Rhetoric and Keynes' use of Statistics in *The Economic Consequences of the Peace*

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Readers' of Keynes *Economic Consequences of the Peace* [1919] are usually struck by the rhetorical style of his writing. He often used statistics in ways similar to his use of prose, that is, as a way to persuade his audience. Since Étienne Mantoux's highly critical book *The Carthaginian Peace – or The Economic Consequences of Mr. Keynes* [1946] most scholars have adopted the view that Keynes must have either deliberately exaggerated the statistics he used or worse, drew on numbers that had somehow been falsified. However, on closer examination of the statistics Keynes used, this appears to be a harsh judgment. Many of the statistics Keynes used in his book come directly from two Treasury memoranda, one dated 1916, and the other 1918. Keynes original handwritten manuscript survives in the King's College archives at Cambridge in which large sections of these memoranda are 'cut and pasted' directly into the manuscript. While Keynes is undoubtedly the primary author, as a Treasury official during the war, it is unlikely the entire Treasury would have been complicit in turning a blind eye to deliberately exaggerated or falsified figures.

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1. Introduction

As was the norm in the early twentieth century, Maynard Keynes received training in the classics and would have been taught the importance of the "rules of rhetoric" when developing and delivering an argument. *The Economic Consequences of the Peace* is a particularly good example of the use and effectiveness of Keynes' rhetorical style. In it there are numerous examples of elevated language, a variety of

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linguistic expressions that gives force to his written style, in addition to the inclusion of statistics as a means by which Keynes could convince his readers of the "factual, objective and neutral" economic arguments he was making. His inclusion of statistics is also often done to provide a balance to his more elaborate prose and back up his claim that *Economic Consequences* was a serious work of economics.

All communication, whether verbal, written, numerical, or visual, attempts to persuade and can therefore be analysed as rhetoric (Carruthers, B and W. Espeland, July 1991). Robert Clower (1973, p. 10) argues that 'all communicable knowledge rests in the final analysis upon persuasive rather than demonstrative argument.' Rhetoric was part of a classics education at the turn of the twentieth century that generally accepted rhetoric as primarily being a "body of rules"[1] that enables a speaker or writer to "express himself with eloquence" and "to persuade or influence others." Furthermore, the written power to persuade is usually to be found in an author's written style.[2] If we accept these views and definitions the applicability to *Economic Consequences* is quite specific; Keynes was explicit in his attempts at persuasion and quite unashamedly "expressed himself with eloquence," using elevated language and drawing on the legitimacy of numbers so as to assist in carrying his argument. In doing this he integrates statistics and prose in ways that seem convincing to the reader.

2. The Rhetorical Effectiveness of Keynes' Statistics

To have his statistics accepted by his readers Keynes needed to persuade and convince them of the legitimacy of his economic concerns. The best evidence we have available that he succeeded is that, whereas critics often take Keynes to task for the rhetorical nature of his prose, few mount a similar challenge to his statistics. For example, Keynes uses numerous sets of statistics to support his argument that The Treaty, as proposed at the Conference of Versailles, would place an excessive burden on Germany, destroying not only German industry but put at risk the economies of all European nations. Keynes makes the claim that 'the statistics of economic interdependence of Germany and her neighbours' is overwhelming' (Keynes, 1920, p. 14). According to Keynes economic interdependence came down to three parts of the economy that really mattered: food, coal, and transport.

In the matter of coal he provides a set of statistics that authoritatively claim that the fatal consequences of The Treaty, should its terms be imposed, are economic. While food and transport are just as important economically for Europe coal was a pivotal economic resource in post-war Europe, as it provided energy for industrial purposes and a source of energy for private consumption. 'The German Empire,' argued Keynes, 'has been built more truly on coal and iron than on blood and iron' (Keynes, 1920, p. 75). Any adverse impact on supply directly affected economic growth and development potential, in addition to causing individual privation. Furthermore, when considering the example of coal we can see that Keynes was interested in the rhetorical use of statistics in two ways: first were statements given as facts and then suggested consequences. The facts for Keynes were that: the coal mines in the Saar Basin were to be ceded to France absolutely (refer The Treaty); the Saar district, Keynes points out, had been part of Germany for 1000 years (he assumed this to be common knowledge); Upper Silesia had 23% of the total German output of hard coal (from German statistical sources), yet would be, following a plebiscite, ceded to Poland (refer The Treaty). But, argued Keynes, Upper Silesia had never been part of Poland and 'economically' was 'intensely' German (his source here was from a German representative at The Conference). Out of the coal that would remain to her, Germany was obligated to make good year by year the estimated loss, which France had incurred by the damage and destruction in the coalfields of her Northern Provinces (again, from The Treaty). Sums due for Reparation were to be partly paid in kind rather than cash. To a number of allied countries she was to provide 40,000,000 tons, leaving 60,000,000 tons against a pre-war consumption of 139,000,000 tons (The Treaty). A number of other Treaty provisions would add to this burden, for example, daily shifts were to be reduced from 8.5 to 7 hours (The Treaty).

Having given the reader a set of statements presented as facts, Keynes then paints his picture of consequences. The mining plant, due to the allied blockade, is in bad condition; the physical efficiency of the men impaired by malnutrition 'made worse by a lowered standard of living because of the reparation demands;' the casualties of war had diminished the number of efficient mines. Taken together Keynes argued that only 60,000,000 tons of coal would be left for local consumption, based on the hypothetical calculation of there being only 100,000,000 tons available

per annum, of which 40,000,000 were to be mortgaged to the allies. Added to the likelihood that German industry would be destroyed as a result of these terms, the situation in other countries would only add to a burden for all European nations. France's own output had diminished through the war's destruction. In the UK and Italy a secondary cause of inadequate coal supplies to enable industry to recover, and provide for the economic needs of the population, was organizational breakdown and inefficiencies of new governments. 'The coal position of all Europe [was] nearly desperate' (Keynes, 1920, pp. 75-85).

The effectiveness of these calculations is that they move from the seemingly "factual, objective, and neutral" statistics the reader would find difficult to refute (that is to say, if The Treaty says it, this makes it factual) to the consequences Keynes is so anxious to impress on his readers.

Writing twenty five years after the publication of *Economic Consequences* Étienne Mantoux, in *The Carthaginian Peace* (Mantoux, 1946), challenged many of Keynes' statistics, arguing that contrary to Keynes' own assessment of the 'general accuracy' of his figures, they were anything but accurate and, according to Mantoux, Keynes had used statistics in a way that was either out of context or deliberately exaggerated so as to persuade his readers that the central arguments of *Economic Consequences* were supported by the authority of statistics. To the present day there are divergent opinions as to which numbers, Keynes' or Mantoux's better represent what was taking place in 1919. Regardless of the viewpoint one takes, what this debate does support is McCloskey's view that economists often use numbers rhetorically. McCloskey argues that 'the economic conversation has heard much eloquent talk, but its most eloquent passages have been mathematical' (McCloskey, 1945, pp. 3 and 28). It is, for example, almost impossible to make a reasoned judgment on the 'accuracy' of the statistics used by Keynes, such are the difficulties associated with source accuracy, methodologies used to arrive at the numbers, the actual relevance of the statistics to the argument being made and how Keynes might have subtly chosen one set of numbers over another in order to strengthen his case.

In reality both Keynes and Mantoux use statistics to, in McCloskey's words, 'make conversation.' Furthermore, while Mantoux disputed many of Keynes' numbers he acknowledged that *Economic Consequences* had been most successful in

persuading public opinion as to the correctness of Keynes' economic conclusions. Mantoux cites Winston Churchill who wrote in 1929, 'Mr. Keynes, a man of clairvoyant intelligence and no undue patriotic bias [was] saturated in the Treasury knowledge of the real facts [and] revolted against the absurd objectives which had been proclaimed, and still more against the execrable methods by which they were achieved. [Keynes] showed in successive chapters of unanswerable good sense the monstrous character of the financial and economic clauses. On all these matters his opinion is good' (Mantoux, 1946, p. 12).

3. Statistics and *The Economic Consequences of the Peace*

Some scholars (Brady, 1988, p. 1.) believe that Keynes objected to the general use of quantitative methods in economics but this argument does not stand up to close scrutiny. In places he draws heavily on statistics as a means of description, clarification and verification for his arguments. As I have already argued, Keynes was also conscious of the rhetorical impact the use of statistics had on persuading his audience. Rather than object to the use of quantitative methods in economics, Keynes objected to the particular misuse of methods that were developed to investigate phenomena that differed fundamentally from that studied by the economist. Keynes, himself a trained mathematician and author of an important work on probability, was nevertheless hostile to the extensive use of mathematics and regression analysis in economics that is today an important part of the discipline of econometrics. At the time of writing *Economic Consequences* the discipline of econometrics, insofar as it brings together a theoretical and statistical framework for the analysis of economic data, was in its infancy. However, by the 1930s econometrics had been accepted as a recognized branch of economics and Keynes himself was one of 30 economists from all over the world selected by the Council of the Econometric Society to constitute the first group of Fellows of the Society. In 1944 he was elected President of the Econometric Society, serving in the role for two years (Patinkin, 1976, p. 1092).

Yet Phelps argues that Keynes rejected the extensive use of econometrics largely because he viewed the future as being essentially different from the past and because he believed that the extensive use of mathematics encouraged economists to turn from the important question of choosing which among many economic models is appropriate for a particular situation, to the intellectually taxing, but practically

unimportant, manipulation of a single economic model (Phelps, 1980, p. 483). While Keynes stated these views explicitly,[3] it would be a mistake to say that Keynes did not accept the importance of quantification for economic analysis. On the contrary, Keynes drew on "descriptive statistics" heavily in most of his written work. Keynes would most likely have agreed with Bartholomew when he argues that 'a prime role of statistics in social science is to provide a quantitative framework within which [questions such as "the quality of life in Britain is worse than 20 years ago"] can be precisely framed and scientifically answered.' For Keynes it was not so much a need to create new concepts as to operationalise those, which already exist and thus 'render the theorizing of the social scientist precise and testable' (Batholomew, 1995, p. 9). Keynes was also an empiricist and inductivist, and in this regard he adopted the legacy left by the first acknowledged individuals, William Petty (1623-87) and John Gaunt (1620-74), to seriously draw on quantification methods in order to gain a better economic understanding.

Most scholars credit Petty with being the first to take economic quantification seriously. As with virtually all subsequent analysts in the field of macro-measurement and analysis, Petty's approach was inductive, trying to interpret the world by close study of the facts and systematic quantification. He adhered to the precepts of Francis Bacon (1561-1626) and is considered the founding father of a group with several members who saw the importance of quantification for better economic understanding. John Gaunt, the first demographer, developed procedures that foreshadowed modern historical demography and was a close friend of Petty. The third member was Gregory King (1648-1712) who systematized and extended Petty's macro-economic accounts and developed Gaunt's demographic analysis. A fourth member, Charles Davenant (1656-1714), was an analyst of fiscal policy and war finance options, problems of colonies and foreign trade, who interacted closely with King and used his estimates in assessing the costs and benefits of policy options.

The facts Petty and his contemporaries chose to collect, as with later statisticians, were designed to demonstrate the necessity and desirability solely of social reforms, thus establishing a long tradition of the rhetorical use of numbers. Real improvement in macro-economic measurement did not, however, occur until the nineteenth century with the founding of what is now known as the Statistical Movement in early Victorian Britain. Maddison points out that, while data collection

and analysis techniques had improved since Petty's day, 'there was little improvement in [the quality or comparability of national income estimates for individual countries] over those of the seventeenth-century' (Batholomew, 1995, p. 287). Significant improvement on the work of the Statistical Movement began to take place later in the nineteenth- and into the twentieth-century, and then because of the work of two economists, Michael Mulhall (1836-1900) and Colin Clark (1905-89). Mulhall made a major contribution to the international comparison of economic data by providing standardized estimates of 22 countries representing about 60% of world product in 1894-5. Clark was considered by many to be the most innovative "economic statistician" since the time of Petty (who was Clark's hero) (Maddison, 2007, p. 287).

Clark interacted closely with Keynes following Clark's membership of the Economic Advisory Council, which he joined in February 1930 when Keynes was already a member. Clark became a Cambridge lecturer in statistics in the economics faculty (1931-7) and with Keynes (in 1940) pioneered macro-economic measurement as a basic analytical tool for policy analysts and economic historians. Keynes' *How to Pay for the War* (Keynes, 1940) demonstrated the usefulness of statistical measurement as a tool for macroeconomic management and Clark's *Conditions of Economic Progress* (Clark, 1957) demonstrated its value in interpreting economic history.

Keynes would undoubtedly have been aware at the time of writing *Economic Consequences* of recent developments in the growing discipline of statistical economics but the complete absence from his book of any theoretical discussion or use of economic theory indicates that Keynes stood firmly in the tradition of the early pioneers in the use of statistics for descriptive purposes and insofar as he sought reform as a result of his economic arguments, his use of statistics followed the Victorian reformist methods of statistical usage. In the same way that his predecessors used numbers rhetorically, Keynes saw that by using statistics descriptively he was more likely to persuade his readers with numbers than if he were to use them in ways that could confuse them.

4. Keynes' Use of Statistics in *Economic Consequences*

I have already argued that a close reading of *Economic Consequences* supports the view that Keynes placed great weight on the use of statistics from early in his career.

As we have seen, while he did not embrace the use of econometrics as it emerged as a discipline in the 1930s and 1940s, the importance he placed on the use of statistics well into his career is clearly shown in his book *How to Pay for the War*, published in 1940. However, unlike *How to Pay for the War* his use of statistics in his earlier works appears unsystematic and designed entirely for descriptive and rhetorical purposes. Reference to Table One below provides a view of how Keynes presented his statistical arguments in *Economic Consequences.*[4] While there is a clear cogency to his presentation of numbers and calculations, there is no clear, structured or systematic way in which Keynes uses statistics to support his arguments. However, as with *How to Pay for the War*, Keynes always used numbers to establish authority and to support and verify his arguments. Despite the appearance of unsystematic presentation in his earlier work, Keynes' use of statistics remained largely unaltered throughout his career. Moggridge points out that his views on the use of statistics were first formed with his 1907 and 1908 fellowship dissertation submissions (and subsequently published as *A Treatise on Probability* in 1921) with many of his arguments reappearing 'in his discussions of statistical arguments between 1910 and 1940' (Moggridge, 1992, p. 160). At the heart of his use of statistics was the two parts that he believed made up the theory of statistics: the descriptive part concerned with presenting, describing and summarizing series of events or instances; and the inductive or inferential part concerned with extending the description of certain characteristics of observed events to those not observed.

A good example of Keynes' use of this theory of statistics is in his discussion on "Germany's capacity to pay." It is also an example of his seemingly unsystematic presentation of the numbers he used. There are three probable explanations for this unsystematic presentation. Firstly the figures appear to be drawn together in a hurried and pragmatic manner where they were initially part of official Treasury memoranda. The use of memoranda typically involves a style of writing that is 'informal.' The way in which prose and statistics in memoranda attributed to Keynes are grouped by numbered 'bullet points' reflects this informal approach to written communication. An initial analysis of Germany's capacity to pay had been undertaken by the Treasury during hostilities, with a number of estimates provided in a Treasury memorandum dated January 1916, the authors being W. J. Ashley[5] and Keynes. When the Imperial War Cabinet set up the Committee on Indemnity on 26 November 1918 Keynes was

called on to be representative of the Treasury where he used this earlier memorandum to warn the committee that '[While] our investigation is not yet complete, but so far, it looks very probably that the amount of reparation [calculated by the committee] is larger than the amount that Germany can pay' (Johnson, 1971, p. 337). The report of the committee, which was never published, came to the conclusion that Germany should pay the whole cost of the war, estimated at £ 24,000 million (a figure Lloyd George branded as a wild and fantastic chimera) at the same time as the Treasury's investigations were showing that Germany was capable of paying something between £ 2,000 million and £ 3,000 million. Keynes himself thought that without economic growth to stimulate her exports Germany could pay £ 1,000 million of moveable property at once and £ 1,000 million additional tribute amortised over thirty years. Detailed workings were provided to the committee in a memorandum headed 'Notes on an Indemnity' and dated 31 October 1918 and, according to Johnson, 'appears to have been Keynes' work alone' (Johnson, 1971, p. 337). In a letter to his mother on 3 November Keynes remarked that 'an exciting incident of the week was writing a memorandum on indemnities at top speed for an airman to fly to Versailles with' (Johnson, 1971, p. 338).

Adding to this sense of urgency (that helps explain Keynes' unsystematic and informal presentation) is that many of his hurriedly prepared numbers are 'cut and pasted' from the original memoranda directly into *Economic Consequences.* The structure of the 1918 memorandum is followed closely in *Economic Consequences.* The memorandum was finalized during November 1918 and most probably presented to the Committee on Indemnity's meeting of 2 December 1918' (Johnson, 1971, p. 336). The verbatim lifting of paragraphs from this memorandum was done, according to Johnson, because Keynes must have felt the final version of the memorandum to be enough of his own work without having to formally acknowledge these figures as being Treasury statistics. It is fortuitous that the original hand-written manuscript of *Economic Consequences* has survived and can be found in the archives at King's College, Cambridge (Keynes, 1919). Save for the prose most of the statistics have been 'cut and pasted' from original Treasury documents into the handwritten manuscript, an example of which is given in Figure One below.

A third explanation for the unsystematic way in which Keynes presents his statistics can be found in the level of maturity of the discipline of economics in 1919.

During the early part of the twentieth century economists had not yet achieved the professional status that they were to gain by mid-century, and when Lloyd-George, for example, wanted economic advice when he was Chancellor before the First World War he turned to a financial journalist, George Paish, editor of the *Statist* (Peden, 2000). Down to the 1930s economics was something that government officials who had studied philosophy or mathematics at Oxford or Cambridge were expected to be able to 'get up,' if required, and many candidates for the Civil Service examination did so. Keynes himself studied mathematics at Cambridge, and his initial training in economics amounted to no more than directed reading over a summer vacation. Yet, in 1908, within three years of graduation, he was considered to be qualified not only as a lecturer in economics at Cambridge but also as joint editor of the *Economic Journal.* During the war he was recruited into the Treasury, where he became head of a new division dealing with overseas finance, but his duties differed only in subject matter from those of other officials.

Another example that helps highlight the relatively unsophisticated nature of economics at this time is the estimates of national income made by the Treasury between 1914 and 1916. Peden points out these estimates did not represent a serious attempt at analysis of the kind made during the Second World War that required macroeconomic concepts developed by Keynes in the 1930s. 'The use made of national income estimates in the First World War was bound to be unsophisticated' (Peden, 2000, p. 93). For example, Reginald McKenna, (Chancellor of the Exchequer, 1915-1916), used his figures in 1916 simply to support his claim that the National Debt created during the war would not be an intolerable burden, since the Debt to be created by the end of 1916/17 would be approximately the same as a year's national income. Influences such as shifting price levels and inflation were not even taken into account in using these estimates and subsequent studies have argued that these unsophisticated calculations help explain why taxation levels were insufficient to assist with the financial burden created by war.

In summary, we can say this about Keynes' use of statistics in *Economic Consequences of the Peace.* He uses statistics in line with the way he understood the theory of statistics to be applied. In the first place this meant describing a series of events. In one example Keynes presents, describes and summaries Germany's holdings of gold and silver at the date of the Armistice. He reasons inductively to

argue that of the £ 125,000,000 of gold and silver he estimates is available to the Reichsbank, just £ 60,000,000 can realistically be made available for reparations. The second thing we can say about his use of statistics in *Economic Consequences* is that while the figures used follow the cogency of his prose, the statistics themselves are presented in an unsystematic and informal manner. There are three explanations for this. First, the statistics that had to be pulled together for the Treasury memoranda in 1916 that ultimately led to the final memorandum in 1918, presented to the Committee on Indemnity, were done against a background of pressure and expediency. In short, there is a clear element of pragmatism over statistical elegance in Keynes' presentation. The second explanation for the unsystematic way in which Keynes presents his statistics is the way in which he brings the figures from the Treasury memoranda into *Economic Consequences.* There is little effort at amendment or tidying up from figures previously gathered under pressure and in a hurry, as is evidenced by the large amount of 'cutting and pasting' from Treasury documents into Keynes' manuscript. Finally, the state of economics as a discipline and the more sophisticated attention being paid to the use of statistics in the 1930s and 1940s did not exist in 1919 and while it is acknowledged that Keynes played a major role in the developments of the 1930s and 1940s his unsystematic use of statistics in the war years and immediate post-war period reflected the nature of the discipline at this time.

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5. The Challenge to Keynes' Statistics

To this point I have argued that Keynes used statistics rhetorically as a way to persuade his readers that the reparations to be imposed on Germany following World War One would, if carried through, have severe economic consequences not only for Germany but the whole of Europe. In his use of statistics Keynes, at this time, stood firmly in the traditions of the early 'political arithmeticians' of the seventeenth and eighteenth centuries, who introduced quantification to the emerging discipline of economics. Furthermore, in his use of statistics as a descriptive means to support his arguments, Keynes continued to work within the Victorian tradition of using statistics as a means of encouraging economic and social reform.

Most modern scholars believe that Keynes exaggerated his statistics in ways similar to the way, at times, he used exaggerated prose to describe the political leaders at the Conference. This judgment can be traced to the time when Mantoux published his critical analysis of Keynes' *Economic Consequences.* But Mantoux's work was some sixteen years following the publication of Keynes book (1946:1919) and invariably suffers from 'the benefit of hindsight.' There had been nothing equivalent to challenge Keynes' numbers and calculations when he published in 1919, which leave us with some important questions. Why did it take so many years after the publication of such a plethora of statistics in *Economic Consequences* to mount a challenge to Keynes' statistical claims? Why, if Keynes' figures were so exaggerated so as to border on falsity, were they so widely accepted without challenge at the time of publication? And, to what degree does it really matter? If Keynes was able to persuade his readers with selectively chosen statistics, but careful to draw on reputable sources (which he was), is this not a commonly chosen path for those wanting to persuade an audience?

5.1. Contemporary Reaction

While reaction to Keynes book came from many different quarters and grew to a considerable quantity, contemporary reaction to, and questioning of, the veracity of Keynes's statistics was quite muted. *Economic Consequences* had stirred up considerable controversy around Keynes' depiction of the political leaders (especially Wilson) who attended Versailles, in addition to his views on reparations and Germany's "capacity to pay." But most people seemed to accept without challenge

the many statistics Keynes presented. Halperin comments that 'strangely enough, while the politics of Keynes' book were the object of much controversy, its economics were almost never seriously challenged' (Halperin, 1947, p. 932). Moggridge in his discussion of contemporary reaction lumps any criticism of Keynes' statistics as being among 'other criticisms of *Economic Consequences* [that] fastened on details' (Moggride, 1992, p. 339). Where, however, Keynes took seriously any criticism of his figures and calculations, he was careful to correct his critics and did not accept any figures as being better than his own.

Keynes' exchange with John Foster Dulles is a good example of this 'fastening onto details' and Keynes' rigorous defense of his statistics. The fact that Keynes considered Dulles letter (published in *The Times* on 16th February 1920) the 'first serious and responsible' criticism of his book is helpful in shedding light on the nature of the contemporary debate around the numbers Keynes used. Putting to one side Dulles' discussion of the inclusion of pensions and separation allowances and what he proposes by way of accounting methods,[7] Dulles's chief complaint was Keynes' calculation of reparation liability. Keynes had argued that the reparation liability should immediately be fixed at £ 2,000 million but Dulles maintained that Keynes took no account of the marked appreciation of values that had occurred during war time. Dulles maintained that an additional £ 2-3,000 million needed to be added to Keynes' figure of £ 2,000 million. He also challenged Keynes' figure of £ 1,500 million to be paid over thirty years. Dulles argued that this amounted to a present capital sum of approximately £ 750 million (that is, only half of Keynes figure of £ 1,500 million).

Keynes responded to Dulles' criticisms in the following way:

> (1) [That he had not taken account of the marked rise in prices from 1913 to 1919.] 'This criticism is not well founded. My initial allowance for increased prices, the wide margin I added for contingencies, and the fact that my estimates were in terms of gold and not paper francs, result, so far, for example, as the restoration of houses is concerned, in my upper limit leaving room for an appreciation in the cost of house building, in terms of francs, to nine or ten times the pre-war level. (2) My estimate of what Germany could pay – namely £ 2,000 million at the most. Mr. Dulles does not comment on this estimate. The progress of events since I made it has not led me to modify it upwards. (3) My estimate of what it would be wise on our part to ask from Germany – namely, £ 2,000 million, but with the two important abatements of a

> rather large allowance for ceded property and the payment of the balance in 30 annual installments without interest. Mr. Dulles thinks my suggested allowance for ceded property too large, on the ground that it would be mainly for war material having little value to the Allies. I intended this figure to cover a great deal besides war material, as, for example, merchant ships, submarine cables, and rolling stock, as well as State property and financial liabilities attributed to ceded territory. … (4) Lastly, there was the German counter proposal of an alleged sum of £ 5,000 million, which to judge from his speech in the House of Commons on February 12 achieved at least as much of its object to deceive Mr. Balfour. But of course the real value of Count Rantzau's offer was nothing of the kind, as I have explained in detail in pp. 204-209 of my book, and, indeed, as the Allies themselves have pointed out in the official reply which they addressed to him. ….. Mr. Dulles … does not dispute my estimate of the real money value of the offer as being somewhere about £ 1,500 million. But he forgets that even this figure is not comparable with those cited above, since the German offer was conditional on the abandonment of most of the rest of the treaty, including all the territorial clauses and those relating to the mercantile marine and to German property abroad (Johnson, 1977, pp. 26-28).

Two aspects about this exchange are striking. In the first place Keynes goes into detail as to how he arrived at his figures (refer point 1) and helps explain why there has been considerable debate around the statistics he uses. In short, statistics can never be taken on face value alone, they are invariably underpinned by a methodology and detail that, if we don't have access to this information, makes it very difficult to analyse and helps cast doubt on the figures used. If Keynes was working to a methodology for establishing many of his statistics it is not obvious from the archival material that has survived. But in this letter to Dulles he talks of using a contingency factor, allowing for price changes, and his use of the valuation of gold rather than the exchange rate for francs suggests that Keynes had some way of calculating his numbers. However, if he did there seems little consistency to the way in which he applies such a methodology, which means we are left with a high degree of speculation when trying to "get behind" Keynes' numbers. What Keynes did reasonably well was to provide the reader with references to many of his sources. But this just adds to what we do know, which is that Keynes was interested in statistics as a means of description and authoritative support for his arguments.

The second aspect that is important about the exchange between Dulles and Keynes is that it is representative of where most of any challenge to Keynes' statistics came, namely anything to do with the subject of reparations usually led to debate and

disagreement. Moggridge argues that critics fastened onto three aspects of this debate: the nature of the Armistice contract and hence the morality of the inclusion of the claim for pensions and separation allowances; the size of the claims for reparation; and Germany's capacity to pay. On the first, the debate was one of morality and principle rather than actual figures. If, as Keynes maintained, it was immoral to even consider including pensions and separation allowances then a debate about figures has no meaning. On the second, it is important to note that Keynes' 1919 estimate of Germany's liability for reparations was remarkably close to that of the Reparations Commission. In 1921 the Commission set Germany's liability at £ 6,600 million. Keynes' estimate was £ 6,400-8,800 million.[9] But, this misses the real point of the debate. The point is, as Moggridge argues, that the numbers prove nothing, they establish only orders of magnitude. As such they indicate that in terms of 'normal' national income[8] and late 1920s average exports, 'the allies' demands for reparations from Germany were large relative to German demands on France in 1871 or to other historically large financial transfers' (Moggridge, 1992, p. 343).

Keynes (with Ashley) had foreseen this difficulty as early as 1916 and argued in their Treasury memorandum that historical examples were the fairest way to determine reparations. They used the most recent example they were familiar with, which was the French reparations after her defeat by Germany in 1870. As a proportion of national income the annual figures for France (1871-5) were 7.5-12 per cent.[10] France's indemnity in 1871, of 5 billion francs, represented less than a quarter of a year's national income. This compared to the allies post-1918 demands of Germany that represented over one and a half times the highest estimates of Germany's national income in the second half of the 1920s. However, as Moggridge points out, and I have argued already, the numbers mean very little, they only establish an order of magnitude and as such they indicate that in terms of 'normal' national income and late 1920s average exports, the allies demands for reparations from Germany were large relative to German demands on France in 1871 or to other historically large financial transfers. Furthermore, the German payments were to continue for a much longer period than those of 1871. This ruled out the possibility of substantial recycling as had occurred in 1871 because when there is a stream of payments for several decades ahead, 'borrowing to service or anticipate a substantial portion of these payments is hardly feasible' (Moggridge, 1992, p. 343). Some

borrowing might transfer some payments from earlier to later years when incomes and trade would be greater, but for payments the size of those demanded in 1919 a large proportion would have to come from current international earnings.

While there was considerable debate at the time around reparation claims, the issue that dominated debate was Germany's "capacity to pay" reparations and the economic consequences of such payments. One complication in the debate was that the reparation sum was set in nominal terms in foreign currency. A worldwide rise in prices would reduce the real resource costs of any transfer of reparations, a fall would increase it. During the nineteenth century the trend of prices had been flat, but fluctuations around the trend were significant and lengthy. Keynes, having grown up in such a stable era would, argues Moggridge, have been more worried about the risk of a significant fall in prices as this would have the effect of paying large nominal sums over a long period more worrying than in the present day when we live, comparatively speaking, in an inflationary world.

When it came to determining Germany's capacity to pay, most economists were interested in Germany's ability to expand her exports and/or decrease her imports of goods and services to effect the transfer. The relevant issues in this debate are the time allowed for the changes in question, the magnitude of the changes, and the structure of the relevant markets. On the question of time, Keynes conceded that if the allies nursed the Germany economy back to health over a period of five to ten years they could obtain larger streams of payments than otherwise. There was little disagreement over this view. But there was room for disagreement as to the prospect of such time being allowed and the extent of the 'nursing' involved. Keynes, looking at the Treaty and the financial policies of the allies, was pessimistic on both counts.

On the question of magnitude the question had to be asked, could Germany transform her international accounts so as to produce an export surplus of the relevant size even if the allies allowed? Was it possible by appropriate policy measures to reduce domestic consumption and raise Germany's net international receipts? Moggridge argues that to a modern economist the answer would be 'yes in theory.' A mixture of tax, monetary and exchange-rate policies would reduce domestic consumption and raise the output of goods moving into international trade relative to those which did not. But in 1919 this was not a theoretical question. Keynes was

arguing that there was nothing to give on the consumption side and that, especially after the other allied depredations of the Treaty, the resources were not available and that they were not likely to be available in the foreseeable future. His opponents took a different view, often arguing that Keynes underestimated the recuperative power of the German economy and at the same time that the Treaty would in any case be modified to ease the burdens. 'Certainly, looking at the magnitudes involved, the figures above, though high, are not impossible for a more normal period. Whether the results would meet the needs or desires of the allies was another matter' (Moggridge, 1992, p. 344). However, any serious attempt by Germany to pay reparations (which there never was) as laid down in the Treaty would have required a substantial net increase in her exports of coal and manufactured goods. Such an expansion would have inevitably been at the expense of other producers.

But, the question whether Germany had the capacity to pay reparations on the scale demanded by the Treaty was never put to the test. In the late 1920s, German reparation payments averaged just over 1.5 billion marks – less than 2 per cent of national income or just over 13 per cent of her exports.[11] The proportions rose with the 1929 slump, but it was only in those years that Germany's export surplus was actually needed to cover her reparations bill, for prior to 1929 German capital imports had more than offset her reparations payments. The system collapsed shortly after. The general consensus among scholars is that she could have paid more than she did if there had been a willingness to pay in Germany, a willingness on the part of the allies to receive and a willingness to tackle associated problems. 'But whether she could have managed the figures of 1919 remains an open question' (Moggridge, 1992, p. 345).

In summary, the most significant aspect of the contemporary reaction to Keynes' use of statistics in *Economic Consequences* is that the reaction was relatively muted compared to the reaction he received on the political nature of the book. However, this muted reaction demonstrates how rhetorically effective Keynes use of statistics was. While often fierce debate centred on many of the reparation numbers, Keynes drew little reaction or dispute to his figures, calculations and conclusions. This reinforces the view that Keynes was widely acknowledged as an 'expert' on the subject of indemnities with few alternatives to legitimately stand in disagreement to his own.

5.2. Étienne Mantoux: *The Carthaginian Peace or The Economic Consequences of Mr. Keynes*

The first serious and analytical challenge to the statistics used by Keynes in *Economic Consequences* came from Étienne Mantoux with the publication of *The Carthaginian Peace or The Economic Consequences of Mr. Keynes.* However, Mantoux's book was published some sixteen years after Keynes' book first appeared. Nevertheless, Mantoux's analysis is systematic and thorough and concludes that the economic defects of the Versailles Treaty were 'exaggerated and illusory.' Mantoux argues that Keynes overestimated the impact of change upon the volume of international trade in general and the activity of the German economy in particular, while underestimating the ability of the German economy to produce a national income large enough to raise the revenue necessary to pay reparations.

Mantoux's challenge to Keynes' statistics went to the heart of many of Keynes' arguments. For example, Mantoux argues that the German economy during the inter-war period disproved Keynes' argument that she would not be capable of generating an adequate export surplus. Furthermore, Keynes had predicted that Europe would be threatened with 'a long, silent process of semi-starvation and of a gradual steady lowering of the standards of life and comfort,' yet 'ten years after the Treaty, European production was well above its pre-war level, and European standards of living had never been higher.' Keynes had predicted a decline in the iron output of Europe when in fact output increased almost continuously. 'In 1929 Europe produced 10 per cent more iron than in the record year, 1913.' Keynes has also predicted a decline in iron and steel output of Germany but by 1927 it was 30 and 38 per cent higher, respectively, than in 1913 (within the same territorial limits). He forecast a decline of efficiency in the German coal mining industry but by 1929 the efficiency of labour was 30 per cent higher than in 1913. Keynes also predicted that Germany could not export coal in the near future, yet in the first year following the Treaty, German net coal exports were 15 million tons and in 1926, 35 million tons. He estimated Germany's national savings for future years at less than 2 billion marks. In 1925 the figure was estimated at 6.4 billion and in 1927 at 7.6 billion. Keynes predicted that Germany could not afford to pay more than 2 billion marks a year in reparations for the next 30 years, yet between 1933 and 1939 Germany spent seven times as much a year on re-armament alone.

Mantoux uses these figures to estimate the effect on Germany's net capital formation before 1929 and this, combined with her arms expenditure under Hitler, leads him to the conclusion that Germany could have easily covered the heaviest possible Versailles reparation annuities, which exceeded four times what Keynes admitted to be her capacity to pay. There were a number of other challenges by Mantoux but regardless of what numbers and arguments were used by both men, the most helpful legacy that Mantoux has left is that he was able to bring to the debate a fresh and revised set of views and analytical means for assessing the veracity of Keynes' figures. However, Mantoux's work suffers from a significant defect. Much of Mantoux's analysis is taken up with dealing with Keynes' figures as if they had been fixed by Keynes as predictors of the future, when in many cases events turned out far differently than could have been foreseen. In the process we are left with statistics that only have meaning at a particular point in time and within a set historical context. A more convincing analysis would have been to uncover the methods and reasoning Keynes used to come up with the statistics he puts forward, thereby helping to expose how Keynes used figures to persuade, thereby giving us a better idea as to the validity of the claim that Keynes deliberately used statistics in an exaggerated manner. The other difficulty in any acceptance of Mantoux's challenge is that Keynes was never in a position to respond to Mantoux's criticisms, having died shortly before Mantoux's book was published. Tragically Mantoux had also died the previous year, killed during the final days of World War Two.

Most of the subsequent reviews of Mantoux's book were, however, sympathetic to Mantoux's challenge and most scholars since overwhelmingly side with Mantoux in the broad criticism of Keynes that he exaggerated his statistics.[12] But, as with much of the contemporary criticism of Keynes' figures, it is difficult to assess with any certainty how valid this criticism is because those doing the criticizing provide little to no analytical evidence for why they have this view. Rather they are happy to accept that "Mantoux is right; Keynes was wrong."

5.3. Assessments since Mantoux's Book

Scholars from the last few decades have tended to take the view that Keynes exaggerated both his argument about Germany's "capacity to pay" and the figures he used to support those arguments. Many of these arguments suffer the same fate as

Mantoux's analysis; while it is of interest from the armchair of hindsight to point out where Keynes' statistics were wrong, few scholars have successfully been able to challenge his statistics from within the context of 1919. For example, Singleton argues that it was doubtful whether the Allies ever expected Germany to pay more than the first 50 billion marks of the 132 gold marks handed down in the 1921 London Schedule of Payments and that this figure was not excessive. But, once again, a judgment only possible in hindsight (Singleton, 2007, p. 33).

Ferguson also argues that Keynes' arguments and figures were exaggerated and makes four statistical comparisons between Britain and Germany immediately following the war so as to make his point, although it is not clear why Ferguson chooses these particular figures as they really say nothing about his central claim of exaggeration. In the first example, he contends that some 2.4 million British workers were involved in strikes in 1919, 300,000 more than in revolutionary Germany. Second, in 1921 86 million days were lost in industrial disputes; the German figure was 22.6 million. Ferguson's third example is that the electorate was increased from 7.7 million to 21.4 million by the 1918 Representation of the People Act, more or less giving Britain the franchise Germans had enjoyed since 1871 (universal male suffrage). In the final example, only in the inflationary stakes did Germany fare worse, having run completely out of control, so that the Reichsmark was worth virtually nothing by the end of 1923 (Ferguson, 1999, p. 396). In reality, argues Ferguson, the peace terms were not unprecedented in their harshness and the German hyperinflation was mainly due to the irresponsible fiscal and monetary policies adopted by the Germans themselves.

Moggridge avoids the issue of the accuracy of Keynes' numbers and does not give a view as to whether or not he thought Keynes exaggerated his figures. Rather he chooses to focus on what he sees as Keynes' vision in *Economic Consequences* against how things played out. For example, he argues that in 1919 Keynes probably underestimated the recuperative power of capitalist economies after major wars. German recovery after 1918, as after 1945, was substantial. By the mid-1920s at the latest, output levels exceeded pre-war – as did real wages.[13] Her exports of manufactures did not return to pre-war levels, but the decline was not as severe as Britain's.[14] It is also, according to Moggridge, the case that Keynes' long standing worry about the secular tendency for the terms of trade between primary products

(especially foodstuffs) and manufacturers to turn automatically against the latter to the detriment of European standards of life was misplaced, as well as 'theoretically incorrect.' However, he was correct about the importance of frontiers, as the economic disintegration of the inter-war European economy was to demonstrate.[15]

What Keynes did miss, argues Moggridge, is the significance of the concerns the French had about security from future German attack. He acknowledged Clemenceau's 'vision' of a secure Europe but begged to differ over the wisdom of weakening the German economy over the longer term. In disagreeing, he ignored the political dimension of such worries and as a result his success in Britain in making the moral and economic case against the Treaty left France feeling more isolated and more prone to use the reparations issue as the vehicle for prolonging conflict. If he had allowed for French concerns he would have recognized that in place of the softening of the Treaty's terms on reparations, France required other guarantees from her allies.

Hawtrey's review for *Economica* (August 1948) stands out as something of an exception to the overwhelming sympathy for Mantoux's arguments and in so doing helps explain why Keynes may have been as concerned as he said he was with the situation as it existed in 1919. To those who argue that history has proven that Germany could easily have afforded the reparations laid down in the Treaty, Hawtrey reminds us that in point of fact it was the first cash payment of reparations demanded in the Spring of 1921 that started the collapse of the mark. Hawtrey acknowledges the argument that the German government may have been able to avert the result but as he points out, with the progress (or rather lack of) that had been made in restoring German finances, and the monetary stability that had been maintained for a full year up to May 1921, 'I do not think that accusation can be sustained. But if it were, the Allies had no means of imposing financial rectitude on Germany, short of assuming an overriding authority, which would have amounted to the supersession of the sovereign Republic by an Allied Military Government' (Hawtrey, 1946, p. 236).

Hawtrey also argues that with the inflation of 1921-3 this meant that such payments as Germany made were at the cost of depleting the working capital of German industry and trade. It was for the indispensable purpose of reconstituting this

working capital that Germany borrowed on so great a scale from London and New York and other centres in the years 1924-9.

On the transfer problem Hawtrey asks, what if transfer had been found possible? That, argues Hawtrey, would have brought Keynes' argument into play that Germany had in effect 'engaged herself to hand over to the Allies the whole of her surplus production in perpetuity.' (Keynes, 1920, p. 154). The charge of some £ 400 million a year for thirty years, according to Hawtrey, would have deprived German economic life of the essential resources of development, or indeed of maintenance, since capital outlay on technological improvements 'is an indispensable condition of competitive power' (Hawtrey, 1946, p. 236). This is Hawtrey's rebuff of Mantoux's argument that 'it would not have been economically impossible to exact payments in excess of what was necessary to maintain Germany's national capital intact' (Hawtrey, 1946, p. 236). For Hawtrey this would have supported Keynes view that such an imposition on Germany would have meant nothing less than long drawn out ruin, which, in Keynes' view, had always been Clemenceau's aim. This would, of course, have freed France from the German threat but, as Keynes had argued, this would have invited their own destruction as well.

Hawtrey is also interested in setting to rights Mantoux's main argument, namely that the Allies were in a position to make Germany hand over something more than the whole of her surplus, but that, owing to the influence of Keynes' book, they failed to do so. Germany did retain enough of her surplus to achieve a rapid and almost complete recovery, and thereafter used her renewed economic power to re-arm on a scale almost sufficient for her to subjugate the world. But when Mantoux argued 'that the surplus which Germany yielded to Hitler for rearmament and war can be taken as a measure of what could have been made available for reparations, he was making some rather considerable assumptions.' Was it, Hawtrey asks, conceivable in the Europe of 1919 that anything like the savage system of coercion and repression to which Hitler resorted could have been imposed on any human society? And surely, he goes on, even in a world become habituated to the outrage of totalitarianism, it would be impossible to extract any comparable surplus in opposition to the patriotic sentiments of the community instead of with their support. Hawtrey argues that 'the German enslavement of populations of invaded countries during the Second World War was a desperate throw, and met with very limited success.' Finally Hawtrey

points out that even if arguments had favoured emasculating Germany as Keynes believed the Treaty terms would do, 'in the relatively humane world of 1919 it was a matter of course that resources would flow to a country reduced to urgent need, from more prosperous centres. The idea of destroying German economic power by imposing excessive reparation liability was really moonshine from the beginning' (Hawtrey, 1946, pp. 237-238).

6. Conclusion

Most present day scholars argue that Keynes exaggerated Germany's inability to meet the reparation terms laid down in The Treaty. Typically they point to the way Keynes underestimated Germany's economic restorative capability, ultimately a fact that led to World War Two. Some scholars go as far as to lay the blame for Germany's rapid ability to rearm on Keynes's publication of *Economic Consequences.* However, this is a viewpoint that enjoys the benefits of hindsight and does not sufficiently take account of the context within which Keynes's statistics were drawn.

I have argued that most of Keynes' figures were taken, in many cases verbatim, directly from Treasury memoranda. While in many cases these figures are undoubtedly the work of Keynes himself (as a Treasury official), they are statistics that, prior to any form of publication, would have been known to those he worked with. It seems unlikely that the entire Treasury would have been complicit in turning a blind eye to deliberately exaggerated figures. However, this does not mean that Keynes used statistics other than as a means to persuade his readers. Keynes understood the importance and "rules" of rhetoric. There are numerous examples in *Economic Consequences* where he effectively marshals numbers and calculations in ways that support his arguments and thus establishes a style of rhetoric his readers found convincing. Keynes believed that the terms as laid out in the Treaty would not only emasculate Germany economically for many years to come, but his real concern was that the Treaty, if carried out, would, in effect, throw the whole of Europe into an economic dark ages.

There is little doubt that he was successful in persuading his contemporaries of his arguments. Apart from the obvious publishing success of his book, the clearest evidence we have that his statistics were rhetorically compelling is the widespread acceptance of the figures he used. Some scholars suggest that this is because they

were deliberately presented in a confusing manner, whereas Keynes' prose could easily be challenged due to the elaborate style he often used. However, this is to overlook the fact that Keynes himself saw his book as a serious work of economics and his extensive use of Treasury numbers tends to support this argument. It also overlooks the fact that Keynes' numbers drew little criticism at the time and were accepted by many of his otherwise critical audience. To suggest otherwise is to cast doubt on the intellectual ability of Keynes's own contemporaries to analyse and understand his statistical arguments.

INSERT B

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1. The “rules of rhetoric” have their roots in classical Greece and Rome. By the time of Cicero (106-43BC) Aristotle’s early views of rhetoric had been divided into five major canons; inventio (invention); dispositio (arrangement); elocutio (style); memoria (memory) and pronuntiatio (delivery)

Invention: the art of discovering ways to find an argument that would persuade an audience.

Arrangement: the method of organizing an argument.

Style: presenting an argument in a way designed to stir the emotions. Diction and organization of phrases (tropes) became one’s style. This was divided into three levels: low (teaching), middle (persuading), and high (entertaining).

Memory: the ability to use mnemonic devices to call forth and sustain an argument.

Delivery: without effective delivery the other canons will not matter.

2. While the importance of style is accepted by most scholars, its importance among well known writers has varied acceptance. Henry David Thoreau for example expressed indifference to style; “Who care’s what a man’s style is, so it is intelligible, as intelligible as his thought.” Matthew Arnold said; “People think that I can teach them style. What stuff it all is! Have something to say, and say it as clearly as you can. That is the only secret of style.” On the other hand, Alfred North Whitehead said of style; “ Style, in its finest sense, is the last acquirement of the educated mind; it is also the most useful. It pervades the whole being.” And, Vladimir Nabokov; “Style and structure are the essence of a book; great ideas are hogwash.”

3. In particular in the essays on Marshall and Edgeworth in *Essays in Biography* (1972, pp. 161-231, 251-66) and in his review of Tinbergen’s work on business cycles (1973, pp. 306-20).

4. This ‘representative’ table has been stripped of much of Keynes’ prose in an attempt to better understand his statistics. While there is little doubt that the rhetorical success of *Economic Consequences* lies in the integrated way in which Keynes mixes numbers with prose, it is an intimidating task analyzing his statistics alone unless an approach similar to the one outlined in Table One is used.

5. Ashley (1860-1927) is best known for his work as an economic historian. He differed with Marshall and his followers who sought to sideline economic history in favour of establishing economics as a science. He wrote a book in 1888 *Introduction to Economic History and Theory* where he outlined his differences with the Marshallians. He argued that deductive, abstract reasoning could not provide the basis for meaningful or effective economic theory or practice, and that statements of economic principle were true only in relation to given historical conditions. With the outbreak of the First World War he was drawn into government service, largely as an expert adviser on, for example, the departmental committee of food prices in 1916, and the Sumner committee on the cost of living in 1918, where his statistical knowledge was at a premium.’ Source: Oxford National Biography.

6. The handwritten manuscript reference is: Keynes, 1919, p. 276. The equivalent section in Keynes, 1920 is pp. 156-7.

7. The debate around the inclusion or exclusion of pensions and separation allowances had more to do with the moral efficacy of their consideration. Keynes was aggressively opposed to any inclusion of such items, which meant there was little point in bothering too much about debating the actual numbers when he did not think they should be considered in the first place. On the subject of accounting treatment for reparations Dulles argues in his letter that even if this was not the intended figure that should be paid by way of reparations, standard commercial practice was to record what creditors owed to their debtors. Refer to *Collected Works XVII*, p. 24.

8. Refer above to the way in which the use of national income statistics by McKenna led to difficulties in meeting war time debt burdens due to the unsophisticated way in which income was calculated.

9. Keynes estimate of liability should not be confused with the figure he believed should be paid. While his estimate of £ 6,400 – 8,800 was his assessment of German liability, he called for an agreed settlement figure of £ 2,000 million so that all economies could recover as soon as possible.

10. Cited in Moggridge, 1992; Maclup 1976, Ch. XV; Trachtenberg 1980, 67-8.

11. Cited in Moggridge, 1992; Machlup 1964, 384, 392-3.

12. A number of reviews of Mantoux's book appeared shortly after its publication. See, Rappard, (October 1946), *The American Political Science Review;* Heilperin, (December 1946), *The American Economic Review;* Hillmann, (January 1947), *International Affairs;* Jones, (January 1947), *The American Journal of International Law;* Angus, (February 1947), *The Canadian Journal of Economics and Political Science;* Viner, (March 1947), *The Journal of Modern History;* Warren, (July 1947), *Annals of the American Academy of Political and Social Sciences;* Palyi, (July 1947), *The Review of Politics;* Hawtrey, (August 1948), *Economica;* Albrecht-Carrie, (June 1953), *Political Science Quarterly;* Parker, (June 1954), *The Journal of Political Economy.*

13. Cited in Moggridge. 1992. Phelps Brown and Browne 1967, Appendix 3.

14. Cited in Moggridge. 1992. Maizels 1964, 189.

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INSERT A

Figure One below provides an extract comparison of one section 'Transferable Wealth,' between the original 1918 Treasury memorandum and it's almost verbatim appearance in *Economic Consequences.* The comparison of original memorandum with published text notes in {parenthesis} changes from the memorandum and the prose that appears in the memorandum but not the book, *denoted in* ***bold italics***:

{1.} *Immediately Transferable Wealth*

(a) Gold. After the deduction of the gold to be returned to Russia, the official holding of gold as shown in the Reichsbank's return of the 30th November 1918 amounted to £ 115,417,900. This was a very much larger amount than had appeared in the Reichsbank's return prior to the war, and was the result of the vigorous campaign which has been ***continuously conducted*** {carried on} in Germany {during the war} for the surrender to the Reichsbank not only of gold coin but of gold ornaments of every kind. Private hoards doubtless still exist, but, in view of the great efforts already made, it is unlikely that either the German Government or the Allies will be able to unearth them. ***It is not known whether the Reichsbank or the government possess a secret hoard but, as every effort has been made throughout the war to counteract the effect of a largely increased note issue by showing as much gold as possible in the Reichsbank's return, it is extremely unlikely that any substantial amount is held by the government outside this return.*** The return {can} ***should*** therefore be taken as probably representing the maximum amount which the German Government {are} ***have been*** able to extract from their people. In addition to gold there {was} ***is*** {in the Reichsbank} a sum of about £ 1,000,000 in silver ***in the Reichsbank***. There {must be} ***is***, however, a further substantial amount in circulation, {for} the holdings of the Reichsbank ***having been*** {were} as high as £ 9,100,000 on the 31st December 1917, and ***having*** stood at about £ 6,000,000 up to the latter part of October 1918, when the internal run began on currency of every kind. We may, therefore, take a total of (say) £ 125,000,000 for gold and silver together {at the date of the Armistice}.'[6]

Figure One: Example of how Keynes 'Cut and Pasted' from *Memoranda* into *Economic Consequences of the Peace.*

INSERT B

The following table lays out in exact order as they appear in *Economic Consequences* the statistics Keynes uses to explain the economic terms of the Treaty. They are not the full list of statistics from the book (in fact they represent only a small proportion of all numbers provided by Keynes) but just those related to the Treaty terms. When set out in this way it becomes clearer to the reader why many analysts have had difficulty in understanding his statistical arguments. Presentation is unsystematic, in places overwhelming and by and large Keynes gives us no idea as to the methodology he employs in reaching many of his conclusions. However, what these tables do reinforce is that Keynes used statistics for descriptive and supportive reasons, with no regard to economic theory or the modeling techniques so familiar to modern day economists.

	11 Conference and Terms of Treaty			
p. 148	Pensions & Allowances guess			
	British Empire	£1,400,000,000		
	France	£2,400,000,000		
	Italy	£500,000,000		
	Others (incl. US)	£700,000,000		
	Total	£5,000,000,000		
	If added to upper claims figure, then claim climbs to			£8,000,000,000
p. 149	**Other treaty particulars**			
	Before May 1, 1921 Germany must pay			£1,000,000,000
	Includes expenses of the Armies of Occupation since			
	the Armistice of			£200,000,000
	In addition to early payment of this sum Germany			
	required to deliver bearer bonds of			£2,000,000,000
	These bonds carry 21/2% per annum interest from 1921 to			
	1925 and 5% plus 1% amortisation thereafter			
	From 1921 to 1925 Germany will then have to find pa			£75,000,000
	and thereafter			£180,000,000
	Once Reparations Commission satisfied Germany can do			
	better 5% bearer bonds to be issued for further			£2,000,000,000
p. 152	Bring annual payment to			£280,000,000
	without allowing for discharge of capital of the last			£2,000,000,000
	But Germanys liability not limited to			£5,000,000,000
	Total liability	£8,000,000,000	Balance then	£3,000,000,000
	Assuming interest at 5%, annual payments, without			
	amortisation or allowance, will be:			£430,000,000
	Also bonds representing in excess of			£3,000,000,000
	not to be issued until Commission satisfied interest can be met.			
	But interest will be debited in the meantime ie indebtedness			
	is being charged at compound interest rate.			
p. 153	At 5% compound interest a capital sum doubles every 15 years.			
	Assuming Germany cannot pay annually more than			£150,000,000
	up to 1936, will owe at this date more than half as much again			
	as she does now. ie	£13,000,000,000	vs	£8,000,000,000
	From 1936 onwards will need to make annual payments of			£650,000,000
	to keep pace with interest alone.			
	At any year she pays less than this sum she will owe more			
	than she did at the beginning.			
p. 154	**And** if she is to discharge capital sum from 1936 ie			
	48 years from the Armistice she must pay an additional			£130,000,000
	Total in all:			£780,000,000

Table One: Statistics selected by Keynes from The Treaty