

# Theoretical and Practical Research in Economic Fields

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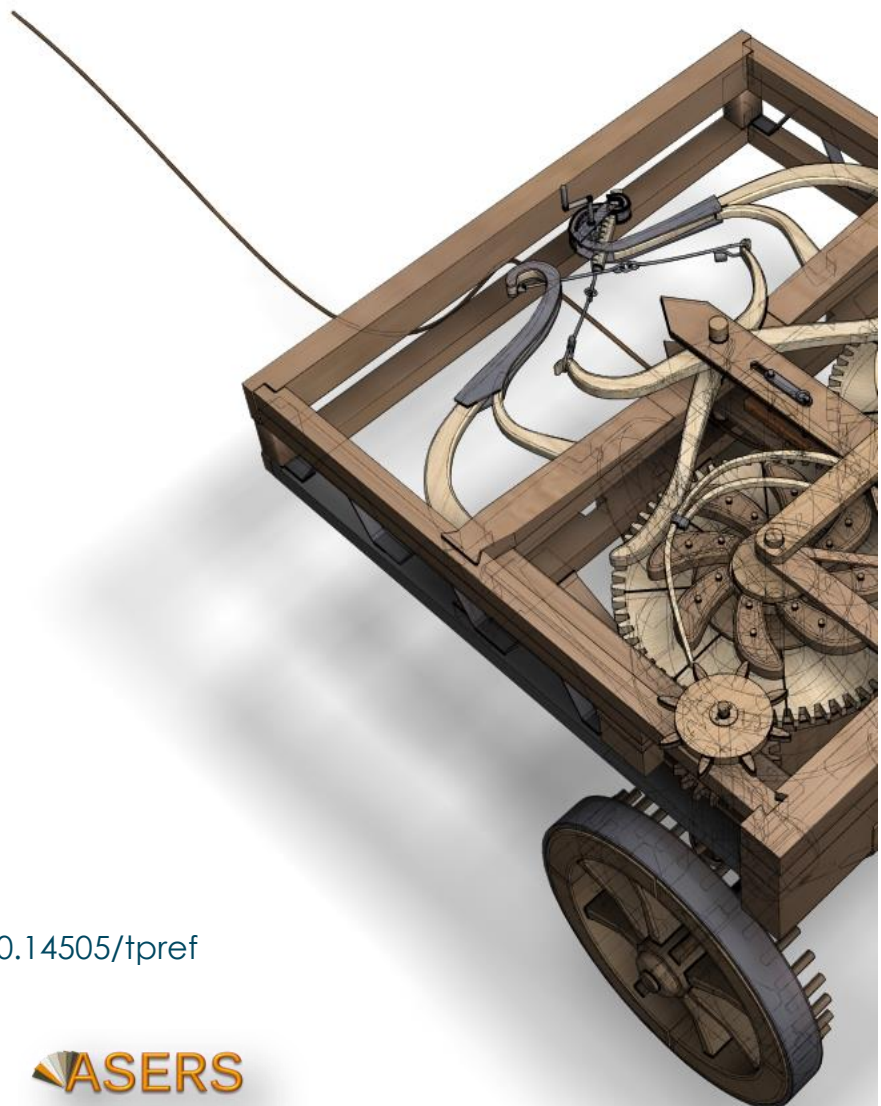
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## A Study of Post Keynesian Attempts at Hiding Townshend's Main Question to Keynes in His November 1938 Letter and Keynes's Answer

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**Abstract:** Keynes's letter of December 7<sup>th</sup>, 1938, provided a direct answer to Townshend, who asked Keynes the following extremely important question in his letter of November 25<sup>th</sup>:

"This is the nearest I can get to an analysis of the part played by the factor of confidence in the rationale of interest. *I believe that its further logical analysis at a deeper level of generalization is connected with the part played by the weight of evidence in your theory of probability, but I cannot see just how....*" (Keynes 1979, 292; italics added).

Now Townshend's question actually is "Where in your *A Treatise on Probability* is your analysis supporting the connection between confidence in the GT and the weight of evidence?"

Keynes's response was direct and straightforward:

"As regards my remarks in my *General Theory*, have you taken account of *what I say on page 240*, as well as what I say at page 148, which is the passage I think you previously quoted..." (Keynes 1979; italics added).

The clue, given here by Keynes to Townshend, is to p.240 of the *General Theory*; however, it relates directly, as we will see, to Keynes's chapter XXVI of the *A Treatise on Probability*. This paper will trace out how Keynes provided Townshend with the clues needed to recognize Keynes's modeling of the conventional coefficient in chapter XXVI; however, Townshend gave up and failed to take this last step.

**Keywords:** Inexact measurement; approximation; estimation; mathematical expectation; evidential weight of the argument; completeness; the *degree* of the completeness of the information

**JEL Classification:** B10; B12; B14; B16; B18; B22.

### Introduction

The paper will be organized in the following fashion. Section Two will deal with (Bateman 1996) and the Keynes-Townshend exchanges. Section Three will deal with (Feduzi 2007). Section Four will deal with (Zappia 2015). Section Five will deal with (Zappia 2016). Section Six will conclude that the (Bateman 1996, Feduzi 2007, Zappia 2015, Zappia 2016) fail completely to recognize that Keynes's evidential weight of the argument,  $V=V(a/h)=w$ , where  $w$  is defined on the unit interval as  $0 \leq w \leq 1$ , and  $w=K/(K+1)$  in (Keynes 1921) is the mathematical foundation for Keynes's theoretical analysis of the liquidity preference theory of the rate of interest.

In (Keynes 1936), Keynes defines Uncertainty (U) to be a function of the evidential weight of the argument, so that  $U=g(V)=g(w)$ . Keynes defines confidence (C) to be a function of uncertainty, which is a function of weight. By the composite function rule,  $C=f(w)$ . In chapter 13, Keynes defines Liquidity Preference, LP, to be a function of uncertainty. Again, by the composite function rule,  $LP=h(w)$ . None of these results can be derived from (Bateman 1996, Feduzi 2007, Zappia 2015, Zappia 2016) or any other Post Keynesian paper.

What Keynes explicitly tells any and all readers of page 240 the *General Theory* is that there is no discussion of how to estimate/calculate the risk and liquidity premiums in (Keynes 1936):

"The owners of wealth will then weigh the lack of "liquidity" of different capital equipments in the above sense as a medium in which to hold wealth against the best available actuarial estimate of their prospective yields after allowing for risk. The liquidity-premium, it will be observed, is partly similar to the risk-premium, but partly different; — the difference corresponding to the difference between the best estimates we can make of probabilities and the confidence with which we make them... When we were dealing, in earlier chapters, with the

estimation of prospective yield, we did not enter into detail as to how the estimation is made: and to avoid complicating the argument, we did not distinguish differences in liquidity from differences in risk proper. It is evident, however, that in calculating the own rate of interest we must allow for both.” (Keynes 1936, 240).

Thus, Keynes’s answer to Townshend was very clear -there is no answer in the GT to Townshend’s question and there is no answer in chapter 6 of the TP, which is what the first footnote states; however, there is an answer in chapter 26 of the TP of how to “estimate”, “how the estimation is made” and “calculate” the risk and weight premiums because Keynes does make it clear in his letter of Dec.7th, 1938 that he did discuss both liquidity and risk premiums in his *A Treatise on Probability*:

“I am rather inclined to associate risk premium with probability strictly speaking, and liquidity premium with what in my *Treatise on Probability* I called ‘weight’” (Keynes 1979, 293).

Keynes has set the stage for Townshend. Townshend knows, based on his having read the *A Treatise on Probability*, that there were only two chapters in the *A Treatise on Probability* that examine weight, chapters VI and XXVI. There is no existing evidence that Post Keynesian economists, such as (Bateman 1996, Feduzi 2007, Zappia 2015, Zappia 2016) know that there are only two chapters in the TP that discuss weight.

Keynes has already de-emphasized his footnote 1 in (Keynes 1936, 148), which mentions chapter 6 of the *A Treatise on Probability*, while simultaneously re-emphasizing (Keynes 1936, 240). There was only one possibility left for Hugh Townshend to consider -chapter XXVI of (Keynes 1921) contains Keynes’s discussion about how to estimate/calculate both the risk (probability) and liquidity (weight) premiums.

### 1. Research Background

The current literature on the connections between Keynes’s (1936) and (1921) is immense. I examine a representative sample of heterodox economists (Bateman 1996, Feduzi 2007, Runde 1990, Skidelsky 1992, Zappia 2015, Zappia 2016), whose work is heavily cited. The conclusions of this body of work consists of the following main conclusions about Keynes’s logical theory of probability;

- Keynes’s technical skills were poor
- Keynes erroneously presented three different definitions of evidential weight of argument
- Keynes’s logical, objective, probability relation was proven by Ramsey to be a mere metaphysical speculation on Keynes’s part that was based on Plato’s theory of forms and G E Moore’s intuitionism
- Keynes’s propositional logic was based on unrelated pairs of propositions like “My carpet is blue; Napoléon was a great general”
- Keynes’s *A Treatise on Probability* is a logically flawed book

A more thorough examination of Keynes’s work demonstrates that *none* of these standard, heterodox conclusions have any foundation in anything written by Keynes in his lifetime. The main reason for the failure of current heterodox assessments of Keynes’s book is the ignorance of the Boolean foundations.

### 2. Research Result I: Bateman in 1996.

There is no mention of Townshend’s question about

“This is the nearest I can get to an analysis of the part played by the factor of confidence in the rationale of interest. I believe that its further logical analysis at a deeper level of generalization is connected with the part played by the weight of evidence in your theory of probability, but I cannot see just how....” (Keynes 1936, 292).  
in (Bateman 1996).

There is no mention in Bateman of what question on the part of Townshend Keynes is responding to with his

“As regards my remarks in my *General Theory*, *have you taken account of what I say on page 240, as well as what I say at page 148, which is the passage I think you previously quoted...*” (Keynes 1936; italics added)

No one reading (Bateman 1996) would have the slightest idea that Keynes is answering a question regarding the connections between Keynes’s TP concept of weight and Keynes’s GT concept of confidence. At best, Bateman’s coverage of the Keynes -Townshend exchanges is vague, ambiguous, unclear and confusing. See Arthmar and Brady (2018) for a more detailed and precise critique of Bateman’s confused and confusing attempt at analyzing this correspondence.

### 3. Research Result II: Feduzi in (2007)

There are many errors in this paper, which is built on the premise that Keynes’ theory is an ordinal one. These other errors will be dealt with in another paper. Feduzi is completely unaware of Part II of the TP and chapters 15-17 where Keynes applies his improved Boolean approach to interval valued probability. These chapters are

identical to Keynes's work in his 1908 second Fellowship dissertation at Cambridge University. This paper will deal with Feduzi's apparent ignorance of what Keynes is responding to in his (Keynes 1979).

Consider the following passage from Feduzi (2007):

"Analogously, in chapter 17 of (Keynes 1936), on the 'Essential Properties of Interest and Money', he writes:

"The liquidity-premium, it will be observed, is partly similar to the risk-premium but partly different; – the difference corresponding to the difference between the best estimates we can make of probabilities and the confidence with which we make them (CW VII, p. 240)."

And in a footnote to this sentence, Keynes refers to the footnote mentioned above.

Keynes is even more explicit in linking confidence to evidential weight in a letter he wrote later to Hugh Townshend:

"I am rather inclined to associate risk premium with probability strictly speaking, and liquidity premium with what in my Treatise on Probability I called 'weight'. An essential distinction is that a risk premium is expected to be rewarded on average by an increased return at the end of the period. A liquidity premium, on the other hand, is not even expected to be so rewarded. It is a payment, not for the expectation of increased tangible income at the end of the period, but for an increased sense of comfort and confidence during the period (CW XXIX, p. 293–294)." (Feduzi 2007, 562).

The problem is that (Feduzi 2007) is misquoting Keynes by leaving out some very crucial parts of each quote. First, it is impossible for any reader to realize from the account of Feduzi (2007) that Keynes's reply on page 293 of Vol.29 of the CWJMK in his letter of Dec. 7<sup>th</sup> is to Townshend's question about the *connection between the confidence of the GT and the 'weight' of Keynes's TP*:

"This is the nearest I can get to an analysis of the part played by the factor of confidence in the rationale of interest. *I believe that its further logical analysis at a deeper level of generalization is connected with the part played by the weight of evidence in your theory of probability, but I cannot see just how....*" (Townshend, 1979, CWJMK, Vol., p.292; italic added).

Similarly, (Feduzi 2007) misquotes page 240 of the GT severely. Feduzi (2007) gives only a part of the quote:

"The liquidity-premium, it will be observed, is partly similar to the risk-premium but different; – the difference corresponding to the difference between the best estimates we can make of probabilities and the confidence with which we make them. (CW VII, p. 240)." (Feduzi 2007)

It is easy to see that [Feduzi 2007] is trying to disguise or camouflage Keynes's analysis when we look at the entire quotation:

"The owners of wealth will then weigh the lack of "liquidity" of different capital equipments in the above sense as a medium in which to hold wealth against the *best available actuarial estimate of their prospective yields after allowing for risk*. The liquidity-premium, it will be observed, is partly similar to the risk-premium, but partly different; — the difference corresponding to the difference between the best estimates we can make of probabilities and the confidence with which we make them... *When we were dealing, in earlier chapters, with the estimation of prospective yield, we did not enter into detail as to how the estimation is made: and to avoid complicating the argument, we did not distinguish differences in liquidity from differences in risk proper. It is evident, however, that in calculating the own-rate of interest we must allow for both.*" (Keynes 1936, 240; italics added).

The comparison of Feduzi's "quote" from [Keynes 1936] and the material in italics above shows the material that Feduzi has left out.

Feduzi (2007) leaves out of Keynes's discussions all of the material about "...best available *actuarial* estimate...", "...with the *estimation of* prospective yield", "how the *estimation* is made" and "... that in *calculating the own-rate of interest* we must allow for both." because these discussions contradict and directly conflict with (Feduzi 2007) (as well as in Runde (1990), plus many other Post Keynesians who have written on the topic) insistence that Keynes's theory of probability is an ordinal one only that does not allow for the estimate, estimation and calculation of probabilities and weight.

Of course, the way in which these calculations are performed is on p.315 of the TP and involves the conventional coefficient, *c*, that Runde has attacked his entire life starting in 1990. Post Keynesian intellectual deficiencies and confusions are on full display here in Feduzi's "analysis" of Keynes's Evidential Weight of the Argument.

It is impossible to figure out from anything presented in Feduzi (2007) that, for Keynes,  $V=V(a/h)=w$ ,  $0 \leq w \leq 1$ , and  $w=K/(K+I)$ .

#### 4. Research Result III: Zappia in (2015)

In (Zappia 2015) "Section 4. The Ultimate meaning of the correspondence", we have an even more pronounced attempt at intellectually deficient claims.

Zappia (2015) omits all mentions of Townshend's question concerning the connection between the confidence of the GT and the weight of the TP. Instead, Zappia (2015) cites completely irrelevant material that has nothing to do with the main goal of the correspondence, which is the correspondence between confidence and weight:

"... leaves open the question whether, as you suggest in your letter, it may not be possible to develop a logical doctrine of equivalent certainties free from the assumption of numerical probabilities and perhaps of wider economic application (CWJMK, Vol.29, p.292; Townshend letter of Nov.25th, 1938)." (Zappia 2015).

and an alleged main conclusion:

"...the element of arbitrariness in judgments of probability, to which you refer..." (CWJMK, Vol.29, p.292; Townshend letter of Nov.25th, 1938)." (Zappia 2015)

Zappia (2015) carefully avoids Keynes's crucial commentary on p.240 that is the new clue Keynes provided to Townshend in his letter of December 7<sup>th</sup>, 1938:

"The owners of wealth will then weigh the lack of "liquidity" of different capital equipments in the above sense as a medium in which to hold wealth against the best available actuarial estimate of their prospective yields after allowing for risk. The liquidity-premium, it will be observed, is partly similar to the risk-premium, but partly different; — the difference corresponding to the difference between *the best estimates we can make of probabilities and the confidence with which we make them.* (Brady 2023a) *When we were dealing, in earlier chapters, with the estimation of prospective yield, we did not enter into detail as to how the estimation is made: and to avoid complicating the argument, we did not distinguish differences in liquidity from differences in risk proper. It is evident, however, that in calculating the own rate of interest we must allow for both.*" (Keynes 1936, 240; italics added).

As pointed out above in my discussion of Feduzi (2007), Zappia (2015) avoids any full discussion of p.240 because it represents a complete and total repudiation of the Runde (1990, 20) musings about "the application of probability to conduct. "concerning"...best available actuarial estimate...", "...with the estimation of prospective yield", "how the estimation is made" and "... that in calculating the own-rate of interest we must allow for both." because these discussions contradict and directly conflict with the insistence of Feduzi (2007) that Keynes's theory of probability is an ordinal one only .

The only conclusion possible, which it is impossible for any reader of Zappia's paper to figure out from anything written in Zappia (2015), is that for Keynes,  $V=V(a/h)=w$ ,  $0 \leq w \leq 1$ , and  $w=K/(K+I)$ , which has nothing to do with the claims of Runde (1990) about Keynes's three supposedly different ways of measuring weight.

#### 5. Research Result IV; Zappia (2016)

Zappia (2016) is another attempt to avoid any discussion of the crucial question asked by Townshend of Keynes, which was

"This is the nearest I can get to an analysis of the part played by the factor of confidence in the rationale of interest. I believe that its further logical analysis at a deeper level of generalization is connected with the part played by the weight of evidence in your theory of probability, but I cannot see just how...." (Keynes 1979, 292).

Zappia (2016) gives us the same identical, misleading, irrelevant material that is contained in Zappia (2015):

"Since this is the single place in the whole correspondence about the GT reproduced in the Collected Writings in which the TP is mentioned, it seems safe to assume that the exchange with Townshend reveals Keynes's actual thoughts on the subject of uncertainty in the years of the defense of the GT. Indeed, it is upon suggestion by Keynes that, in a letter of November 1938, Townshend examines the "alternative lines" followed by "those [scholars] who, following on the appearance of the GT, are trying to develop further an expectational economic analysis."

Townshend provides a long analysis of "methods hitherto used for expectational economic analysis" arguing that "the question whether, as you suggested in your letter, it may not be possible to develop a logical doctrine of equivalent certainties free from the assumption of numerical probabilities and perhaps of wider than economic application" is left open. But his conclusion is that the element of arbitrariness in judgements of



probability, to which you refer really implies a criticism, or at least calls for further, of the basic concept of economic man, defined as determinately motivated by (his) judgements of maximum (in some sense) anticipated profitability. (CW XXIX, p. 293)." (Zappia 2016, pp.838-840)

Nowhere in Zappia (2016) "Section 2. The correspondence with Hugh Townshend", is there any mention made about the crucial question asked by Townshend of Keynes, which I repeat again below:

"This is the nearest I can get to an analysis of the part played by the factor of confidence in the rationale of interest. *I believe that its further logical analysis at a deeper level of generalization is connected with the part played by the weight of evidence in your theory of probability, but I cannot see just how....*" (Keynes 1979, 292; italics added).

## 6. Discussion

Bateman (1996), Feduzi (2007), Zappia (2015), Zappia (2016) are all trying to conceal from their readers the question that Townshend asked concerning where in the (Keynes 1921) did Keynes discuss the connections between his use of confidence in the (Keynes 1936) and weight in (Keynes 1921).

Bateman (1996), Feduzi (2007), Zappia (2015), Zappia (2016) are all trying to conceal from their readers the answer Keynes gave to Townshend about p.240 of the GT dealing with "estimates, estimation of and calculation of" the risk and liquidity premiums not being in (Keynes 1936).

Bateman (1996), Feduzi (2007), Zappia (2015), Zappia (2016) are all trying to conceal from their readers the answer that Keynes gave to Townshend about the discussion in (Keynes 1921) about weight as it relates to the liquidity premium in the letter of December 7<sup>th</sup>, 1938.

Keynes's p.240 analysis in (Keynes 1936) was suppressed by Bateman (1996), Feduzi (2007), Zappia (2015), Zappia (2016) because it represents a complete and total repudiation of the Post Keynesian claims about Keynes's approach, which supposedly can only use ordinal probability on some occasions:

"In fact, *most probabilities in Keynes's Treatise are non numerical; they permit approximate rather than exact comparison-'more or less likely'-with the possibility of being able to assign numbers to probability limited to certain restricted states of knowledge*" (Skidelsky 1992, 59; italics added).

Of course, Skidelsky's 'more or less likely' has NOTHING to do with approximate comparison. Skidelsky's 'more or less likely' are ordinal probabilities. On pp.160-163 of (Keynes 1921), Keynes completely and totally rejected Skidelsky's assertions about non numerical probabilities being ordinal probabilities. Of course, contrary to Runde (1990) and Skidelsky (1992), Keynes's nonnumerical probabilities are INTERVAL VALUED probabilities derived from Boole (1854).

The position of Runde (1990) is identical to that of Skidelsky (1992), with both Skidelsky (1992) and Runde (1990) asserting, without providing a shred of relevant evidence from (Keynes 1921), that Keynes had capitulated to Ramsey.

Therefore, Keynes's p.240 quote, provided below for the reader again, must be ignored by Post Keynesians, which was what Bateman (1996), Feduzi (2007), Zappia (2015), Zappia (2016) have done:

"The owners of wealth will then weigh the lack of "liquidity" of different capital equipments in the above sense as a medium in which to hold wealth against the best available actuarial estimate of their prospective yields after allowing for risk. The liquidity-premium, it will be observed, is partly similar to the risk-premium, but partly different; — the difference corresponding to the difference between the best estimates we can make of probabilities and the confidence with which we make them (Brady 2023a). When we were dealing, in earlier chapters, with the estimation of prospective yield, we did not enter into detail as to how the estimation is made: and to avoid complicating the argument, we did not distinguish differences in liquidity from differences in risk proper. It is evident, however, that in calculating the own rate of interest we must allow for both." (Keynes 1936, 240).

The question of where this appears can only be found in Keynes (1921) in one chapter. The only place in (Keynes 1921) is in chapter XXVI on pp.310-315.

## Conclusions

The Keynes-Townshend correspondence of 1938 points decisively to p.315 of chapter XXVI of (Keynes 1921) and Keynes's application of the conventional coefficient,  $c$ , which Bateman (1996), Feduzi (2007), Zappia (2015), Zappia (2016) had been trying to ignore in all of their published work, as it completely undermines their claims about the supposed or alleged ordinal nature of Keynes's approach to probability, as well as their claims about Keynes having given three different, conflicting definitions of evidential weight. Such an ordinal approach is not applied in (Keynes 1921), except for Keynes's acknowledgement that there are such things as ordinal

probabilities, just as there are such things like exact, precise numerical probabilities. However, the applicability problem of probability (ordinal, numerical, interval) ends with Keynes's position that it is the formal, interval valued approach to probability in Parts II and III of (Keynes 1921), that was built on interval probability (Boole 1854), that is the more applicable in the real world of actual decision making. That concept was easily translated by Keynes into his conventional coefficient,  $c$ , in chapter XXVI of Part IV of (Keynes 1921).

A final point to consider is that anyone reading the Keynes-Townshend material of 1937-38 will soon realize that this correspondence completely destroys any and all claims made about how Ramsey supposedly demolished and destroyed Keynes's logical theory of probability, which was based on Keynes's Boolean relational, propositional logic and Boole's objective, logical, probability relation, as analyzed by Boole (1854) in chapters I, XI, XII and XVI in his *The Laws of Thought*. Runde (1990), Bateman (1996), Boole (1854), Zappia (2015), Zappia (2016) are all longtime supporters and adherents of the position that claims that Ramsey destroyed Keynes's logical theory of probability in both his 1922 *Cambridge Magazine* review, as well as in his 1926 "Truth and Probability" paper. See (Brady 2022).

Nowhere in the correspondence between Keynes and Townshend (Boumans 2019, Keynes 1979) are any of the claims made by (Bateman 1996, Feduzi 2007, Runde 1990, Zappia 2015, Zappia 2016) mentioned either directly or indirectly. Nowhere is subjective probability mentioned in any way by Keynes. Nowhere is there any mention of intersubjective probabilities made by Keynes. Nowhere does Keynes state that he has accepted any of Ramsey's criticisms of logical probability. The only theory discussed by both Keynes and Townshend is Keynes's logical theory of probability. The only book on probability discussed by both Keynes and Townshend in their correspondence is the *A Treatise on Probability*.

The only conclusion possible is that the Keynes-Townshend correspondence of 1937-38, like the 1938-1940 Keynes- Tinbergen correspondence, establishes that (a) Keynes never accepted any part of Ramsey's subjectivist approach, (b) never capitulated to Ramsey in any way, shape or form because of the extremely poor claims made by Ramsey about Keynes's Boolean, relational, propositional, formal logic and (c) never entertained any such thing as either a subjective theory, frequency theory or an intersubjective theory of probability. Similarly, Keynes never mentions his 1937 *Quarterly Journal of Economics* article. Nor is there any mention of any such thing as fundamental, radical or irreducible uncertainty in the Keynes-Townshend correspondence. See Brady (2024, 2023a, 2023b, 2022, 2017, 2012, 2004a, 2004b), Brady and Arthmar (2012), and Arthmar and Brady (2018, 2016).

Those who would dispute these conclusions need to explain why there is no mention made by Keynes or Townshend of any of the above-mentioned topics in either the Keynes-Townshend or Keynes-Tinbergen correspondences.

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### Declaration of Competing Interests

There are no known competing financial interests or personal relationships that could have appeared to have influenced the work reported in this paper.

### Declaration of Use of Generative AI and AI-Assisted Technologies

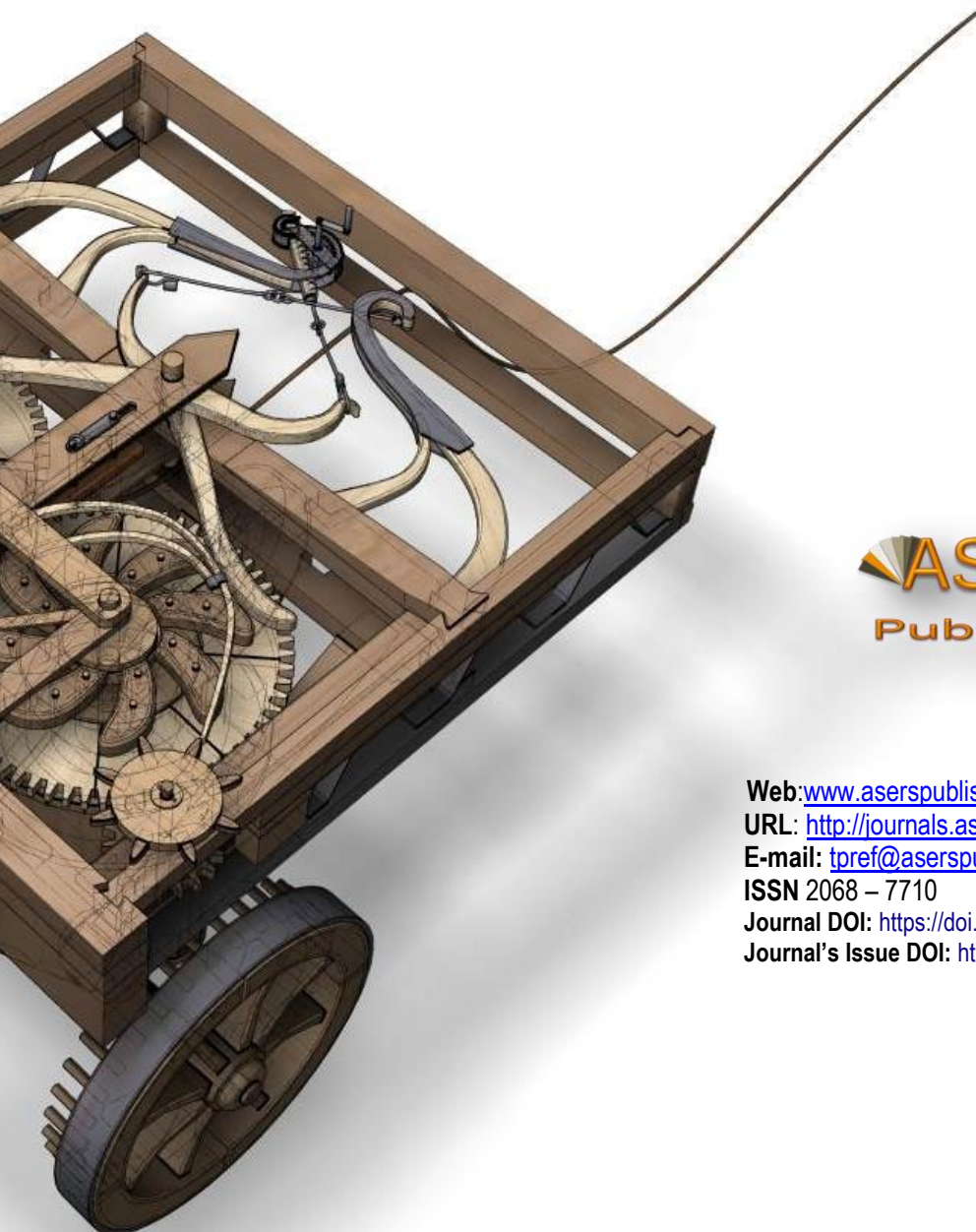
The author declared that he has not used generative AI and AI-assisted technologies during the preparation of this work.

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