Journal of Institutional Economics (2021), **17**, 877–881
doi:10.1017/S1744137421000564

CAMBRIDGE UNIVERSITY PRESS

INTRODUCTION

Introduction to the special issue on the Centenary of Frank H. Knight's *Risk, Uncertainty, and Profit*

Per L. Bylund*

School of Entrepreneurship, Oklahoma State University, Stillwater, Oklahoma, USA
*Corresponding author. Email: per.bylund@okstate.edu

(Received 15 June 2021; revised 23 June 2021; accepted 24 June 2021)

Abstract
Frank H. Knight's magnum opus *Risk, Uncertainty, and Profit*, published in 1921, is widely recognized for introducing and establishing the distinction between risk and uncertainty. It is also known for developing a novel theory of the firm and business profit based on entrepreneurial judgment. However, the work's relevance for institutionalism has only rarely been addressed or even acknowledged. This introduction to the special issue organized to celebrate the centenary of Knight's tome briefly summarizes the work's institutionalist implications and the articles that comprise the special issue.

Key words: Frank H. Knight; *Risk, Uncertainty and Profit*

The year 2021 marks the 100th anniversary of the publication of Frank H. Knight's highly influential first book, *Risk, Uncertainty, and Profit* (1921). The book, if not Knight himself, has become known primarily for the important distinction it introduced between the concepts risk, understood as probabilistic, and uncertainty, which is non-probabilistic and open-ended.

Although *Risk, Uncertainty, and Profit* introduces this distinction and produces a theory based on it, Knight's purpose was not merely to define uncertainty as distinct from risk. His aim was another.

Published by Houghton Mifflin, the book is a revised version of the essay 'Cost, Value and Profit', itself based on Knight's doctoral dissertation. The essay won second place in a contest, which guaranteed its publication in book form (Emmett, forthcoming). The dissertation, defended at Cornell University already 1916, was titled 'A Theory of Business Profit', which is perhaps a better indication of the book's aim and topic.

Even though Knight in the book produces a theory of the firm, it is different from the theories of the firm influential in contemporary economics (e.g. Coase, 1937; Grossman and Hart, 1986; Williamson, 1975). Rather than distinguished as an 'authority relation' (c.f. Bylund, 2014; Simon, 1951), Knight sees the firm as an institutional solution to problems that arise in the market economy due to uncertainty. The theory is dynamic and is both based on and explains the role of entrepreneurship in the unfolding of the market process.

Knight's theory states that entrepreneurs, who pursue new business ideas, act under uncertainty and can therefore not rely on measures to mitigate probabilistic risk. Instead, they must act guided primarily or only by their own judgment (McMullen, 2015) of future market conditions and the expected value of what they bring.

In Knight's own words, entrepreneurs must rely on their judgment to form 'an estimate of an estimate' (Knight, 1921: 227) on which they then choose to act. These estimates are of course highly uncertain, since they refer to a future that is both unknown and unknowable. This is for the entrepreneur an opportunity, since economic profits are earned by those exercising superior judgment. But it is also a limitation, because the quality and value of someone's judgment cannot be known *ex ante* and, therefore, it cannot be accurately priced and traded as an economic good. Consequently, judgment cannot earn a market wage like other skills and qualities, and entrepreneurs therefore cannot take employment in existing businesses selling only their judgment. To act on their judgment, then, they must themselves organize production using the estimates they have formed.

Thus, the business firm is to Knight an institution of the market economy created by entrepreneurs to deal with the uncertainty of the future. There are two important aspects of this uncertainty. First, the business firm is the organizational structure through which the entrepreneur's judgment can be implemented for production. It is thereby, to Knight, the one means by which the entrepreneur's judgment can be exercised in the market and, consequently, earn a return in the form of profits. Where the entrepreneur's judgment is lacking, however, he or she suffers losses. Knight's theory of business profit is thereby a theory of entrepreneurship, where the uncertainty of the enterprise is borne by the entrepreneur for which profits (losses) are earned (suffered).

Second, the business firm's organized production offers a means to overcome, or at least manage, the uncertainty through a 'divide and conquer' strategy. The entrepreneur employs experts within the firm, who have specific expertise. Employees are, as specialized experts, trusted to exercise their own (derived) judgment limited to their specific expertise to solve problems that arise. The firm is a formalized, hierarchical 'division of intellectual labor' of sorts (c.f. von Mises, 1998).

The entrepreneur's judgment spans the entire enterprise and defines the opportunity, but the entrepreneur is unlikely to have sufficient expertise to exercise superior judgment in response to specific problems that may arise. Thus, under the umbrella of the entrepreneur's overall judgment, people are employed in the firm based on their specific expertise. The entrepreneur's decision to employ them is based on their objective expertise but also, and more importantly, their expected decision-making ability in their area of expertise. They are thus employed to handle future, unforeseen events as 'proxy entrepreneurs' (Foss *et al*., 2007).

While *Risk, Uncertainty, and Profit* is an exercise in 'pure economic theory' (Bylund, forthcoming), it is also a critique of perfect competition model and a work of institutional importance. The theory of the firm that it develops is open-ended and focused on the indeterminate outcomes of entrepreneurs' bearing of uncertainty (Boudreaux and Holcombe, 1989) and is in this sense a different animal than most economic theories of the firm (for exceptions see e.g. Bylund, 2016; Lewin, 2011)

Importantly, Knight was something of an institutionalist (Hodgson, 2001), perhaps even 'in a strong and meaningful sense' (Hodgson, 2004). However, Knight is difficult to pin down. He was not a simple but rather unique thinker, and typically found his own way and his own answers to questions. So also with respect to institutions, which he found 'far more limited and inefficient' (Packard *et al*., forthcoming) than many of his contemporaries. To Knight, institutions 'belong to an intermediate category, between instinct and intelligence' (Knight, 1947: 224).

Knight also relied extensively on economic theory. As already noted, his *magnum opus* is, by his own account, a 'study in "pure theory"' (1921: xi). But it is also, in many ways, positioned as a critique of the pure-theory model of perfect competition. While he found theory important and 'the *first* step' (1921: 6 emphasis in original) in generating knowledge about the world, he found it important to not rely only on theory. Instead, pure theory is approximate and must be augmented by adding specific factors so that it can explain observed phenomena. The task of the scientist (economist) is to take pure theory closer to observed reality using 'the method of successive approximations' (1921: 6) to find a 'correct "middle way"' (1921: 6) between pure theory and inductive analysis. In the words of Buchanan (1968: 426 quoted in Hodgson, 2004), Knight was 'that rare theorist who is also an institutionalist, an institutionalist who is not a data collector'.

There are many reasons to consider the institutionalist aspects of Knight's thought (Hodgson, 2004), including in his *Risk, Uncertainty, and Profit*, to elaborate on Knightian thought's implications for institutional economics, bring to a fore its forgotten or perhaps misunderstood contributions, reconsider its history as well as reinterpret and reintegrate it into modern thinking, and apply Knight's contributions and concepts in empirical research. The many great contributions to this special issue do just that.

Starting off, Emmett (2021) brings attention to the often-overlooked last chapters of *Risk, Uncertainty, and Profit*. Emmett argues that these chapters are of particular importance to institutional economics as they address how uncertainty affects not only the entrepreneur but the social organization of economic activity.

In the second article, Burns *et al.* (2021) extend the analysis of Knightian uncertainty beyond the market setting. While the open market offers means to coordinate production through economic calculation, this is not obviously the case in non-market institutional settings. Specifically, they ask who undertakes judgment under uncertainty, what goals and whose preferences matter, and how is error detected and corrected in democratic government and the non-profit or philanthropic sector.

The third article, by Frølund (2021), contributes to the burgeoning literature on institutions and entrepreneurship (e.g. Bylund and McCaffrey, 2017; Henrekson and Sanandaju, 2011) by developing a model that details the relationship between entrepreneurship and institutions under uncertainty.

The fourth article, authored by Dold and Rizzo (2021), recognizes that Knight's theory of the firm suggests distributed entrepreneurship and responsibility, thereby challenging the hierarchical view of the firm. The authors develop Knight's seemingly modern 'philosophical vision' and discuss institutional implications in terms of monocultures, cognitive team diversity, and venture capitalism.

In the fifth article, Hudik and Bylund (2021) address Knight's method and derive general principles from his focus on a 'middle way' between pure theory and induction. These are then used to identify the proper balance between theory and historicism in modern studies such as entrepreneurship and management.

The sixth article, by Eabrasu (2021), elaborates on Knight's distinction between risk and uncertainty to analyze the contrast between actuarial institutions and entrepreneurship. He finds that insurance, especially parametric such, does not automatically reduce entrepreneurial profits.

In the seventh article, Clarke (2021) reconceptualizes financial governance. Noting that Knightian uncertainty limits social scientific knowledge and therefore the capacity of governance, he argues there is a need for a politics of uncertainty able to cope with ignorance of the future.

The eighth article, by Nabisaalu and Bylund (2021), draws on Knight (1921) and Williamson (2000) to produce an integrated institutional model for analyzing entrepreneurial finance. Applying the model to the entrepreneurial nation of Uganda, they find that entrepreneurs wrestle with problems regarding access to finance.

The ninth article, by Audretsch and Belitski (2021), applies Knightian uncertainty to knowledge generated in incumbent organizations to explain the role of entrepreneurs as innovators. The authors find, studying over 9,000 firms, that entrepreneurial startups have greater returns from knowledge spillovers than intrapreneurs.

In the 10th article, Boettke and Candela (2021) analyze the place of *Risk, Uncertainty, and Profit* in the development of 20th century economics. They find that the work is a progenitor of both mainstream microeconomics, studying utility maximization under fixed parameters, and price theory, the 'mainline' continuation of economic thought from its classical and early neoclassical roots (c.f. Boettke, 2012).

Rounding off this special issue, the 11th article, by McCaffrey *et al.* (2021), argues that Knight's theory of monopoly as contingent on institutional barriers to entry builds on and refines the price theory of Menger ([1871] 2007). Specifically, monopoly as institutionally contingent shapes the choices of consumers and producers, which allows for identifying real monopoly gains.

These 11 articles address a number of institutional aspects and implications of the theorizing in Knight's *Risk, Uncertainty, and Profit*. While each is important in its own right, combined they establish the lasting importance of Knight's work as well as its continuing relevance to economic thought – and institutionalism. As several of the articles suggest, not only has Knight's *magnum opus* made lasting impressions on economics proper, but the theory is, even after a century, surprisingly modern. It still has much more to offer.

This is perhaps particularly true for institutional economics, in which Knight's work, while recognized (Hodgson, 2001), has yet to rise to prominence. As the articles in this special issue make clear, whether or not Knight can be placed squarely under the institutionalism banner, there is much in *Risk, Uncertainty, and Profit* of institutional nature and with institutional implications; and this already influential work still has much to contribute to theorizing and research.

This special issue serves as a steppingstone into the second century of research inspired by Knight. The 11 articles herein suggest that institutional economists have much to gain by taking a deeper look at Knightian thought, both *Risk, Uncertainty, and Profit* and beyond, and inspire new research contributions.

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Cite this article: Bylund PL (2021). Introduction to the special issue on the Centenary of Frank H. Knight's *Risk, Uncertainty, and Profit*. *Journal of Institutional Economics* **17**, 877–881. https://doi.org/10.1017/S1744137421000564