes did not invent the idea that waves of confidence (and panic) cause the economy to fluctuate up and down. Alfred and Mary Paley Marshall had used this explanation of the business cycle fifty-seven years earlier in their *Economics of Industry* (1879) and had, in turn, credited the concept to Lord Overstone, who had elaborated it thirty-two years before the Marshalls. Quoting Overstone, the Marshalls explained that the economy "revolves apparently in an established cycle. First we find it in a state of quiescence, — next, improvement, — growing confidence, — prosperity, — excitement, overtrading, — convulsion, — pressure, — stagnation, — distress, ending again in quiescence" (1879, p. 153). In other words, Keynes was bringing into his analysis a popular narrative, one that was at least eighty-five years old.[7]

Now, instead of depending solely on his theoretical framework to explain economic events, he was showing how a popular narrative could *animate* the model he had built. Keynes employs optimizing behaviors to help construct his model, but there are other behaviors that drive the way his model works. He allows a plethora of human behaviors based on different understandings of the world and different beliefs about it. It is not that people are irrational but rather that they must do their best to figure out what other people think and figure out how to take advantage of that (and how it changes).

In economic terms, there is a world of difference between Overstone's and Keynes's use of the confidence narrative. Overstone depended solely on narrative; Keynes had a narrative embedded within a model. After all, Keynes had done in *The General Theory* what no one before him had done: built a model that showed how aggregate employment is determined in a capitalist economy. But then he went on to do something quite novel within that model: he showed how the behavior of the agents in that model are affected by a popular narrative. Lord Overstone and the Marshalls were narrative economists, but Keynes did this in a new way, combining an old narrative within a new model. No one had done that in the same way before Keynes.

There is an old, well-examined question, of course, regarding how Keynes built his new model of aggregate economic performance: How did he cobble together the pieces of his model of aggregate demand and aggregate supply? There are other questions, however, that must be answered to understand how Keynes came to incorporate confidence narratives into that new model.[8] Some of the questions are not difficult to answer, such as how Keynes became aware of confidence narratives; not only were they ubiquitous, but Alfred Marshall had been his tutor in economics when he studied for the Civil Service examinations and so he would have been well acquainted with them from early in his career.[9]

[7] Shiller (2019, p. 114) dates the beginning of confidence theories to the early nineteenth century in his empirical work.

[8] One genre of the literature that examines how Keynes built the model in *The General Theory* is Patinkin (1982). This is the classic "internalist" history looking at the pieces of Keynes's model and trying to determine whether he got across the finish line before others doing similar work. Another genre of that literature is Clarke (1988), in which Keynes's modeling is tracked in real time against his work in policy making to show how the development of the model was influenced by "externalist" influences.

[9] Keynes (1910) is perhaps his earliest articulation of the confidence narrative.

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One of the more difficult questions to arise hinges on Keynes's intense *opposition* to the confidence theory of the cycle in the years before he published *The General Theory.* Throughout the time that he was writing the *Treatise* and during the years that he began composing *The General Theory*, Keynes regularly dismissed the validity and importance of confidence narratives. During the time he was writing the *Treatise* and for at least two years afterward, Keynes often said, "It's nonsense to talk about confidence."[10] Not until the autumn of 1933 did he begin to show interest in the idea that businessmen's expectations were not simply "intelligent expectations" of actual economic conditions but rather something more like the unruly animal spirits that would soon come to animate his arguments in *The General Theory.* Thus, an important question is why Keynes threw over his opposition to confidence theories in late 1933.[11]

In looking for an answer, one possibility might seem to be Keynes's well-known statements (1931) in his review of Frank Ramsey's *Foundations of Mathematics* acknowledging the validity of Ramsey's criticism of his own logical theory of probability, which he had promulgated in *A Treatise on Probability* (1921). Perhaps Keynes's supposition in *Probability* that probabilities are objective and invariant across reasonable people had led him to abandon the confidence narrative? And perhaps embracing Ramsey's theory that probabilities are subjective and determined by each individual's beliefs had opened him up, after critical reflection, to the confidence narrative?

A careful study of Keynes's work in policy making suggests that his change of heart about the objective nature of probability may be only one of many possible causes for fully explaining Keynes's change of heart about the validity of confidence narratives.[12] A purely "internalist" explanation of how Keynes ultimately came to re-embrace confidence narratives ignores the considerable evidence that Keynes saw too much in his policy work to be able to continue ignoring that business confidence was actually crucial to understanding the Great Depression.[13]

This is not to say that Ramsey's new subjective theory of probability was not important to Keynes's development of *The General Theory*; it is simply to say that the historical record is richer than that. Both internalist and externalist influences matter in the story. Keynes would find a way to use subjective probabilities in *The General Theory,* but the reality of the effects of confidence he was observing in foreign exchange markets and bond markets convinced him that confidence narratives were not "nonsense" and that he needed Ramsey's subjective probabilities to build his model.[14]

[10] Hubert Henderson, writing to John Maynard Keynes, 28 February 1933. Reproduced in *JMK,* xxi (1982, p. 166).

[11] The prior question to this one is why Keynes (1910) gave up his early embrace of the Cambridge confidence theory of the cycle. Bateman (1996) explains the history of Keynes's thinking on confidence theories of the cycle.

[12] The essay by Sylvie Rivot (2021) in the symposium in which this essay appears considers the evolution of Keynes's policy advice in light of his thinking on probability and uncertainty.

[13] Keynes also had extensive experience as an investor that may have swayed him to re-evaluate the importance of the confidence narrative. For insight into Keynes's experience as an investor, see Chambers and Kabiri (2016), Cristiano and Marcuzzo (2018), Marcuzzo and Sanfilippo (2020), Westall (1992), and Woods (2013).

[14] One especially important trigger for Keynes's realization that confidence does, in fact, matter to the economy's performance was Britain's departure from the Gold Standard in 1931. Without the exchange rate and interest rates any longer being set by the government, speculative activity became central to understanding the psychology of these markets.

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V. A PRAGMATIST APPROACH TO MODELING

On Monday, 6 November 1933, Keynes delivered his fourth lecture of the Michaelmas Term. The overarching object of the term's lectures was "to find out what determines the volume of output," and we know in retrospect that this would end up being the term in which he finally made the breakthroughs on uncertainty and confidence that helped him fulfill his objective (Rymes 1989, p. 103).[15] That afternoon he would introduce long-term and short-term expectations to his model for the first time as part of his extended treatment of the definitions of the variables that constituted his rapidly evolving model, but Keynes was working at the most basic level in this lecture. He noted, for instance, that "[T]he measurement of output is very difficult" (Rymes 1989, p. 104).

Thus, it is not surprising that he began his lecture with a long disquisition on the nature of thinking and modeling. In particular, he wondered aloud for his students how one translates one's thoughts into concepts that can help others see what one is thinking.

> What degree of precision is advisable in economics? There is the danger of falling into scholasticism, 'the essence of which is treating what is vague as what is precise'. A generalisation to cover everything is impossible and impracticable. Generalising in economics is thinking by sample, not by generalization. There is no possible use of mechanical logic, you only have it for a sample case not a general case. Even mathematical thinking is not in terms of *precise* concepts but 'fluffy gray lumps', afterwards you can perhaps discover the *nature* of these 'fluffy gray lumps' although you can never write it down quite precisely (the reason for this is that you are trying to express your theory for those who cannot think).
>
> ….
>
> Many economists in making their definitions so precise, make them too rigid. This is the danger of scholasticism—a generalized case is more often a sample than a real generalization.
>
> ….
>
> Another danger is that you may 'precise everything away' and be left with only a comparative poverty of meaning.
>
> ….
>
> There is a grey, fuzzy, wooly monster of imprecision in one's head. In a complicated subject like economics the thing to do is avoid wooliness on the one hand, and scholasticism on the other. (Rymes 1989, p. 102–103).

These passages are often quoted as signature statements of Keynesian methodology. What has not been noted about them, until very recently, is that they are paraphrased nearly verbatim from Frank Ramsey's 1929 essay, "Philosophy."[16]

In her new biography of Ramsey, Cheryl Misak (2020) points to Ramsey's exact phrasing of the tension between "wooliness," on the one hand, and "scholasticism," on

[15] All of the quotations in this section from Rymes (1989) are from the lecture notes of a "representative student" that Rymes reconstructed from all the extant student notes that he was able to track down.

[16] "A decade after Ramsey's death, Wittgenstein was still talking of how Ramsey said that in philosophy one should be neither wooly or scholastic" (Misak 2020, p. 277).

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the other, in his own discussions of how to translate one's thoughts into concepts that others can easily understand. Ramsey, of course, was talking about doing philosophy and Keynes was talking about doing economics, but the echo is clear. "The chief danger to our philosophy, apart from laziness and wooliness, is *scholasticism*, the essence of which is treating what is vague as if it were precise and trying to fit it into an exact logical category" (Ramsey 1990, p. 7; italics in the original).[17]

But did Keynes know Ramsey's essay? In fact, he did. The essay is the first chapter of Ramsey's *Foundations of Mathematics* (1931), the posthumous collection of his work, which Keynes (1931) had reviewed. Ramsey's volume also contains Ramsey's famous essay "Truth and Probability" (1926) in which he critiqued Keynes's objective, logical theory of probability and offered his own subjective theory in its place. Thus, we can be sure that Keynes knew Ramsey's piece very well.

Combining Shiller's exploration of confidence narratives as an alternative to simple models of optimizing behavior as a driver for economic behavior, then, with Misak's narrative about the possible way that Ramsey's emerging pragmatism may have influenced Keynes, one can begin to see more clearly how Keynes turned back toward narrative economics in *The General Theory.* What did it mean to break away from his "magic formula mentality" and to incorporate the effects of popular narratives in his modeling?

One way to understand the new ground on which Keynes found himself when he turned to confidence narratives is to consider Shiller's discussion of the role of "suggestibility" in shaping confidence narratives. Shiller points out that the crowd psychology driving the confidence narrative points away from *homo economicus.*

> The idea that the human mind is suggestible is diametrically opposed to the concept of rational economic man who is a rational optimizer, who acts as if guided by careful calculations. Suggestibility implies that oftentimes we are acting blind or as if in a dream. By 1920, the concept of suggestibility was widely known, indicating that people of that era may have felt that other people were easily influenced by abstract or subtle examples, and are therefore more likely to conduct their economic behavior expecting a highly unstable world. The narrative would lead them to expect herd-like behavior and perhaps to contribute to such behavior. If you think that other people are members of an impressionable herd, you may be more likely to try to anticipate the herd's movements and try to get ahead of them. (Shiller 2019, p. 120)

No one who has read *The General Theory* (1936, pp. 147–164) will fail to recognize Keynes's vision of investors driven by animal spirits in this passage from Shiller. The quandary for Keynes, who had only recently been an ardent adherent of *homo economicus*, was how to move these insights about suggestibility into an economic model.

The answer may have been to follow Ramsey's lead into pragmatism, moving beyond optimizing models to richer, more diverse considerations of human motivation and psychology. Despite being one of the architects of the modern model of rational economic man, Ramsey did not believe that the model was either accurately descriptive of human behavior or necessarily an appropriate moral norm.

[17] The essay quoted was written in 1929 and originally published posthumously in 1931.

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> Although he designed the house in which modern rational choice/utility/decision theory would inhabit, it is not clear that Ramsey would have chosen to reside there himself. For one thing, while he provided a logic of decision, he did not think that all human action and decision should be crammed into the strictures of rational choice theory, as many economists and social scientists today seem to assume. Utility, Ramsey saw, is not value neutral. In his 1928 work in economics, he would make it clear that choosing to maximize utility is a moral decision, one that puts utility before justice and equality. (Misak 2020, p. 275)

Thus, on the one hand, Ramsey was one of the most accomplished economic theorists in the world at the time of his death in 1930 (at age twenty-six). On the other hand, he understood that there were other drivers of human behavior worthy not only of serious study but also of equal or greater ethical value than utility. One can see this same pragmatist insight manifest in many aspects of *The General Theory.*

For one thing, Keynes's model is not built solely on maximizing behaviors; it includes a plethora of human motivations. Often overlooked is the fact that the model in *The General Theory* seeks to maximize *employment,* not income, utility, or profit. Employment is both an economic (analytical) and a moral desideratum for Keynes. He was not seeking to build a model to demonstrate efficiency or to maximize the sum of utilities; he sought a model that measured social welfare differently.

Keynes never argues that people do not seek utility, however, only that it is but one of several possible motivations. Consider, for instance, his consumption function. He argues that consumption is determined by at least six subjective motives, only one of which (enjoyment) might be taken to be seeking utility: enjoyment, short-sightedness, generosity, miscalculation, ostentation, and extravagance (Keynes 1936, p. 108). But this richness of motivations does not mean model building is impossible or capricious. On the contrary, Keynes hypothesized that the consumption function is stable and predictable, and it turned out to be one of the empirical mainstays of early econometric work.

In his work on optimal savings, Ramsey (1928) took a very different tack but arrived at a similarly pragmatic conclusion as regards social welfare.[18] Instead of trying to integrate several motivations into his model as Keynes would come to do, he designed the most mathematically sophisticated model of intergenerational utility maximization available at the time. As Misak notes, it is the foundation on which the house of rational choice theory would be built in subsequent decades; but in going on in his essay to note that discounting is not desirable in determining the optimal level of savings from a social point of view, Ramsey immediately posits that other values than utility are also important to finding a solution; people have other motivations and there are other important welfare criteria than utility.

[18] In the quotation above, Misak uses Ramsey's 1928 essay on optimal savings to illustrate that his pragmatism had extended his ethical values beyond the simple utilitarian calculus. I am following suit here because economists and historians of economic ideas will understand the power of this example to illustrate the point. But as the editors have reminded me, and as Misak shows in detail, there are many ways that Ramsey stepped away from utilitarian modeling and utilitarian ethics in his work, despite an unparalleled facility at utilitarian modeling.

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Keynes chose a different way from what Ramsey did to include those other motivations and values. But the underlying impulse is the same: stepping away from the idea that rational economic man is the sole way of understanding how to model or evaluate economic behavior. Keynes found ways to build a model that could explicitly incorporate additional motivations than utility and profit maximization, including especially the role of popular narrative. Ramsey, on the other hand, had built a "better," more mathematically sophisticated model of utility maximization, then told his reader that the model didn't tell them everything they needed to know to solve the problem. But both men's work demonstrated a commitment to looking at the complex mix of psychology, beliefs, and ethics that animate pragmatism.

VI. A PRAGMATIC CONCLUSION

Shiller is undoubtedly correct to say that John Maynard Keynes's work in *Economic Consequences of the Peace* is an example of narrative economics. Keynes used an emerging popular narrative in his book to explain the likely economic impact of the Versailles peace agreement. He was successful in more ways than one: his book was an international bestseller and he was, unfortunately, correct in his predictions. Thus, not only was his book an example of narrative economics, it is an example of someone doing it well.

Still, this did not stop Keynes from stepping away from narrative economics in the early 1920s as he began to build a more traditional career in economics. Neither the *Tract* nor the *Treatise* can reasonably be labeled as "narrative economics." In fact, in employing his "magic formula mentality" he moved far away from narrative economics. In his first two books in monetary theory, he developed a different, more mechanistic way of describing the world.

Not until his *General Theory* did he return to narrative economics. The story of how Keynes came back to narrative economics is undoubtedly too overdetermined to admit to only one explanation. Keynes's work advising governments and assessing the markets for stocks and bonds taught him that confidence mattered and that it behaved mercurially. To take only one example, the performance of bond markets (and hence, interest rates) after Britain left the Gold Standard in 1931, was pivotal in demonstrating to Keynes that expectations moved markets, but that those expectations were not anchored in any objective economic facts. In fact, the expectations driving markets were much more obviously grounded in what investors expected others were thinking (Bateman 1996).

Incorporating his new insights about the importance of confidence into models driven purely by optimizing agents would have been difficult, if not impossible, had Keynes continued to work in his "magic formula mentality." The economic agents in the *Tract* and the *Treatise* were rarely utility maximizers, but they were always profit optimizers who acted on "intelligent expectations" that reflected the objective underlying conditions (Bateman 1996).

Ramsey, however, offered Keynes a way forward for his modeling. Nowhere is this more clear than in the way that he models investment in *The General Theory.* On the

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one hand, Keynes can work out in great detail in Chapter 11 ("The Marginal Efficiency of Capital") the model for rationally optimizing profits, including how investors weigh expected future profits, which are formed by weighting each possible future return by its probability of occurrence; on the other hand, he can step back in Chapter 12 ("The State of Long Term Expectations") and declare that investors act on animal spirits, not mathematical expectation. That is, investors do not actually line up each outcome and its probability to make their decisions. Just as Ramsey had demonstrated in "Truth and Probability," you can calculate the probabilities for different outcomes from the bets that a person is willing to make, even if they make the bets for reasons of enthusiasm, fear, or excitement. From a pragmatic perspective, probabilities in human action reflect beliefs and commitments; they are not objective facts (or logical relations).

But it is not just that Keynes employs Ramsey's subjective probabilities in his model in *The General Theory*.[19] The entire style of model building reflects Ramsey's pragmatism. There are multiple motivations to human action and no necessity (or implication) that there is a single criterion for welfare. And as one faces modeling something as central to economic performance as investment, one need be neither too scholastic nor too wooly. Chapters 11 and 12 define the bounds of how tight and how loose one needed to be to build a good model but one that captured enough of human behavior to be useful.

It has always made sense that Keynes meant what he said when he acknowledged the soundness of Ramsey's critique of his own logical theory of probability.

> Ramsey argues, as against the theory that I had put forward, that probability is concerned not with objective relations between propositions but (in some sense) with degrees of belief, and he succeeds in showing that the calculus of probabilities simply amounts to a set of rules for ensuring that the system of degrees of belief which we hold shall be a consistent system. Thus the calculus of probabilities belongs to formal logic. But the basis for our degrees of belief—or the *a priori* probabilities, as they used to be called—is part of our human outfit, perhaps given us by natural selection, analogous to our perceptions and our memories rather than to formal logic. So far I yield to Ramsey—I think he is right. (Keynes 1931, p. 407)

After all, Keynes did not easily give ground to his critics. But this embrace makes even more sense when we realize, as Misak has helped us to see, that Keynes's entire style of argument in *The General Theory* was influenced by Ramsey. Once Keynes had seen the necessity of incorporating a greater variety of human motivations and beliefs into theorizing about human behavior, he was set to return to weighing popular narratives as a part of economic theory proper. A pragmatic approach to modeling gave him room to employ both the confidence narrative and subjective probabilities. This allowed him to become, once again, a narrative economist.

[19] It is worth noting that while Ramsey wrote of individuals and subjective probabilities, Keynes wrote about intersubjective probabilities and the ways that they are formed and changed by social conventions. For some, Keynes's focus on intersubjectivity has suggested an influence from the later Wittgenstein. See John Davis (1994, 2019).

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REFERENCES

Bateman, Bradley. 1987. "Keynes's Changing Conception of Probability." *Economics and Philosophy* 3 (1): 97–119.

———. 1996. *Keynes's Uncertain Revolution*. Ann Arbor: University of Michigan Press.

Carabelli, Anna. 1988. *On Keynes's Method*. London: Macmillan.

Chambers, David, and Ali Kabiri. 2016. "Keynes and Wall Street." *Business History Review* 90 (2): 301–328.

Clarke, Peter. 1988. *The Keynesian Revolution in the Making, 1924–1936*. Oxford: Oxford University Press.

Cristiano, Carlo, and Maria Cristina Marcuzzo. 2018. "John Maynard Keynes: The Economist as Investor." *Review of Keynesian Economics* 6 (2): 266–281.

Davenport-Hines, Richard. 2015. *Universal Man: The Seven Lives of John Maynard Keynes*. London: William Collins Books.

Davis, John. 1994. *Keynes's Philosophical Development*. Cambridge: Cambridge University Press.

———. 2019. "Ludwig Wittgenstein." In Robert Dimand and Harald Hagemann, eds., *The Elgar Companion to John Maynard Keynes*. Cheltenham: Edward Elgar, pp. 82–86.

Keynes, John Maynard. 1910. "Great Britain's Foreign Investment." *Political Quarterly* (February): 44–59.

———. 1920. *The Economic Consequences of the Peace*. London: Macmillan.

———. 1921. *A Treatise on Probability*. London: Macmillan.

———. 1923. *A Tract on Monetary Reform*. London: Macmillan.

———. 1930. *A Treatise on Money*. Two volumes. London: Macmillan.

———. 1931. "Ramsey as a Philosopher" [review of the *Foundations of Mathematics*]. *New Statesman and Nation* 2 (10 March): 407.

———. 1936. *The General Theory of Employment, Interest, and Money*. London: Macmillan.

———. 1982. *Collected Writings of John Maynard Keynes: Activities, 1931–39*. Volume XXI. Edited by D. E. Moggridge. London: Macmillan.

Marcuzzo, Maria Cristina, and Eleonora Sanfilippo. 2020. "Keynes's Personal Investments in the London Stock Exchange and His Views on the Transformation of the British Economy." *Structural Change and Economic Dynamics.* http://dx.doi.org/10.1016/j.strueco.2020.02.002.

Marshall, Alfred, and Mary Paley Marshall. 1879. *Economics of Industry*. London: Macmillan.

Misak, Cheryl. 2020. *Frank Ramsey: An Excess of Powers*. Oxford: Oxford University Press.

O'Donnell, Roderick. 1989. *Keynes: Philosophy, Economics and Politics*. London: Macmillan.

Patinkin, Don. 1976. *Keynes's Monetary Thought*. Durham: Duke University Press.

———. 1982. *Anticipations of the General Theory*. Chicago: University of Chicago Press.

Ramsey, Frank. 1922. "Mr. Keynes on Probability." *Cambridge Magazine* 11 (1): 3–5.

———. [1926] 1931. "Truth and Probability." In *The Foundations of Mathematics and Other Logical Essays*. Edited by Richard B. Braithwaite. London: Routledge and Kegan Paul, pp. 156–198.

———. 1928. "A Mathematical Theory of Saving." *Economic Journal* 38 (152): 543–559.

———. [1929] 1931. "Philosophy." In *The Foundations of Mathematics and Other Logical Essays*. Edited by Richard B. Braithwaite. London: Routledge and Kegan Paul, pp. 263–269.

———. 1931. *The Foundations of Mathematics and Other Logical Essays*. Edited by Richard B. Braithwaite. London: Routledge and Kegan Paul.

———. 1990. *Philosophical Papers*. Edited by D. H. Mellor. Cambridge: Cambrudge University Press.

Rivot, Sylvie. 2021. "Reading Keynes's Policy Papers through the Prism of his *Treatise on Probability*: Information, Expectations, and Revision of Probabilities in Economic Policy." *Journal of the History of Economic Thought* 43 (4): 604–618.

Runde, Jochen. 1994. "Keynes after Ramsey: In Defense of *A Treatise on Probability*." *Studies in the History and Philosophy of Science, Part A*, 25 (1): 97–121.

Rymes, Thomas. 1989. *Keynes's Lectures, 1932–35*. Ann Arbor: University of Michigan Press.

https://doi.org/10.1017/S1053837221000365 Published online by Cambridge University Press

Shiller, Robert. 2019. *Narrative Economics: How Stories Go Viral and Drive Major Economic Events*. Princeton: Princeton University Press.

Westall, Oliver. 1992. *The Provincial Insurance Company, 1903–38: Family, Markets, and Competitive Growth*. Manchester: Manchester University Press.

Woods, John E. 2013. "On Keynes as an Investor." *Cambridge Journal of Economics* 37 (2): 423–442.

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