Journal of the History of Economic Thought, Volume 23, Number 4, 2001

TUGAN-BARANOVSKY AS A PIONEER OF TRADE CYCLE ANALYSIS

BY

VINCENT BARNETT

> . . . a state of change in business conditions is the only "normal" state.
>
> Mitchell (1913, p. 86)

Mikhail Ivanovich Tugan-Baranovsky (1865–1919) has not unjustly been called the greatest Russian economist of all time (Jasny 1972, p. 159). This neglected the fact that he was born near Kharkov and towards the end of his life came to see the Ukraine as his homeland, but the evaluation itself is not so far from the truth. However, opinion about the precise importance of Tugan-Baranovsky's work to the development of trade cycle analysis has varied widely.[1] J. M. Keynes and A. H. Hansen were both highly respectful of Tugan's contribution. For example, in the *Treatise on Money*, Keynes wrote in regards to business cycle theory that he was "in strong sympathy with the school of writers . . . of which Tugan-Baranovski was the first and most original" (Keynes 1930, vol. 2, p. 100). In his 1951 work, *Business Cycles and National Income*, Hansen was enthusiastic, describing Tugan as "cutting his way though the jungle to a new outlook" (Hansen 1951, p. 281). This suggests that some aspects of both British and American Keynesianism might have originated in Tugan's work, or at least been influenced by it. W. W. Rostow was also impressed by Tugan's approach, stating that it "took business cycle analysis some distance beyond Juglar and Marx" (Rostow 1990, p. 261).

Joseph Schumpeter on the other hand was more critical of Tugan's contribution, describing the theoretical aspect of Tugan's work on cycles as a "distinctly poor performance" (Schumpeter 1954, p. 1126, n. 9). Ernst Wagemann thought that Tugan's empirical investigation of fluctuations was a "milestone of special importance" (Wagemann 1930, p. 5), despite the fact that the descriptive aspect of Tugan's work is often ignored. Tugan's most famous pupil, Nikolai Kondratiev, characterized his tutor's talent in general as shining "particularly brightly"

CREES, Birmingham University, UK.

[1] This article is part of a larger project investigating "Tugan-Baranovskii and the Evolution of Russian Economics, 1890–1919," funded by the ESRC (grant number R000237778). I am grateful to the ESRC and to CREES, Birmingham University for providing support. Thanks are also due to two anonymous referees for their very helpful comments on an earlier version of this paper, in particular with regards to the attempt to trace Tugan's influence on later economists.

ISSN 1042-7716 print; ISSN 1469-9656 online/01/040443-24 © 2001 The History of Economics Society
DOI: 10.1080/10427710120096956

(Kondratiev 1923, p. 317).[2] The Bolsheviks were, however, less impressed by Tugan's work, suggesting after 1917 that he would "soon be forgotten" (Jasny 1972, p. 159).[3] This article attempts to clear up some of the confusion that surrounds Tugan's contribution by providing an analysis of various facets of his work on trade cycles, as well as evaluating its importance in relation to contemporaries and its influence on later economists.

Perhaps one of the most frustrating problems in fully evaluating Tugan's contribution has been the absence of a complete English-language edition of Tugan's most important work on cycles, *Industrial Crises in Contemporary England, their Causes and Immediate Influence on National Life*.[4] This book was first published in 1894 in Russian. While a German edition was issued in 1901 and a French edition in 1913, a complete English edition has yet to appear. A substantially revised second Russian edition was published in 1900 with the title *Industrial Crises: Studies in the Social History of England*, and a final revised edition was published in 1914 with the title *Periodic Industrial Crises: A History of English Crises and a General Theory of Crises*. One commentator suggested that the importance of this book was not fully recognised until the publication of a section of it in a Western journal in 1899, although in Russia its significance was quickly recognized (Kindersley 1962, p. 58). An English translation of the theoretical chapter alone finally appeared in 1954, but without the substantial empirical history of crises that Tugan provided (together with his analysis of the social consequences of cycles) this source is at best incomplete, at worst rather misleading. Also, Tugan provided additional analyses of cycle-related matters in separate works which are rarely mentioned in discussions of his overall contribution.

Another problem has been that it was assumed that Tugan was in some straightforward sense a Marxist and, hence, interest in his work has originated mainly from left-wing circles, focusing most frequently on either reproduction schemes or the falling rate of profit. This is problematic because in fact Tugan rejected major components of Marxist economics in the later stages of his life, something that many socialists have not been keen to emphasise or even acknowledge.[5] Hence, the full range of Tugan's work has usually been ignored, leaving a misleading impression of his intentions and legacy for both economics and Russian studies. To begin to make up for this deficiency, this article is divided into three main sections.

The first section simply presents the central elements of Tugan's analysis, in concentrated form, to clear up some lingering misconceptions. The second section interprets this analysis in respect to previous writers. And the third outlines some of its influences on other economists. Emphasis is placed on reconstructing the exact meaning of Tugan's approach in itself and in relation to his contemporaries, rather than on projecting back current orthodoxy or in

[2] For a brief account of Tugan's relationship to Kondratiev, see Barnett (1998, pp. 24–25).

[3] For evidence that Tugan's work has not been forgotten amongst contemporary economists see Mainwaring (1995).

[4] While Tugan specified "England" in the title, in fact this book focused on Great Britain as a whole, as the references attest.

[5] The extent of Tugan's later divergence from orthodox Marxism can be seen from Barnett (2000).

picking out those elements that might still be regarded as "correct" today. Also those areas of Tugan's cycle theory that have been covered in the existing literature—the link to continental economists like Arthur Spiethoff—are relegated to second place, in favor of those areas of Tugan's work that have been neglected.

I. PRESENTING *INDUSTRIAL CRISES IN CONTEMPORARY ENGLAND*

While published first in St. Petersburg, Tugan's *Industrial Crises in Contemporary England* originated as a thesis submitted at Moscow University for a master's degree in political economy, and it was Tugan's most important contribution to economics, as opposed to economic history.[6] In the preface Tugan explained that in this work he was analyzing the evolution of an economy that witnessed the most typical expression of processes that were at work in all cultured states, including Russia. In opposition to the view of Populist economists such as V. P. Vorontsov, who denied that capitalism could ever develop in Russia, Tugan implied that wherever the British economy led other less-developed countries such as Russia would follow. The background to this debate was the question of the development strategy best suited to a "backward" country like Russia, and whether Karl Marx's materialist conception of history was applicable to countries outside Western Europe.

Thus while *Industrial Crises* was ostensibly a book about the British economy, to some degree at least it was also intended as a metaphor of the prospects for industrial growth in Russia. Tugan took pains to emphasize that it was based on sources such as the English Blue Books, Parliamentary Commissions, official statistical handbooks, and so on which had been consulted in the British Museum at the time of his six-month stay in London in the spring and summer of 1892 (Tugan-Baranovskii 1914, pp. 53–54).[7] Hence, it was based on a thorough analysis of primary sources. It also demonstrated Tugan's detailed knowledge of British classical economics, as will become apparent later in this article.

Industrial Crises can be analyzed from various points of view, such as that of the method utilized to date crises, theoretical explanations given to account for them, and empirical descriptions intended to portray them. It is possible that Tugan was or was not original in each of these different aspects of cycle analysis, and in order to judge this question a short account of his contribution to each aspect is given in what follows.

[6] RGIA, f.25, op.1, d.4525, l.4.

[7] References have usually been given to the most recent Russian reprint of Tugan's book in order to ensure ease of access for those who are interested in following up on specific points. This is a reprint of the third edition of *Periodic Industrial Crises*, which included substantial revisions to the 1894 and 1900 editions prepared by Tugan in 1913. These revisions included structural changes as well as modifications to the content of the book. Also I have chosen to use in the text of this article the transliteration "Tugan-Baranovsky" rather than "Tugan-Baranovskii" or "Tuhan-Baranowsky" simply because it will be the most familiar to many readers. There is an important point at issue in choosing whether to use the Russian or Ukrainian form of Tugan's name, but this is a contentious area that cannot be covered satisfactorily in one article focusing on trade cycle theory.

Tugan's Method for Measuring Cycles

For W. Arthur Lewis, the traditional chronology of trade cycles derived first of all from financial panics, due to the scarcity of production data when the study of cycles began (Lewis 1978, p. 19). Within this framework Tugan's work can be seen as an intermediate stage in the development of trade cycle analysis, between mid-nineteenth century studies of individual panics such as those of D. M. Evans, and the study of aggregate business cycles pioneered by Wesley Mitchell after 1900. If Clement Juglar's work on commercial crises marked a decisive turning-point in unifying the study of separate financial panics, then Tugan's work can be seen as a further step on the path to a macroeconomic trade cycle analysis. An important innovation made by Tugan over his predecessors was to begin to develop more sophisticated techniques for measuring economic fluctuations.

For example, Tugan's method for dating industrial crises was as follows. He first constructed data series for various variables such as the value of UK exports, the number of bankruptcies, changes in the price of iron, the number of newly-founded joint-stock companies, and the amount of bullion in the Bank of England. He then calculated the percentage deviation of the value of each year from the average for the period in question and plotted this as a graph. Years in which the number of bankruptcies and the price of iron peaked, and the amount of bullion and the value of exports reached their trough, were crisis years. Using this method Tugan identified 1825, 1836, 1847, 1857, and 1873 as clear examples of "classical" industrial crises in Britain. Figures 1 and 2 show the graphs plotted by Tugan for the period 1823–50, with the crises of 1825, 1836, and 1847 being evident through his method (Tugan-Baranovskii 1914, pp. 88, 151, 188). Tugan was one of the first economists to attempt to identify years of crisis by comparing

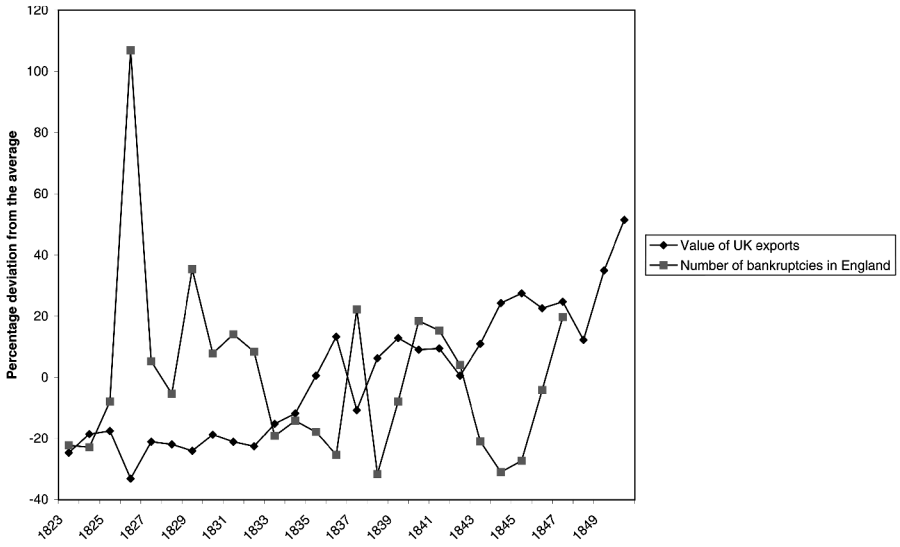

Figure 1. UK exports and English bankruptcies, 1823–50.

https://doi.org/10.1080/10427710120096956 Published online by Cambridge University Press

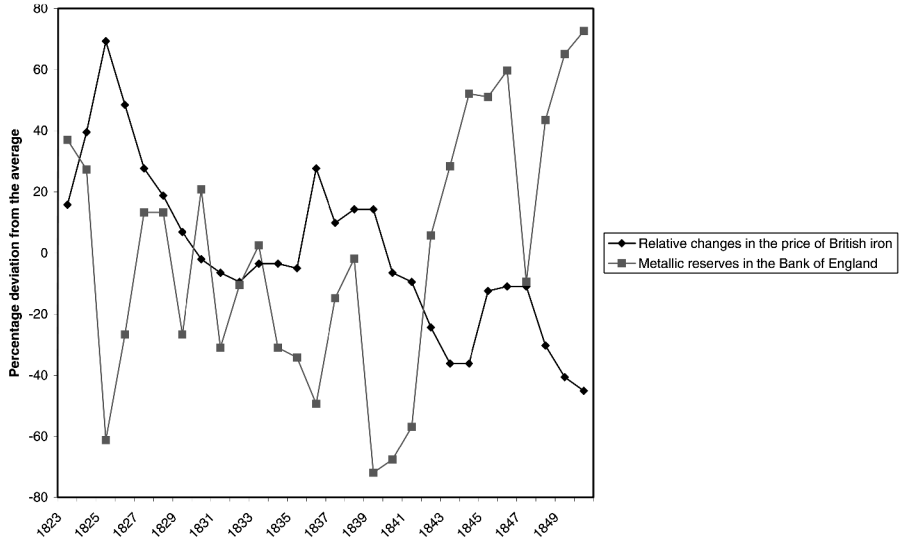

Figure 2. The price of iron and metallic reserves, 1823–50.

a number of separate time series. The Bank of England had manipulated data to reveal patterns of change in the first half of the nineteenth century but had not used this technique explicitly to date crises (Klein 1997, p. 85).

Tugan's notion of using the price of iron as a measure of crisis was utilized without acknowledgement by G. H. Hull, who argued that iron prices had a "remarkable influence in bringing about the advance in labor and general construction costs" (Hull 1911, p. 85). Recent work on the method used by Wesley Mitchell to date cycles has identified that for dates before 1927 detrended series were used, whereas for dates after 1927 the secular trend was not removed (Romer 1994, p. 574). In particular, Tugan's method of taking the percentage deviation from the average was dependent on the temporal limits of the series in question. This in turn was determined by the policy frameworks that he provided for the development of the British economy in the nineteenth century, as outlined in the next section. A time series with a different temporal span would generate a different average, and this might affect the dating of crises, something that was not fully explained.

While Tugan generally utilized four or five separate time series to date an industrial crisis, Mitchell used many more series in order to date a "reference cycle" for the economy as a whole. Tugan had begun to develop this idea to some extent, but less rigorously than Mitchell did. Unlike Mitchell, Tugan attempted to connect the purely economic aspect of trade cycles with their social consequences. These consequences were analyzed in a separate section of the third edition of the book, where the socialistic element in Tugan's thinking was prominently displayed. Here the negative effects of crises such as heightened poverty and famine were chronicled in detail, as were the rise of working class movements such as Chartism and changes to the social structure of Britain. For

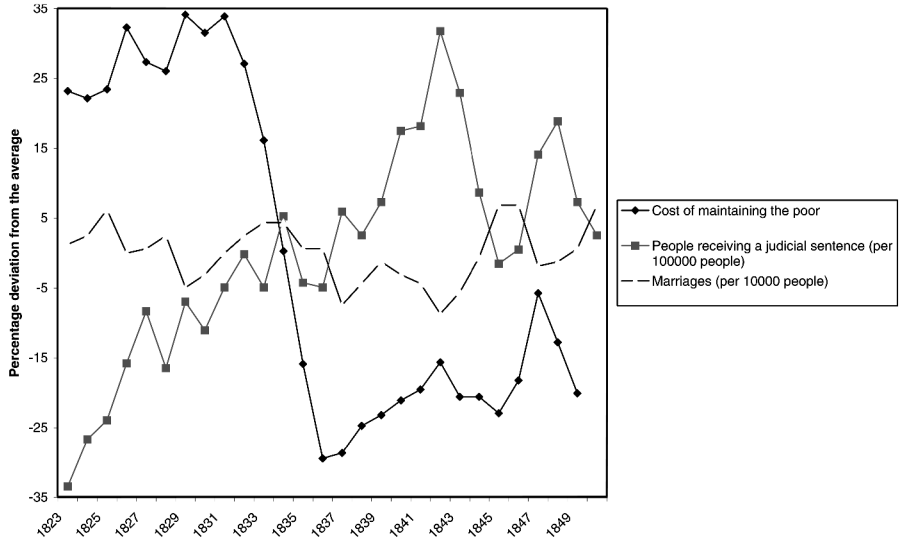

Figure 3. The influence of industrial cycles on national life, 1823–50.

example, Figure 3 shows the data presented by Tugan for marriages, crimes, and pauperism in Britain for the period 1823–50.

For Tugan this data illustrated that changes in the economic conditions of the masses over this period had a cyclical rather than a progressive character. For example, the data on pauperism and crime illustrated the teaching of Friedrich Engels on the industrial reserve army, thousands of workers being expelled from employment as a result of industrial crises (Tugan-Baranovskii 1914, pp. 356–58). Moreover, the fact that fluctuations in the level of unemployment were greatest in those industrial branches that produced the means of production was interpreted as confirming Tugan's favored theory of cycles (Tugan-Baranovskii 1914, p. 475). Both in the attempt to date cycles through comparing different time series and in the concern to emphasize the social consequences of cycles Tugan's work was an important step forward over previous investigators such as Evans and Juglar.

Tugan's Framework for Chronicling Cycles

Another of the key features of the empirical aspect of *Industrial Crises* neglected by commentators was Tugan's concern to demonstrate that, in modern terminology, policy regimes created the framework for particular forms of cyclical patterns to occur. Tugan divided the economic history of England into various sub-periods that set the environment for the manner in which cyclical tendencies were manifested. Tugan's periodization for the nineteenth century was as follows: before 1820, 1820–50, 1850–70, and 1870–98. For Tugan these sub-periods corresponded to definite epochs in the history of cycle typology. For example, while crises had occurred in the nineteenth century before 1823—in 1811, 1815,

https://doi.org/10.1080/10427710120096956 Published online by Cambridge University Press

and 1818—this type of crisis belonged to those of the eighteenth century, which had exogenous causes of a political character. Crises after 1823 had mainly endogenous causes (Tugan-Baranovskii 1914, pp. 85–86).

Some examples of this approach to specifying policy frameworks can be given with respect to foreign trade as follows. According to Tugan the history of trade policy in England between 1820 and 1850 represented an uninterrupted series of concessions to the principle of free trade, which culminated in the repeal of the Corn Laws in 1846. The subsequent period of 1851–70 was an epoch of free trade, with a large increase in English foreign trade (Tugan-Baranovskii 1914, p. 149). The second half of the 1870s saw the beginnings of the relative decline of English industry, which led to an absence of large-scale volatility in the level of economic activity between 1871 and 1898 (Tugan-Baranovskii 1914, p. 186). The first decade of the twentieth century was characterized by an easing of the amplitude of industrial crises (Tugan-Baranovskii 1914, p. 206). With respect to monetary policy regimes, Tugan highlighted changes made in 1844 to the reserve requirements of the Bank of England—Robert Peel's Bank Act—and the effect this had on efforts to control financial crises.

Outlining Tugan's analysis of trade policy frameworks in more detail, at the beginning of the 1850s events occurred which transformed the English economy fundamentally. Markets for English goods widened dramatically as a result of the abolition of various duties, and trade agreements with European counties such as France, Belgium, and Italy followed in the 1860s. An epoch of declining commodity prices between 1820 and 1850 was replaced by a period of rising commodity prices thereafter. Increased demand from gold-producing regions such as California and Australia also contributed to this general revival in international trade. As a consequence the level of bullion held in the Bank of England increased from less than £17 million in the 1840s to £22 million in 1852. This allowed the discount rate to fall to two percent, further encouraging the development of trade (Tugan-Baranovskii 1914, pp. 138–44).

The 1870s were another turning point in English industry, marking the beginning of the decline in the preeminence of England in the world economy. The preceding period of prosperity ended in a deep and prolonged depression, with a turn to protectionism occurring at the end of the 1870s (Tugan-Baranovskii 1914, p. 180). The characteristic feature of the new industrial evolution of England was the absence of distinct or severe crises, which were replaced by a prolonged stagnation. However, after 1895 a new industrial upturn began in which the type of crises that had occurred previously were absent, due to two main factors. First, there was the declining importance of independent traders and trading capital. The growth of connections between all parts of the world economy had diminished the level of supplies held by traders and established more direct links between producers and consumers. This reduced the significance of trading capital, speculation in which had, in the past, provoked catastrophes on the English money markets.

Second, English industry had undergone a profound restructuring, with a reduction in the importance of textile production and an increase in the importance of iron, coal, and machinery manufacture. This meant cycles were expressed most vividly, not as previously in the textile sector, but rather in sectors producing

the means of production. Thus for Tugan the changing character of industrial crises in England from the 1820s to the 1890s was closely connected to the loss of English preeminence in the world economy (Tugan-Baranovskii 1914, pp. 201–205). Through this analysis Tugan was suggesting that the history of crises in England could be divided into specific epochs in which structural constraints, legal conventions, and technological innovations in the English economy played a major part in determining the type of crises that were witnessed.

This element of Tugan's contribution to cycle analysis was taken up by Russian contemporaries. For example, in *Trade-Industrial Crises in Western Europe and in Russia* B. F. Brandt emphasized that the history of industrial crises confirmed the "close connection which existed between them and the current structure of the national economy," at least in the nineteenth century (Brandt 1902, p. 5). Debate on the question of how the economic structure of Russia affected the type of cycles present in the economy continued into the 1920s and beyond (See Barnett (1996, pp. 1011–14; 1999, pp. 134–36). In *The Russian Factory*, first published in 1898, Tugan had argued that in post-reform Russia—i.e., after the emancipation of the serfs in 1861—industrial fluctuations became more coincident with those in England rather than being determined by domestic grain crop levels (Tugan-Baranovskii 1914, pp. 259–60). This was disputed by some, the underlying question being to what extent Russia was being integrated into the world (capitalist) economy, a sensitive political issue. Reference to Tugan's contribution on this topic was mandatory until the 1920s.[8] However Tugan came to be regarded as a "bourgeois liberal" by the Bolsheviks, and his work was attacked in Soviet literature after 1917. Perhaps in part because of this, Tugan's idea that policy regimes had an important role in determining the specificity of cycle mechanics was neglected by both Soviet and Western commentators.

Tugan's Empirical Description of Crises

Another crucial element of *Industrial Crises* was Tugan's in-depth analysis of the sequence of events pertaining to specific crises that had affected the English economy in the nineteenth century. Such analyses were provided in relation to the 1825, 1836, 1847, 1857, 1864, and 1866 crises. There is not enough space to cover all aspects of these accounts here, but an examination of specific elements of them is important in order to gauge Tugan's originality. Of key significance for explaining industrial crises, according to Tugan, were movements in the level of gold bullion in the Bank of England. Tugan's account of the 1825 crisis in this respect was as follows. At the start of the 1820s, English trade was in stagnation and the loan market was overcrowded with capital. The level of bullion in the Bank of England had grown from £3.6 million in 1819 to £12.7 million in 1823, causing a continuous decline in the interest rate. The jolt that led to revival was the opening up of new markets in America: in 1824 and 1825, many new cotton factories had been constructed in Manchester which exported

[8] The 1930s were a very different era in the USSR with regard to economic affairs than the 1920s. See Barnett (1997) for an idea of this contrast with respect to policymaking in the 1930s, and Barnett (1995) for an idea of this contrast with respect to the functioning of actual markets in the 1920s.

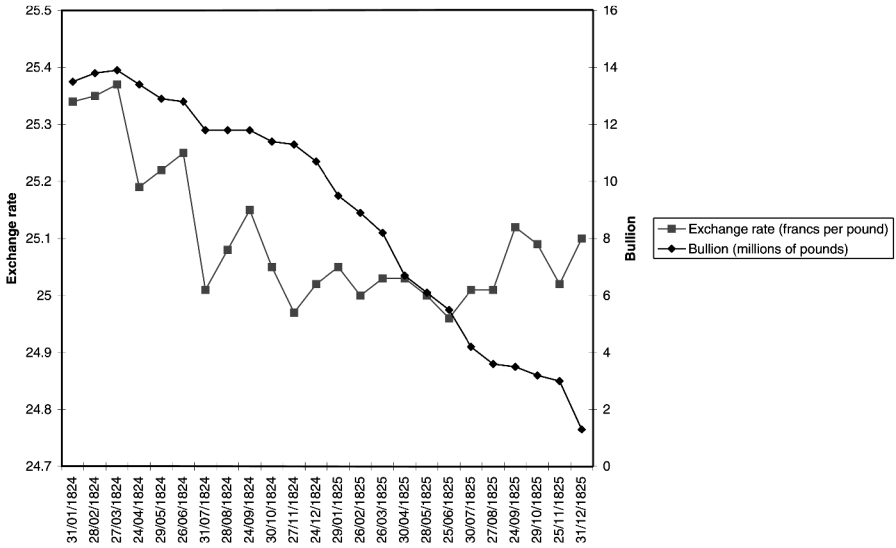

Figure 4. The exchange rate and Bank of England bullion, 1824–25.

cotton fabric to Central and South America (Tugan-Baranovskii 1914, pp. 90–95).

However, in 1825 English foreign trade experienced a turning point, with imports increasing sharply and exports declining. This led to an unfavorable trade balance that in turn caused an external drain of gold, and as a consequence the Bank was exposed to the danger of suspending the exchange of notes for coins. Figure 4 shows the level of bullion in the Bank of England and the sterling/franc exchange rate in Paris between January 1824 and December 1825. This data was crucial to Tugan's explanation of the 1825 crisis in that it illustrated the negative effect a declining pound could have on bullion reserves. When the rate of sterling in Paris was below 25 francs 10 centimes—the lower gold point — it became profitable to export gold from London to Paris; when it rose above 25 francs 35 centimes—the upper gold point—it became profitable to send gold from Paris to London. From June 1824 the flow of gold into England had halted, and from the end of 1824 gold had started to flow overseas. This drain continued with growing force until September 1825, when the exchange rate returned to within the gold points.[9]

In Tugan's analysis of later crises the same idea of explaining crises by reference to the bullion held in the Bank of England was detected. However, additional elements were incorporated into his analysis over time. In the case of the 1836 crisis, an internal drain of gold replaced the external drain once the exchange rate had returned to within the gold points, thus prolonging the crisis further. The 1847 crisis was the first to occur after the 1844 Bank Act that had split the

[9] Lewis confirmed this aspect of Tugan's analysis by stating that whenever there was a Juglar upswing, Britain began to lose gold. See Lewis (1978, p. 35).

https://doi.org/10.1080/10427710120096956 Published online by Cambridge University Press

Bank of England reserves into two parts, that covering banknotes and that which secured deposits. This crisis was also the first in which the Bank had attempted to halt the outflow of gold by raising the discount rate. The 1857 crisis was the first in what Tugan called the epoch of free trade, in that it was the first truly international crisis that encompassed all countries involved in significant levels of foreign trade.

Tugan's Typology of Crises

Tugan provided an analysis of various types of economic crisis in his entry to the Brokgauz and Efron multi-volume *Encyclopedic Dictionary*. He divided them into three main types—monetary, credit, and trade-industrial crises, with a special sub-category for agricultural crises—this division being based on the particular field of circulation that was affected. Monetary crises were characterized by an insufficient supply of cash in relation to the requirements of circulation. Credit crises were characterized by a rapid decline in the availability of credit, while industrial crises were characterized by a general disruption (*rasstroistvo*) of industry and trade in consequence of an excess of the supply of goods over demand.[10]

For Tugan, all the various types of crisis were connected. For example, monetary crises did not usually occur independently of industrial crises; rather, they were a manifestation of the latter. However, in England in 1839 a separate monetary crisis was provoked by the flow of precious metal overseas as a consequence of a bad harvest and the need to import grain from overseas. Apart from such comparatively rare non-periodic monetary crises, the money markets in England usually ebbed and flowed in accordance with certain regularities, as had been outlined by W. S. Jevons (Tugan-Baranovskii 1895, p. 743). Regarding credit crises, Tugan explained that again they were closely linked to trade-industrial crises. The most important form of credit crises were exchange crises, or crises which were confined to particular financial bourses such as the stock exchange. As the prices of stocks and bonds were based on an estimate of future profits, these prices could fluctuate greatly in response to changing expectations. A classic example was the Paris crash of 1882, which was provoked by the collapse of the Union Generale.

The final piece in Tugan's typology was industrial crises proper. The transition from upturn to boom to crisis developed as follows. Under the influence of some favorable circumstance, industry was animated and prices were high. Free monetary capital, which had been lying idle in banks during the previous downturn, began to enter into circulation and was absorbed by industry. Demand for capital and thus credit began to rise. All producers started to make healthy profits, which drove business into an excited state. The level of production increased, commodity prices rose, and speculation on the stock exchange

[10] D. Morier Evans related the existence of three types of panics, those arising from the abstraction of gold from the Bank of England, those arising from a contraction of credit capital, and those arising from a combination of the two (Evans 1859, p. 12). Tugan could be seen to have developed this idea in more detail, the concept of "credit capital" being analogous to "free loanable capital."

developed. Little by little the upturn took on a feverish (*likhoradochnyi*) character, which eventually turned into a mania. Credit became strained, speculation undermined the stability of new enterprises, and the cash holdings of banks declined. Since domestic price increases made exports more difficult and encouraged imports, the level of cash in banks fell still further.

Consequently, the discount rate was raised, which was the signal for catastrophe. Loans began to fail, necessitating increased sales to cover obligations; as a consequence, commodity prices began to fall, exchange prices followed, and a general panic ensued. Cash flowed out from banks and eventually cash payments were suspended: widespread bankruptcy followed. While the panic continued for only a few weeks, the subsequent depression lasted for several years. According to Tugan, this description characterized industrial crises until the end of the nineteenth century; they repeated themselves with remarkable regularity every ten years (Tugan-Baranovskii 1895, p. 744). In this account the crucial role of foreign trade and the international economy in Tugan's explanation of crises was revealed. Bullion was drained overseas as a consequence of rising domestic prices, causing the trade balance to become negative. The level of bullion in reserves was thus a physical limit on the continuation of the upturn, which came to a dramatic halt as the banks responded to the drain of gold by raising the discount rate.

One reason for Tugan's sensitivity to bullion reserves as a crucial factor in explaining trade cycle mechanics may have been the particular importance that was placed on financial reserves in Russian industrialization strategy under Sergei Witte. The Tsarist financial structure was distinguished from its Western counterpart by the concept of the so-called "free cash reserves" (*svobodnaya nalichnost*) of the State Treasury (Bukovetskii 1962, p. 359). Moreover Witte's policy was designed to attract foreign investment by achieving a stable currency with guaranteed convertibility through increasing gold reserves. The foreign trade factor in cycle mechanics was certainly recognized by British economists, but the connection between gold reserves and the idea of "free loanable capital" was strongly emphasised by Tugan.

Tugan's Theoretical Explanation of Crises

As T.W. Hutchison related, Tugan attempted to construct a fully endogenous theory of business cycles (Hutchison 1953, p. 379). However, a number of separate themes reoccurred in Tugan's theoretical explanation of crises that were not always fully integrated. The first theme was disproportion between various branches of the economy, most notably means of consumption and capital goods. As the driving force behind capitalism (according to Tugan) was the reproduction of capital on an ever-expanding scale, pressure was constantly applied to increase productive capacity. But in order that production be realized in sales, proportionate distribution of production between branches of the economy must be obtained. But as capitalism lacked any mechanism for harmonizing total production with consumption, it created a continuous tendency towards overproduction, which expressed itself in a difficulty in finding markets for goods

(Tugan-Baranovskii 1914, p. 315). In certain instances this difficulty became acute and an industrial crisis would result. It was this aspect of Tugan's explanation that has led to the label "disproportionality" being attached to his approach and which the often-encountered reproduction schemes were intended to portray.

Another crucial aspect of Tugan's explanation of crises, what might be called the second theme, was the concept of "free loanable capital" or "free monetary capital" (*svobodnyi denezhnyi kapital*). Tugan wrote that free money capital or latent purchasing power was "that which is lying in the bank in the form of a deposit and is not spent by the bank for discounting notes" (Tuhan-Baranovsky 1954, p. 793). A. H. Hansen defined loanable funds as those that rested as deposits in a bank and were "not employed by the bank itself in loans" (Hansen 1927, p. 64). Wilhelm Ropke interpreted Tugan in this sense, noting that for Tugan "a storing up of money capital can take place by way of savings being accumulated as bank deposits instead of being invested in securities" (Ropke 1936, p. 100). In turn this might lead to the idea of "stagnant puddles" or money balances held inactive (Tsiang 1987, vol. 3, p. 219).

Tugan suggested that the accumulation of free capital could be visualized as steam in the cylinder of a steam engine. When the pressure of the steam attained a certain level, the resistance of the piston was overcome and it was set in motion, before returning again to its original position when the steam was exhausted (Haberler 1940, p. 83). This mechanistic analogy for the use of free capital was taken up by Tugan's continental successors such as Spiethoff and Gottfried Haberler (Rostow 1990, p. 261). It found less favor among twentieth century Marxists, who were more concerned with the disproportionality theme in Tugan's work. Wesley Mitchell suggested that Tugan's scarcity of capital approach was "most in favor among business men" (Mitchell 1927, p. 23). For A. C. Pigou, if during a period of depression account was taken of foreign trade and the import of gold, then this additional gold could be viewed as "unused savings" that were indeed accumulated during the downturn (Pigou 1927, p. 31).

An additional clue to Tugan's conception of free loanable capital was found in an article that he published in 1916 entitled, "The Significance of Exchanges in the Contemporary Economic Order." Here Tugan argued that the stock exchange was the essential institution of capitalist economy. This was because capitalism created a huge quantity of free capital that could not be used in those units in which it had arisen. Banks were one type of institution where such capital was stored, in the form of short-term deposits; however an institution for the distribution of free capital was required which mediated the supply and demand for it from organizations and individuals. This was the stock exchange. As banks were reservoirs in which capital requiring temporary investment was accumulated, the stock exchange was a reservoir in which capital requiring permanent investment was concentrated. Thanks to the stock exchange it became possible to merge many small amounts of capital into the large mass required in capitalism. For Tugan the idea that capitalism could rid itself of stock exchanges was illusory (Tugan-Baranovskii 1916, pp. 35–38).

In *Industrial Crises*, Tugan had noted that a stock market crash served as a signal that the flow of capital had come to a halt, that "free capital" was almost

exhausted (Tuhan-Baranovsky 1954, p. 794). Hence, when stock exchange liquidity dried up, a fall in share prices and a financial crisis was provoked. In distinguishing between free capital in banks and capital in the stock market Tugan was suggesting that it was a shortage of the former rather than the latter that led to crisis, although a stock market crisis was a signal of an approaching downturn.

A third theme in Tugan's explanation of cycles was maldistribution of income, or the lack of sufficient purchasing power among certain classes of the population. While Tugan believed that crises were provoked by changes in the formation and consumption of capital, the underlying cause was the poverty of people, or the low level of consumption of the working classes. Proportional distribution of production was a problem only because production was driven solely by profit, not by genuine need. Since profit accrued only to capitalists, this allowed the link between production and consumption to be severed, out of which the possibility of crises arose (Tugan-Baranovskii 1923, pp. 207–54). It was the first and third aspects of Tugan's approach to cycles—disproportion and maldistribution—that were highlighted by later Marxists, in particular in relation to Tugan's development of Marx's reproduction schemes. For example, Rosa Luxemburg mocked Tugan's implication that if social production was proportionally organized then there would be no limit to the expansion of the market, or "production thus creates its own demand" (Luxemburg 1951, p. 313).[11] That this was only a partial view of Tugan's overall contribution to trade cycle analysis is apparent.

II. INTERPRETING *INDUSTRIAL CRISES IN CONTEMPORARY ENGLAND*

Now that many of the core concepts of Tugan's book have been presented, an evaluation of them can be given. In one sense there is a contradiction between Tugan's empirical account of the progress of crises and his theoretical explanation(s) of them. The latter involved quasi-Marxist notions such as "disproportionality" and "maldistribution" that were not fully integrated into the empirical description of actual crises, which did employ the concept of "free loanable capital." This contradiction arose in part because of Tugan's attempt to synthesize existing elements of cycle analysis from disparate sources such as British classical economics and Marxism.

S. A. Pervushin, a leading Russian business cycle economist of the 1920s, noted a contradiction between theory and the facts. Writing on the question of Tugan's account of cycle periodicity, Pervushin said:

> Here the author sharply breaks with the abstract-deductive and social-organic method, which he used to explain the basic cause of crises, and transfers to a purely statistical and individualistic method to analyse the factual history of crises ... (Pervushin 1914, p. 7).

The implication was that this shift was unwarranted, or at least unsubstantiated. In regards to Tugan's notion of crises being caused by insufficient free capital, Pervushin questioned this idea as follows. For Pervushin the idea of a "constraint

[11] Rudolf Hilferding called this "Marxism gone mad." See Hilferding (1910, p. 422).

https://doi.org/10.1080/10427710120096956 Published online by Cambridge University Press

on money" or "insufficient savings" had a relative meaning only, not an absolute one. The idea of industry being short of free capital was significant only in relation to a specific rate of interest and a specific level of net income. Industry would experience a constraint on money only if its net income were less than the rate of interest. If the rate of interest fell below its net income level then this constraint would disappear, and hence the constraint was of a relative nature and not an absolute one.[12]

The Origins of Tugan's Approach

How original was Tugan's approach to analyzing and explaining industrial cycles in Britain? Certainly some elements that were used in his explanation were already present in the works of the classical economists. Tugan's use of the concept of free loanable capital and his statistical method may have been partly inspired by the work of J. S. Mill and Walter Bagehot, as well as by other nineteenth century economists such as W. S. Jevons and Thomas Joplin.[13] For example, F. A. Hayek (1941, pp. 425–26) linked James Wilson's explanation of crises by an excessive conversion of circulating capital into fixed capital directly to Tugan and Dennis Robertson.[14]

In his *Principles of Political Economy*, Mill (1864, vol. 2, p. 204) had defined the general loan fund of a country as the disposable capital deposited in banks or represented by banknotes, plus the funds of those who lived upon the interest from their property. Connecting this with crises, Mill wrote:

> the amount of capital disposable on loan is subject to little other variation than that which arises from the gradual process of accumulation; which process ... is sufficiently rapid to account for the almost periodic recurrence of these fits of speculation ... (Mill 1864, vol. 2, pp. 208–209).

Tugan had certainly studied Mill's work, as he had published an eighty-eight-page portrait of Mill in 1892.[15] In his 1896 encyclopedia entry on Mill, Tugan admitted that "Mill exerted a huge influence on Russian economic literature" (Tugan-Baranovskii 1896, p. 308). In his well-known textbook, *Principles of Political Economy*, Tugan had followed Mill in stating that the rate of interest

[12] Pervushin (1914, p. 29). For an overview of Pervushin's work see Barnett (1996). Pervushin's criticism of Tugan could be interpreted as mirroring Wicksell's distinction between the natural rate of interest on capital and the money rate of interest on loans. See Wicksell (1898, p. 167). In Tugan's account, the money rate of interest was determined by the availability of free loanable capital, the business cycle being generated as a consequence of the ebb and flow of this free capital. For Wicksell (and perhaps Pervushin), movements in the price level were generated as a consequence of the natural and market rates of interest being non-coincident.

[13] Robertson (1940, p. 426) suggested that the idea of loanable funds was equivalent to Alfred Marshall's "free or floating capital." In fact the idea originated well before Marshall. According to Presley (1978, p. 148), Robertson failed to recognize that by "free capital" Marshall did not mean "loanable funds" but real capital not yet employed.

[14] Hayek questioned the sharp division of capital into only two types, preferring to delineate a continuous range of periods for which input was invested.

[15] See Tugan-Baranovskii (1892).

was determined by the supply and demand for loan capital (Tugan-Baranovskii 1917, p. 488).

Another influence on Tugan's work was W. S. Jevons. In a paper of 1866 entitled "On the Frequent Autumnal Pressure in the Money Market," Jevons (1866, p. 160) investigated an annual drain of coin from the Bank of England that caused a "great decrease of the loanable capital." Jevons presented a table that contained a column for "reserve of loanable capital (notes)" and another that showed the divergence of variables from their average value. This method of taking the divergence of each element from its average was used directly by Tugan.[16] In "A Serious Fall in the Value of Gold Ascertained" of 1863, Jevons had explained the onset of depression as being the result of "a great dearth of capital, or loanable money (gold), due no doubt to the previous great permanent investment" (Jevons 1863, p. 29).[17] The fact that a decline in what Jevons called "loanable capital" coincided with years of commercial crises may have suggested to Tugan that this was the key concept to investigate in order to explain such crises. While Jevons used this notion with respect to fluctuations within a single year, it was Tugan's idea to apply this idea to fluctuations over a longer period. In addition to both Mill and Jevons, evidence given in the *Report from the Select Committee on the Bank Acts* of 1858 by Robert Slater connected the level of bullion with crises:

> Speaking of all these panics to which you have referred, would you say that there was one circumstance coincident with them all, which was that they followed upon a drain of bullion?—Invariably; it is my opinion ... that this was the origin of the whole of the panic (Slater 1858, p. 161).

Another economist who was concerned with the level of gold reserves in the Bank of England was Walter Bagehot. Bagehot also employed the concept of "loanable capital," which for him was capital that lay idle in banks, i.e., was not employed by them in any original way. He wrote:

> Quiet people continue to save part of their income in bad times as well as in good ... quiescent trade affords no new securities in which the new saving can be invested, and therefore there comes soon to be an excess of loanable capital (Bagehot 1873, pp. 151–52).

Finally Thomas Joplin believed that economic expansion arose from an excess of lending over saving, the interest rate serving to equilibriate the supply and demand for savings (Link 1959, pp. 76–79).[18] Tugan's concept of "free loanable capital" can thus be traced to various nineteenth century British economists, although the use to which Tugan put this concept—to explain the periodic occurrence of industrial crises—was more original.

The influence of Karl Marx on Tugan's cycle theory was of course also important, particularly in relation to the framework of reproduction schemes employed and the general characterization of capitalist production as antagonistic. The

[16] The only difference was that Jevons also eliminated quarterly variations.

[17] Jevons (1863, p. 31) defined "loanable capital" as the reserve of notes equivalent to gold in the Banking Department of the Bank of England.

[18] In modern terminology, plans to invest outrun decisions of save in a boom, whilst in a slump investment lags behind savings. See Zarnowitz (1997, p. 65).

Marxian component was seen most clearly in the first and third themes of Tugan's explanation of crises. However, Marx appeared only as one of many authors utilized, and Tugan was certainly not afraid of openly criticizing Marx, as he had done over the notion of the falling rate of profit. J. A. Hobson's idea that fluctuations in the level of consumption were the primary cause of cycles, as outlined in *The Physiology of Industry*, was not explicitly acknowledged by Tugan, although Hobson's work was cited (Bleaney 1976, p. 175). Tugan discussed in more detail the work of other underconsumptionists like J. Sismondi and K. Rodbertus, their approach being characterized as providing only a partial explanation of cycles as originating in the realm of distribution. In general the large number of authorities cited by Tugan suggests that a genuine synthesis of disparate currents was the primary intention.

III. THE INFLUENCE OF *INDUSTRIAL CRISES IN CONTEMPORARY ENGLAND*

How influential was Tugan's work on the approach of later business cycle economists? In certain cases Tugan's influence was quite important, for example on the work of Wesley Mitchell, Dennis Robertson, J. M. Keynes and, most obviously, Michal Kalecki. Two mechanisms of influence are possible—that Tugan's work was used directly by individual economists or that Tugan's ideas were absorbed directly or indirectly by various groups of economists, out of which came new developments like Keynesianism. Both mechanisms are likely to have applied to some extent to Tugan's work. One of the first accounts in English of Tugan's approach to understanding cycles was a short review of the German edition of *Industrial Crises* published in the *Economic Journal* in 1902. This claimed that Tugan's work was based on "the principles of Karl Marx" in that it saw the origin of crises in deep contradictions inherent within capitalism (Schmidt 1902, p. 524). Unfortunately, this review did not provide an adequate account of Tugan's theoretical explanation of crises and, hence, was not particularly significant. Even so, evidence is available that Tugan's work was being used in the teaching of business cycles in America as early as 1905 (Samuels 1972, p. 159, n. 75).

The first significant U.S. economist to use Tugan's work was Wesley Mitchell. In his 1913 book, *Business Cycles*, Mitchell suggested that "the charge that 'capitalist production is planless' therefore contains both an important element of truth and a large element of error" (Mitchell 1913, pp. 38–39). The notion that capitalism was planless was a fundamental pillar of *Industrial Crises*. That Mitchell knew of Tugan's work before 1913 is confirmed by a reference given in *Business Cycles* to the German edition of *Industrial Crises* published in 1901 (Mitchell 1913, p. 224n.). Mitchell also studied the 1913 French edition of *Industrial Crises*, as is apparent from the notes that he took from this book held in the Mitchell papers at Columbia University. No date is given on these notes, but an educated guess puts them at around 1928—the time of *Business Cycles*: *The Problem and its Setting*—which contained various references to Tugan's work.

In these notes Mitchell distinguished between two aspects of Tugan's explanation of cycles. The first or "fundamental cause" of crisis was the innate defects

of the capitalist system, its antagonistic nature and its lack of organization as a totality. However, this did not explain the periodicity of crises or why the extension of fixed capital did not occur steadily. A secondary cause explained such periodicity, this being how capital appeared in the shape of loan funds constituted from the savings of certain groups of the population. Such funds came from those people whose savings continued during depression and hence whose incomes did not depend on current production, i.e., landlords, creditors of the state, those who lent to foreign countries and so on.[19] Mitchell was proposing that Tugan's theory had two layers to its explanation of cycles, or different explanations for different aspects of cyclical phenomena.

There was an important link between the primary and secondary causes of crisis which explained why loan capital was not invested as it was accumulated. Mitchell explained:

> To transform this loan capital into productive capital thus is needed a certain proportionality in the distribution of the disposable capital among the branches of production. But such a proportionality is exceedingly difficult to arrive at under existing conditions because of the anarchy which characterises production under capitalism (Mitchell Papers, B135, p. 3).

In *Business Cycles*: *The Problem and its Setting*, Mitchell gave a published account of Tugan's theory, but instead of emphasising the disorganized nature of capitalism, as he had in his notes, Mitchell wrote instead of the "disorganized state of business" (Mitchell 1927, p. 24). This meant that few businessmen wished to borrow funds during a depression, and that the exhaustion of the loan fund would not occur if income were more evenly distributed between classes. For Tugan in the 1890s this "managed distribution" would be impossible to achieve since capitalism was inevitably antagonistic in nature.[20]

Another important connecting thread (as noted by Hayek) was to D. H. Robertson, who described Tugan's attempt to locate the cause of crises in a shortage of capital as "fundamentally in the right" (Robertson 1915, p. 171, n. 2). Robertson reviewed the 1913 French edition of *Industrial Crises* in the *Economic Journal* in 1914, where he criticized Tugan for a lack of cohesion between the three major parts of the book—the empirical history of crises, the theoretical explanation of them, and their social consequences.[21] Robertson was sympathetic to Tugan's attempt to explain crises through over-investment in the means of production, but unimpressed by Tugan's inability to explain the precise nature of this over-investment. In response, Robertson suggested that it was not a failure of monetary purchasing power that caused crises—Tugan's free loanable capital—but rather a failure in the real savings of consumable goods and a genuine uncertainty over the future yield of present investment (Robertson 1914a, pp. 82–84). Robertson's own

[19] Mitchell Papers, B135, pp. 1–2.

[20] Whether after 1900 Tugan came to modify his view of capitalism as inevitably antagonistic is a matter for a separate investigation. There is some evidence to suggest that he did modify his view on the matter.

[21] In private correspondence, Professor John Presley kindly informed the author that Robertson could read German, and hence it is possible that Robertson had also studied the 1901 German edition of Tugan's book.

non-monetary over-investment approach to explaining cycles thus had a partial antecedent in Tugan's work. Robertson's interest in these themes may have originated in his view of the continental conception of capital:[22]

> The English tendency is to regard capital as those things which aid or support labour in production; while that of the Continent is to limit it to things which aid labour, i.e. to intermediate goods which do not enter directly into consumption ... (Robertson Papers, D1/1, p. 30).

In later works such as *Banking Policy and the Price Level*, Robertson made no direct mention of Tugan's work, but its influence may still be detected in the concept of "Lacking." With respect to the trade cycle Robertson wrote, "... the actual "crisis" may be correctly described as due to a "deficiency of capital" in the sense of a deficiency of the activity Lacking ..." (Robertson 1926, p. 90).

Robertson believed that a fundamental feature of the upswing was a large increase in the demand for Short Lacking, which he defined as some person going without consumable goods so that other persons, engaged in a lengthy productive process, could consume them. As the supply of Short Lacking was insufficiently elastic to cope with large increases in demand, a crisis would ensue when the scarcity of Short Lacking became acute. This analysis did not have only theoretical significance. In his evidence presented to the Committee on Finance and Industry for the *Macmillan Report*, Robertson identified as a solution to the slump the proposal that bankers should be encouraged to place more of their money in permanent investments. This was because "the evidence seems to be that there are these bank deposits piling up and not knowing what to do with themselves" (*Minutes* 1931, vol. 1, p. 331). These idle bank deposits might be thought of as Tugan's "free loanable capital."

The Influence of Tugan's Work on Keynes and Kalecki

One connection that has not so far been fully documented is that to J. M. Keynes. Ben Seligman stated provocatively that Keynes's main ideas could be traced to Tugan via Spiethoff and Wicksell (Seligman 1962, p. 95). In what follows, an attempt to substantiate this connection is made. In a suggestive remark in the *Treatise on Money* of 1930, Keynes had written:

> I find myself in strong sympathy with the school of writers—Tugan-Baranovski, Hull, Spiethoff and Schumpeter—of which Tugan-Baranovski was the first and most original, and especially with the form which the theory takes in the works of Tugan-Baranovski himself ... The fault of Tugan-Baranovski lay in his holding ... that savings can in some way accumulate during depressions in an uninvested form ... and also in his suggesting that this failure of savings to become materialised in investments at a steady rate is due to the unequal distribution of wealth instead of to Schumpeter's "innovations" in conjunction with a failure of the banking system to respond in such a way as to preserve the desirable degree of stability (Keynes 1930, vol. 2, pp. 100–101).

[22] Rostow (1990, p. 267) suggested that Robertson's intellectual roots were more in the continental tradition than the British tradition.

Keynes had first discussed business cycles in his "Notes on Commercial Crises" from 1909–11. Here Keynes wrote, "After a crisis there is probably too little fixed capital; hence large profits for what there is; hence the creation of more fixed capital with the expectation of equal profits; hence creation of too much fixed capital" (Keynes Papers, UA/6/21/2). It was thus a mismatch between the expectation of future profits and the actual profits when goods were finally produced that led to commercial crises.[23]

In a paper from 1913 entitled "How Far Are Bankers Responsible for the Alternations of Crisis and Depression?" Keynes had attempted to modify the theory of how banking was connected to crises associated with Irving Fisher. This theory was based on the idea of a lack of caution exhibited by bankers in the proportion of cash to liabilities (Keynes 1913, p. 3). Instead Keynes (1913, p. 6) suggested that one of the characteristics of the boom was that investment exceeded savings, which was possible due to the machinery of banking. Keynes wrote: "What precipitates a reduction of banking facilities and a crisis is not lack of money ... but lack of free, uninvested capital. It is not so much the proportion of bank's commitments to its cash reserves, as the *character* of the commitments" (Keynes 1913, p. 9).

The distinction between "free" and "invested" capital was also something that had been noted by Knut Wicksell. He suggested that free capital was essentially consumption goods or finished products, and was not merely a wages fund but a wages and rent fund (Wicksell 1898, pp. 122–24).

In his 1913 paper Keynes could be seen as developing Tugan's idea that a lack of free loanable funds caused crises, this being what Keynes meant by a "strong sympathy" with Tugan's approach, although additional influences such as Alfred Marshall must be acknowledged. While Keynes disputed that such loanable funds could ever really be completely "free," he suggested how such funds being held in a certain specific form was crucial. Similarly, Marshall (1890, p. 412) had argued that there was no sharp line of division between free and sunk capital. In 1913 it was Keynes's position that investment in fixed capital in excess of the amount set aside for such purposes was the underlying reason for crises, and, hence, the cure was to slacken such investment until savings caught up (Keynes 1913, p. 11). Likewise, Tugan had argued that it was disproportion between the production of fixed (invested) and working (free) capital that caused crises to become manifested.[24]

Tugan was not mentioned in Keynes's 1913 paper, but Robertson's *Study of Industrial Fluctuation* was an important influence on this paper. Keynes had read Robertson's book while it was a dissertation at Trinity College in 1913, and it certainly did discuss Tugan's work. Another way of conceiving of Tugan's idea of "loanable capital" was thus in relation to aggregate savings and investment. Tugan wrote that "the principal part of loanable capital is the saved part of national income which is not invested where it originated" (Tuhan-Baranovsky 1954, p. 789). The other, lesser part was the ready cash of the upper classes. As suggested

[23] Keynes Papers, UA/6/21/3. By kind permission of the Provost and Scholars of King's College, Cambridge.

[24] The terminology of fixed and working capital is Laidler's (1999, p. 30), used in discussing Wicksell.

by Hansen (1951, p. 289), for Tugan it was lack of proportionality between savings and investment that was a fundamental disproportion of capitalism.[25]

This conception would link Tugan's ideas to those found in the *General Theory*. Here Keynes wrote, "The prevalence of the idea that saving and investment ... can differ from one another is to be explained, I think, by an optical illusion due to regarding an individual depositor's relation to his bank as being a one-sided transaction ..." (Keynes 1936, p. 81). Keynes questioned whether a bank could perform an operation by which savings could disappear into the banking system so that they were lost to investment. The significance of this view (if correct) for development strategy was apparent from the following passage by Keynes: "... up to the point of full employment, no amount of actual investment, however great, can exhaust and exceed the supply of savings, which will always exactly keep pace" (Keynes 1937, p. 248). This was because an amount of saving sufficient to cover the new investment would be automatically created through a multiplier process from the incomes generated by the investment. Robertson disputed this idea, suggesting that a dynamic period analysis revealed that forced saving would take place if investment exceeded voluntary saving (Presley 1978, p. 171). On this view, the *General Theory* can be seen as adding important qualifications to Tugan's suggestion that it was disproportion between savings and investment that caused cycles.

Moreover, that Keynes and Robertson were discussing the meaning of concepts that had been filtered through Tugan's analysis of trade cycles when debating forced saving—albeit after these concepts had been absorbed by contemporaries and mixed with related ideas such as Wicksell's—has not been fully recognized. Tugan's work thus can be seen as a bridging point between the conception of loanable capital and its role in the trade cycle held by nineteenth-century writers such as Jevons, and more discerning definitions of various forms of capital and the savings/investment relation proposed by twentieth century economists such as Keynes and Robertson. For example, in the *Treatise on Money* Keynes (1930, vol. 1, pp. 128–30) would distinguish between fixed capital, working capital, liquid capital, and loan capital, suggesting that by 1930 he had moved beyond Tugan's rather ambiguous notion of "free loanable capital." While Tugan was perhaps not of any greater influence on Keynes than some other economists of the time working on similar themes, even this modest level of influence has in the past been rarely acknowledged.

The influence of Tugan on Kalecki's business cycle theory has been more readily accepted, particularly in relation to Kalecki's (1990, p. 439) use of reproduction schemes and his "discovery" of the idea of effective demand. The details of this influence will not be examined here, except to say that Kalecki's emphasis on disproportionality across industrial branches was a direct descendant of the first theme of Tugan's theoretical explanation of cycles as presented above. However, as should now be apparent, this approach utilized only a part of Tugan's contribution to cycle theory, namely that part most obviously Marxian in nature. Tugan's development of themes from classical political economy and how this fed into inter-war macro debates in Britain, has until now been given scant attention.

[25] Irving Fisher (1933, p. 64) attributed this discrepancy to over-indebtedness.

IV. CONCLUSION

This article has demonstrated that Tugan's approach to explaining cycles was certainly influential among contemporaries and even on later economists, but has it proved a lasting contribution? Clarence Ayres would probably have thought not. In 1934–35 Ayres wrote the following:

> classical economic thought fundamentally misconceived the nature of capital ... This confusion results from the common presumption that capital is in essence funds, disposable funds. I should call it the mercantile fallacy ... capital is of course the foundation on which industrial society is built; but the reality of that foundation is the multiform material equipment of society of which funds are only the symbol ... (Ayres 1934–35, pp. 185–86).

Even if Ayres was right, this does not necessarily mean that Tugan's work did not progress the discipline by providing the impetus to clarify key issues as the debate between Keynes and Robertson on saving and investment demonstrated.

What of the question of Tugan's originality? Was Tugan's work a "violent break with the past," as Hansen (1951, p. 281) declared? Certainly many elements of Tugan's account of the empirical history of cycles were found in the work of the classical economists such as Mill and Bagehot. However, Tugan supplied a more systematic account of cycles in nineteenth century England than had previously been provided. His work qualified as an intermediate stage between the analysis of individual financial crises common in the mid-nineteenth century, and the investigation of business cycles across an entire national economy undertaken by Mitchell after 1900. Tugan also attempted to develop new concepts to explain cycles and to synthesize various existing aspects of cycle analysis into an overall framework, albeit with mixed success in terms of internal consistency. Thus, Tugan's work was less a violent break with the past and more a vital point of intersection of disparate currents in economic thinking.

An important aspect that commentators on Tugan's presentation of the history of cycles have rarely noted was that at root it was a "gold standard" description, i.e., its reasoning was based on the sequence of events which occurred under the nineteenth century UK form of the gold standard. Another neglected element was Tugan's concern with how policy regimes set the environment for the manifestation of specific cycle mechanics. Later Marxists have tended to ignore these elements in Tugan's thinking, possibly because they were not radically different from the classical understanding of the problem, but by ignoring these aspects a distorted picture of Tugan's approach has been propagated.

Given the above presentation of Tugan's analysis of trade cycles, what was his proposed solution to mitigate the extent of such disturbances? In one sense this is an easy question to answer. As it was maldistribution of income among classes that was the cause of cycles, a more equitable distribution of income was the solution.[26] Keynes said exactly this with regards to the depression of the 1930s:

> the only remedy is for us to change the distribution of wealth and modify our habits in such a way as to increase our propensity to spend our incomes on

[26] The spirit of Tugan might also be partially detected in the idea of taxing idle balances as a velocity stimulator. See Hald (1954, pp. 412–13).

https://doi.org/10.1080/10427710120096956 Published online by Cambridge University Press

> current consumption ... a greater equality of incomes would lead to increased employment and greater aggregate income (Keynes 1934, pp. 490–91).

This was Keynes's repudiation of his own criticism of Tugan given four years previously in the *Treatise on Money*. However, for Tugan such a redistribution of wealth was not quite the final word on the matter. Did this mean that a more equitable distribution of income within capitalism was all that was needed, or that a completely different economic system was required to achieve the modified distribution of income?

Herein lies Tugan's ultimate ambiguity, indeed the historical ambiguity of socialism itself: reform of the existing system or revolution to overthrow it? There is strong evidence to suggest that Tugan himself moved away from revolutionary socialism towards its reformist variant after 1900, although this evidence cannot be discussed in full here and is not absolutely conclusive. The following passage from *Industrial Crises* provided a glimpse of Tugan's insight on this matter:

> If production were organised through a plan, if the market possessed full knowledge of demand and the power to distribute production proportionally, to freely transfer labour and capital from one branch of industry to another, then however low consumption might be, the supply of goods could not exceed demand (Tugan-Baranovskii 1914, p. 330).

It took the entire twentieth century for a shift to reformism to become accepted wisdom amongst the vast majority of socialists the world over. The element of the intellectual origin of this shift that originated in the explanation of trade cycles developed by M.I. Tugan-Baranovsky has yet to be fully appreciated.

REFERENCES

ARCHIVE SOURCES

Keynes Papers, King's College, Cambridge.
Robertson Papers, Trinity College, Cambridge.
Mitchell Papers, Columbia University Special Manuscript Collection, Columbia University, New York.
Rossiiskii Gosudarstvennye Istoricheskii Arkhiv, St. Petersburg.

PUBLISHED SOURCES

Ayres, Clarence. 1934–35. "Moral Confusion in Economics." In Warren J. Samuels, ed., *Institutional Economics* vol. 2. Aldershot: Edward Elgar, 1988.
Bagehot, Walter. 1873. *Lombard Street*. London: Kegan Paul, 1892.
Barnett, Vincent. 1995. "Soviet Commodity Markets During NEP." *Economic History Review* XLVIII (May): 329–52.
——. 1996. "Trading Cycles for Change: S.A. Pervushin as an Economist of the Business Cycle." *Europe-Asia Studies* 48 (September): 1007–25.
——. 1997. "The People's Commissariat of Supply and the People's Commissariat of Internal Trade." In E. A. Rees, ed., *Decision-Making in the Stalinist Command Economy, 1932–37*. London: Macmillan.
——. 1998. *Kondratiev and the Dynamics of Economic Development: Long Cycles and Industrial Growth in Historical Context*. London: Macmillan.

——. 1999. "Soviet Economists in Opposition and Overseas." In I. D. Thatcher, ed., *Regime and Society in Twentieth-Century Russia*. London: Macmillan.
——. 2000. "Tugan-Baranovskii's vision of an international socialist economy." *European Journal of the History of Economic Thought* 7 (Spring): 115–35.
Bleaney, Michael. 1976. *Underconsumption Theories*. London: Lawrence and Wishart.
Brandt, B. F. 1902. *Torgovo-promyshlenny i krizis v Zapadnoi Evrop i v Rossii*, part 1. St. Petersburg: Kirshbaum.
Bukovetskii, A. I. 1962. "'Svobodnaya nalichnost'' i zolotoi zapas tsarskogo pravitel'stva v konetse XIX-nachale XX v." In *Monopolii i inostrannye kapital v Rossii*. Moscow-Leningrad: AN SSSR.
Evans, D. M. 1859. *The History of the Commercial Crisis, 1857–58 and the Stock Exchange Panic of 1859*. New York: Kelley, 1969.
Fisher, Irving. 1933. *Booms and Depressions*. London: Allen and Unwin.
Haberler, Gottfried. 1940. *Prosperity and Depression*. Geneva: League of Nations.
Hald, E. C. 1954. *Business Cycles*. Cambridge, MA: Riverside Press.
Hansen, A. H. 1927. *Business Cycle Theory*. Boston: Ginn and Company.
——. 1951. *Business Cycles and National Income*. New York: Norton.
Hayek, F. A. 1941. *The Pure Theory of Capital*. London: Macmillan.
Hilferding, Rudolf. 1910. *Finance Capital*. London: Routledge and Kegan Paul, 1981.
Hull, G. H. 1911. *Industrial Depressions*. New York: F. A. Stokes and Company.
Hutchison, T. W. 1953. *A Review of Economic Doctrines, 1870–1929*. Oxford: Clarendon Press.
Jasny, Naum. 1972. *Soviet Economists of the Twenties*. Cambridge: Cambridge University Press.
Jevons, W. S. 1863. "A Serious Fall in the Value of Gold Ascertained." In W. S. Jevons, *Investigations in Currency and Finance*. London: Macmillan, 1884.
——. 1866. "On the Frequent Autumnal Pressure in the Money Market, and the Action of the Bank of England." In W. S. Jevons, *Investigations in Currency and Finance*. London: Macmillan, 1884.
——. 1884. *Investigations in Currency and Finance*. London: Macmillan.
Kalecki, Michal. 1990. *Collected Works of Michal Kalecki*, vol. 1, edited by Jerzy Osiantynski. Oxford: Clarendon Press.
Keynes, J. M. 1913. "How Far Are Bankers Responsible for the Alternations of Crisis and Depression?" In Donald Moggridge, ed., *The Collected Writings of J. M. Keynes*, vol. XIII, part I. Cambridge: Macmillan, 1973.
——. 1930. *A Treatise on Money*. London: Macmillan.
——. 1934. "Poverty in Plenty: Is the Economic System Self-Adjusting?" In Donald Moggridge, ed., *The Collected Writings of J. M. Keynes*, vol. XIII, part I. Cambridge: Macmillan, 1973.
——. 1936. *The General Theory of Employment, Interest and Money*. London: Macmillan.
——. 1937. "Alternative Theories of the Rate of Interest." *Economic Journal* XLVII: 241–52.
——. 1939. "The Process of Capital Formation." *Economic Journal* XLIX: 569–74.
Kindersley, Richard. 1962. *The First Russian Revisionists*. Oxford: Clarendon Press.
Klein, J. L. 1997. *Statistical Visions in Time: A History of Time Series Analysis, 1662–1938*. Cambridge: Cambridge University Press.
Kondratiev, Nikolai. 1923. "The Life of Tugan-Baranovsky." In Natalia Makasheva, Warren J. Samuels and Vincent Barnett, eds., *The Works of Nikolai D. Kondratiev*, vol. 4. London: Pickering and Chatto, 1998.
Laidler, David. 1999. *Fabricating the Keynesian Revolution*. Cambridge: Cambridge University Press.
Lewis, W. A. 1978. *Growth and Fluctuations, 1870–1913*. London: Allen and Unwin.
Link, R. G. 1959. *English Theories of Economic Fluctuations, 1815–48*. New York: Columbia University Press.
Lutz, F. A. 1938. "The Outcome of the Saving-Investment Discussion." In *Readings in Business Cycle Theory*. London: Allen and Unwin, 1950.
Luxemburg, Rosa. 1951. *The Accumulation of Capital*. London: Routledge and Kegan Paul.
Mainwaring, Lynn. 1995. "Tugan's 'Bubble': Underconsumption and Crises in a Marxian Model." *Cambridge Journal of Economics* 19: 305–21.
Marshall, Alfred. 1890. *Principles of Economics*. London: Macmillan, 1938.
Mill, J. S. 1864. *Principles of Political Economy*, 5th edition. New York: Appleton.
Minutes of Evidence taken before the Committee on Finance and Industry. 1931. London: H.M. Stationery Office.

Mitchell, Wesley. 1913. *Business Cycles*. New York: Franklin, 1970.
——. 1927. *Business Cycles: The Problem and its Setting*. New York: NBER, 1954.
Pervushin, S. A. 1914. *Teoriya krizisov M.I. Tugan-Baranovskago*. Moscow.
Pigou, A. C. 1927. *Industrial Fluctuations*. London: Frank Cass, 1967.
Presley, J. R. 1978. *Robertsonian Economics*. London: Macmillan.
Robertson, D. H. 1914a. "Review of *Les Crises Industrielles en Angleterre*." *Economic Journal* XXIV: 81–4.
——. 1914b. "Some Material for a Study of Trade Fluctuations." *Journal of the Royal Statistical Society* LXXVII: 159–78.
——. 1915. *A Study of Industrial Fluctuation*. London: King and Son.
——. 1926. *Banking Policy and the Price Level*. London: King and Son.
——. 1940. "Mr Keynes and the Rate of Interest." In *Readings in the Theory of Income Distribution*. London: Allen and Unwin, 1950.
Romer, C. D. 1994. "Remeasuring Business Cycles." *The Journal of Economic History* 54 (September): 573–609.
Ropke, Wilhelm. 1936. *Crises and Cycles*. London: Hodge and Company.
Rostow, W. W. 1990. *Theorists of Economic Growth from David Hume to the Present*. Oxford: Oxford University Press.
Samuels, W. J. 1972. "The Teaching of Business Cycles in 1905–06." *History of Political Economy* 4: 140–62.
Schmidt, Hermann. 1902. "Review of *Studien zur Theorie und Geschichte der Handelskrisen in England*." *Economic Journal* XII: 524–25.
Schumpeter, Joseph. 1954. *A History of Economic Analysis*. London: Allen and Unwin.
Seligman, Ben. 1962. *Main Currents in Modern Economics*. Glencoe: Free Press.
Slater, Robert. 1 July 1858. In *Report from the Select Committee on the Bank Acts together with the Proceedings of the Committee, Minutes of Evidence, Appendix and Index*. London: House of Commons.
Tsiang, S. C. 1987. "Loanable Funds." In J. Eatwell, M. Milgate, and P. Newman, eds., *The New Palgrave: A Dictionary of Economics*. London: Macmillan.
Tugan-Baranovskii, M. I. 1892. *Dzh. S. Mill'. Ego zhizn' i ucheno-literaturnaya deyatel'nost'*. St. Petersburg.
——. 1894. *Promyshlennye krizisy v sovremennoi Anglii, ikh prichiny i blizhaishie vliyaniya na narodnuyu zhizn'*. St. Petersburg.
——. 1895. "Krizisy khozyaistvennye." In F. A. Brokgauz and I. A. Efron, eds., *Entsiklopedicheskii slovar'*, vol. 32. St. Petersburg.
——. 1896. "Mill, Dzhon Styuart." In F. A. Brokgauz and I. A. Efron, eds., *Entsiklopedicheskii slovar'*, vol. 19. St. Petersburg.
——. 1900. *Promyshlennye krizisy. Ocherk iz sotsial'noi istorii Anglii*. St. Petersburg.
——. 1914. *Izbrannoe: Periodicheskie prommyshlennye krizisy*. Moscow: Nauka, 1997.
——. 1916. "Znachenie birzhi v sovremennom khozyaistvennom stroe." In L. N. Yasnopol'skii, ed., *Bankovaya entsiklopediya*. Kiev.
——. 1917. *Osnovy politicheskoi ekonomii*, 4th edition. Moscow: Rosspen, 1998.
——. 1918. *K luchshemu budushchemu*. Moscow: Rosspen, 1996.
——. 1923. *Periodicheskie promyshlennye krizisy*. Petrograd-Moscow.
Tuhan-Baranovsky, M. I. 1954. "Periodic Industrial Crises." In *Annals of the Ukrainian Academy of Arts and Sciences in the United States*, pp. 745–802.
Tugan-Baranovsky, M. I. 1970. *The Russian Factory in the 19th Century*. Illinois: AEA.
Wagemann, Ernst. 1930. *Economic Rhythm*. New York: McGraw-Hill.
Wicksell, Knut. 1898. *Interest and Prices*. London: Macmillan, 1936.
Zarnowitz, Victor. 1997. "Business Cycles." In David Glasner, ed., *Business Cycles and Depressions: An Encyclopedia*. New York: Garland.