Money and Banking in Austrian Cameralism – J.H.G Justi and Joseph von Sonnenfels*)

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Abstract Both authors of 18th century cameralism wrote extensively about the role of money in the national economy. The paper extracts their theoretical views from their discussions of economic policy problems of the absolutist state which remained their dominant perspective. Major subjects are emergence and functions of money, changes of its value, effects of changes in the quantity of money on prices and effects on economic activity and welfare. Central concern of Justi and Sonnenfels was smooth circulation of money for easy turnover of consumption goods and for financing external trade, and, in this context, disturbances of this process caused by withdrawal of money from circulation. It is argued that Justi and Sonnenfels, together with Francois Quesnay and his *Tableau economique*, deserve credit for having introduced a form of aggregative analysis, by which they demonstrate the key role of overall effective demand and mass consumption in the economic process, with "striking similarity with Keynesian views." - Both Justi and Sonnenfels considered a low rate of interest an indispensable contribution to the promotion of economic welfare. In this context, they also analyze the impact of credit and substitutes for money. The paper devotes special attention to the banking projects put forward by Justi and Sonnenfels, and to the role of money surrogates as instruments to facilitate credit for capital investments, and to facilitate public credit. Their views are contrasted with contemporary currency and banking policies pursued in Austria and in Prussia.

JEL codes B11, B31, E50, N 13, N23

In the second half of the 18th century, the last phase of German cameralism/mercantilism, efforts of its main representatives were devoted to assemble the variety of ideas contained in countless tracts and pamphlets of authors of different nations and combine them into a unified system of economic and administrative policy science. The syntheses which they produced served as textbooks at universities and other institutions of higher education where the *Kameralwissenschaften* (cameral sciences) had firmly established themselves in the course of the century[1]. If the cameralist authors, as a consequence, gradually turned from "consultant administrators" to academic scholars, they nonetheless maintained the practical orientation of their science. For them, creation of theoretical knowledge was not an aim in itself. Theoretical insights rather appear as by-product of their discussions of economic policy problems.

Johann Heinrich Gottlob Justi (1717-1771), who is often considered the most important cameralist author of the 18th century, published several systematic accounts of the cameralist sciences (Justi 1755, 1756/1782, 1760/61). More influential was Joseph von Sonnenfels' (1733-1817) textbook *Grundsätze der Polizey, Handlung und Finanz* (3 vols., 1765ff), which

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[1]Earlier than in England, chairs were established at German universities for mercantilist economics under the title "cameral sciences" or "police sciences", the first one 1727, in Halle, Prussia; in Austria such chairs where established at the Theresianum, a post-university-education institute for public administrators, and at the University of Vienna in 1763.

ranks high among the early best selling works of economic literature (Reinert 2017), was in use at the universities of the Habsburg monarchy until 1848.

The principal concern of the economic thinking of Justi and Sonnenfels was to come up with a policy strategy to develop a country's economic potential in order to increase the welfare of its population, and to enhance its power in the context of rivalry among European nations. Hence, they looked at the economy from the viewpoint of the state and from its central authority, the regent, i.e. the prince. As important preconditions for achieving these goals they identified, inter alia, a surplus of exports over imports and an increase of population and labour force. In such context, both authors wrote extensively about the role of money in the national economy. Neither Justi nor Sonnenfels directly aimed at formulating abstract theoretical propositions, which usually appear in explicit or implicit form in their discussions of economic policy problems. Nonetheless, the aim of this contribution is to elaborate on the theoretical content of Justi's and Sonnnefels' writings on monetary matters, while their more extensive discussions of specific problems and technical details of currencies remain largely out of consideration.

Moreover, the historical context, in which they wrote their tracts, must be taken into account. Especially with respect to banks, it must be noted that in the states of the German empire (of which the Western provinces of Austria were part) paper money appeared rather late in the 18th century. In the Habsburg monarchy, practical experience was unproblematic until it was forced to resort to its progressive use during the Napoleonic wars[2].

1. Justi on money and banking

Justi was listed among the "Austrian cameralists" (Sommer 1920/1925) despite the fact that his stay in Vienna and in the service of the Austrian government was rather short.[3] Born 1717 in Saxonia, he came to Vienna in 1750 where he first approached the Austrian government with some practical proposals, but was nonetheless appointed to a teaching position at the newly founded *Theresianum*, where young noblemen received training for service in the bureaucracy of the absolutist state. As is typical for his entire career, Justi did not content himself with teaching activities. He also tried to establish himself as an entrepreneur by developing the project of a Silver Mine in the Alpine region. Disputes among the partners in the project are the most probable cause of Justi's sudden departure from Vienna in 1753.

[2] See section 4 of this contribution.
[3] For details see Chaloupek 2009.

Although rather short, Justi‘s stay in Vienna and his activities as an economics professor there had important consequences both for his economic writings and for the status of the science in Austria[4]. Nowhere else but in the capital of the Habsburg empire could he gather the rich experience and develop the high perspective that are the basis of his first comprehensive economic tract *Staatswirtschaft* (1755, 1758), as well as of his numerous later works. Justi dedicated his first book on economics to Empress Maria Theresa. Justi's further career is – unlike Sonnenfels' – characterized by a changing sequence of entrepreneurial, consultative and academic activities[5]. After several interludes in Hanover, Denmark and Hamburg, he endeavoured to enter civil service in Prussia. While his efforts for a teaching position were frustrated, Justi was finally appointed to administrator of the mines ("Berghauptmann") in 1765. Here again he ran into troubles, being charged with embezzlement of public funds. He died in prison in 1771, before his trial had come to a conclusion.

Justi's general approach to economic policy matters was highly *dirigiste,* which finds its expression in the concept of *Universalkommerz* for which Colbert's system served as model: „The sovereign has to direct all trades according to the needs of the country and to the requirements of its external commerce, of the promotion and augmentation of the livelihood of its subjects, and – in brief – of the general welfare.“ (Justi 1758, Vol. 1 p. 265) This, however, did not preclude that he advocated reliance on more competition and economic freedom with respect to specific issues and problems.

1.1. *Elements of a theory of money*

As a proliferous writer, Justi published several versions of his system of cameralist economics. The most abstract and concise exposition of his views on money and its functions in the economy can be found in his *Grundsätze der Policeywissenschaft* (1756/1782) which is the main basis of the following account.[6]

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[4] The first version of Justi's system of cameral sciences (Justi 1761/2000) was the product of his stay in Vienna.

[5] A comprehensive account of Justi's economic, social and political thought is provided by Louise Sommer (1925), and more recently in Rieter et al. (1994). The most recent publication on Justi in English is Backhaus (ed.) (2009).

[6] Justi's statements in his later publications (1760, 1762) are full of references to the murky currency situation that prevailed in the northern part of the German empire, and therefore often difficult to understand. Justi had serious objections against the proposals of J.P. Graumann, who exerted a strong influence of the Prussian king Friedrich II. (Greitens 2018) Later, Prussia's monetary policy came increasingly under the heavy impact of the consequences of the Seven Years War (1756-1763) between Prussia (and its ally England), and Austria (and its allies Russia and France). Although Prussia received substantial subsidies from England, which was not involved in combat on the continent, in order to finance the protracted conflict it had to resort to debasement of its silver currency. For a closer look at the historical background of Justi's writings see section 4 of this paper.

Money emerges because “the inconveniences of exchange have occasioned men to adopt gold and silver ... as general means of payment for all kinds of goods.” To save people of the troublesome investigation of the precious metal content, the “supreme power” stepped in with norms for weight and content, thus establishing standards for the pieces of metal “which consequently were called coins, or money.” (ibidem, p. 190).

“These coins are not merely symbols (or representations, “blosse Zeichen”) of goods”, because “money has its particular and real (‘eigentlich’) value in any situation, which cannot be said of [mere] symbols.” (ibidem)[7] Also, money is used for discharge of obligations and for payment of taxes. In a footnote Justi argues – partly inconsistently – that “the true purpose of money does neither require intrinsic (!!) nor extrinsic value.”(p. 191) By “extrinsic value” he obviously does not mean external purchasing power, but nominal value imprinted on the coin, which has become the source of abuse. Ideally, in Justi’s view coins should only bear an indication of the fineness of gold and silver, and the weight, so that (different sorts of) money should only be exchanged according to weight.”

Justi sees “circulation of money as continuous exchange against the objects of need” by which a certain quantitative relationship is established between money and goods. In his view, constancy of value – obviously in the sense of purchasing power – is desirable. To ensure uninterrupted exchange between money and goods “everybody should be certain that this exchange can continue at the same relationship” (p. 192). This can be interpreted as a postulate of neutrality of money in the sense of stability of its exchange value, i.e. purchasing power. Obviously, the concept of price level underlies the argument, although it is not made explicit by the author. Such continuity would, however, require that “change does not occur on either side.” Because this is unrealistic, it is necessary to investigate the effects of changes in the circulation of money.[8]

Unfortunately, Justi does explicitly not distinguish between the stock of money and the part of it which effectively circulates. He appears to refer to changes of the latter in most cases which

[7] Apparently, Justi does not absolutely adhere to the metallist position, but rather for pragmatic reasons. Commodities other than precious metals could function as measure of value and as generalized means of exchange – but only in a closed national economy. It is exchange of goods and services between countries from which the need for a common measure of value arises. (Justi 1758, Vol.1, p. 153)

[8] Here we encounter an example of Justi’s sometimes confused style of argument, when he refers to „effects of changes on circulation”, and proceeds to discuss effects of changes in circulation on the prices of goods, which he has in mind.

he discusses, but in some instances he clearly refers to the stock of money available in a country.

Justi does not subscribe to the goal of maximizing a nation's stock of precious metals, as was often attributed to the mercantilist doctrines. In his view, the wealth of a nation is made up by the goods it is able to produce and consume. (Justi 1758, Vol.1, p. 152) It is smooth circulation which is the key to the enhancement of a nation's wealth and wellbeing.

Smooth circulation means that the income-expenditure (which is conceived mainly as consumption expenditure)-flow is allowed to continue without disturbance, which is the basis of prosperity, popular welfare and state power. Hence, it is of utmost importance that "the government takes precautions against anything which might restrain the circulation of money, or reduce the sum of circulating money." (Justi 1756/82, p. 194) The last part of the sentence suggests a bias against deflation, which is described as a cumulative process starting with a decline of prices for necessities which entails a reduction of worker's income, etc. Remarkably, Justi argues that the negative effects on real incomes through rising prices in case of an increase of circulating money is only temporary, because the price increase provides incentives to increase production. After some time, prices decline again, which leads to an increase in exports, which provides an additional incentive to expand production. (p. 193) In case that the change of the relationship between money and goods originates from the sphere of production, Justi does not expect a decline of prices, because "an augmentation of goods immediately results in an augmentation of the quantity of money." (p. 194)

Among the causes which might reduce the quantity of circulating money Justi mentions in the first place uncertainty[9], originating either from exogenous events (such as war, piracy, risks of maritime transport), or internal factors, of which he mentions deficiencies of the legal system and of law enforcement, excessive taxation, lack of credit, lack of honesty in the conduct of business, and disorder of the monetary system. Debasement through reduction of the metal content or change of the nominal value of coins inflicts a lasting damage on a country's economy by undermining confidence in its monetary system (p.198). Yet, he does not become more specific about the relationship between change in the nominal value of the stock of money and the price level. Justi recommends promotion of insurance companies against such risks as fire, floods, drought and hail (p. 195ff), even against external risks (p. 184).

[9] Here Justi uses the word *„Mißtrauen"*/distrust, but from the context it becomes clear what he has in mind is uncertainty in modern terminology.

Profits resulting from speculation, lotteries, forestalling and “”usury”[10] are considered obstacles to circulation. Also, high esteem for industrial activity, which ensures that its rank in the social order is equal to that of the nobility is a necessary condition that wealth acquired through business activity is not converted into landed property. In this context Justi points to the example of England, where ”the respect for the businessman is equal to that of the nobleman.” (p. 199)

Circulation is negatively affected by withdrawal of money from the continuous circular flow resulting from a deficit in the trade balance, from payment of subsidies to foreign countries, or from “the build up of unlimited treasures by the regent”, who should not grant large sums of money to his ministers and favourites. (p. 199) To the extent that money is hoarded as precaution against “disorderly conditions” in the state, the best remedy is to re-establish confidence by good government. (p. 203)

Almost in a Keynesian spirit, Justi argues that the state should take care that idle hoards are mobilized for productive purposes through public investment in infrastructure, e.g. construction of canals, navigability of rivers, building fortifications. The design of the investments should provide that as many industries as possible should benefit. Also, the state has various means at his disposal “to induce rich families to more spending and thus increase circulation.” (p. 203)

As regards the rate of interest, “the lower the better” is Justi’s general conviction, at least at the surface. Therefore, he advocates the repression of usury and the promotion of an efficient banking system. There is one passage, however, where Justi seems to realize that a higher rate of interest can increase savings available for investment, when he argues that higher prices create incentives to increase production. In this case, the effect of the increase of interest rates is positive, and not permanent, since after a while prices fall again, and so do interest rates (“money becomes less pleasant, and interest declines”[11]). But Justi does not embark on a more thorough investigation of these relationships, because he lacks an explicit concept of investment in its real and financial aspects.

For explanation of changes of the price level, Justi makes a few references to the quantity theory, for which Hume’s essay “Of Money” is the obvious source (Hume 1777/1752, p.

[10] By usury/“*Wucher“* Justi appears to mean private money lending at excessive interest by “avaricious” lenders, as opposed to the regular banking and credit institutions.
[11] „Das Geld wird weniger angenehm, das Interesse fällt …“ – p. 193)

299ff). According to Hume, a proportional increase of all prices is the necessary consequence of an increase of the quantity of money, although not immediately, but after some time. It is only in the transition period, “that the increasing quantity of gold and silver is favourable to industry”, while these gains are wiped out subsequently, as the process approaches its final state. (ibidem, p. 304f). This may be called the “strong” version of the quantity theory.

Obviously, Justi was not convinced by Hume’s argument, how all beneficial effects are lost at in the end. He adopted a “weak” version of the quantity theory, which allows for the survival of part of the beneficial effects after adjustment. If “the high or small price of goods can be explained by an increase or decrease of the quantity of symbols (!)”, this is true only “in terms of analogy” (“*gleichnisweise”,* Justi 1756/1782, p. 190) – which means that Justi does not believe in a strict proportional relationship, which the strong form of the quantity theory requires.

Justi appears to apply Hume’s assumptions concerning the sequence of price changes (Hume 1777/1752, p. 304) for the case of declining prices following a reduction of the quantity of money. The decline of prices starts from luxuries and “non-necessities”, subsequently propagating through the rest of the economy (Justi 1782, p. 193).

As a true mercantilist, Justi puts great emphasis on the importance of a surplus in the external trade balance (p. 174) It is a consequence of Justi’s trust in beneficial effects of price increases, if he does not discuss that a trade surplus might eventually lead to an increase of the price level. He opposes capital imports by the state as a remedy against a shortage of money, because they entail a permanent outflow of money resulting from interest payments. At the same time he argues that direct foreign investments in industrial companies should be welcomed because the major part of profits from these companies remain in the domestic economy. (p. 201) Justi puts great emphasis on the availability of money capital for industrial production. Therefore, he considers a well organized system of credit and banking an indispensable condition for the promotion of economic development and prosperity.

1.2. *Credit and banking*

Justi sees credit as essential means to keep the flow of income and expenditure in motion, while confidence is the principal condition to induce a person with “more money than he currently intend to use for satisfaction of his needs” to make it available for use in other persons’ commerce and trade, with repayment after a defined period. Security of repayment is based either on the person’s reliability or on objects of trade. (p. 205)

Justi deals extensively with the bill of exchange as credit instrument, which was mainly in the hands of private merchants. The government should promote the use of this instrument by establishing safe conditions under which entitlements can be swiftly enforced and executed through the system of jurisdiction, especially through special courts for bills of exchange. This is of utmost importance especially in the sphere of international trade and commerce. Justi mentions two main factors of influence on the discount rate: general trust in a nation's legal and monetary system, and the balance of exports and imports. (p. 207f)

With respect to banks, Justi's position is highly ambivalent, if not to say inconsistent. On the one hand, he thinks that "a lend bank ("Leihbank") is a useful instrument" for the promotion of circulation, "if it enjoys perfect credit. ... The sum of money in circulation is augmented to double amount, which enhances the liveliness of commerce, even though the increase is only imaginary." But at the same time he warns that "if confidence in the certificates cannot be maintained, a country will be all the more unfortunate thereafter." (p. 202) In a footnote, Justi formulates the rather confusing condition that such a bank should not be established "without need" ("ohne Not"), but only if "there is a state debt, or if there is not enough money for circulation." (!!) A few pages later (p. 210f), he introduces a distinction between "general credit" and "public credit". "Public credit rests both on large (public) trading companies" by which he means joint stock companies – "and public funds of the state, and also on the credit of the regent and his treasury." A country should have its own lend banks and "other public funds" (?), so that rich people can deposit their money against interest payments in a domestic institution, and do not have invest it with foreign banks.

Notwithstanding his distrust of banks and money surrogates, Justi recommended them as instrumental to promote circulation, to facilitate credit for capital investments, and to facilitate public credit. In order to promote credit through the use of bills of exchange, he recommends the foundation of a public giro and exchange bank, for which the famous Amsterdam Bank served as a model. Beyond that, he proposed that the exchange bank should be combined with a deposit- and lend bank with the right to issue bank certificates: "If these certificates were accepted like specie, the effect would be that the quantity of circulation money had increased by the amount of issued certificates." Although "the increase consists only in paper and therefore in imagination, ... the effect is the same as that of an increase in real money (i.e. specie)". (Justi 1758, vol. I, p. 280, and Justi 1780, quoted in Sommer 1920/1925, vol. II, p. 284) Justi also proposed a banking institute that combined fire insurance and mortgage credit, with insurance premiums as source of liquidity. (Justi 1756/82, p. 185) The statue of such a bank should provide that the bank has the exclusive right to take mortgages on houses which are insured with the bank. (see Sommer 1920/25, vol. II, p. 280f)

2. Sonnenfels on money and banking

Joseph von Sonnenfels is quite different from Justi, both with respect to his personality and his career. He was born into a family which had originally been Jewish. They came to Vienna after Sonnenfels' father had converted to Catholicism and, elevated to peerage after being appointed professor for oriental languages at the University of Vienna. At the age of 30, Joseph von Sonnenfels was appointed to the newly established chair for cameral sciences at the University of Vienna in 1763, which he held until his retirement in 1791. Sonnenfels' reputation as a historical personality rests on his position as most eminent representative of Austria's period of enlightenment. He was Austria's leading intellectual of his time, the only one who became known outside his country. His influence on a variety of matters, including above law and economics also literature and theatre, was based not only on his position as advisor of the regents (emperors Maria Theresa, Joseph II, Leopold II, Franz II./I.), but equally on his position as teacher at the university and the *Theresianum*, and his numerous publications of articles in intellectual journals and pamphlets.[12]

In its structure, Sonnenfels' system of cameral sciences is highly indebted to Justi. Unlike Justi, who considered references to other authors as "pedantic", Sonnenfels, demonstrates his thorough knowledge of French and English mercantilist literature in numerous quotations.

2.1. *Elements of a theory of money*

In his textbook *Grundsätze der Polizey, Handlung und Finanz* Sonnenfels introduces money among the fundamentals of the exchange economy ("Handlung"), which is the basis of the welfare of the population. But satisfaction of needs by direct exchange of a large variety of goods "encounters many sorts of obstacles." In their endeavours to overcome these obstacles, "men searched for a medium capable of facilitating the exchange, something that could serve as representation of all goods, thus becoming acceptable as general compensation". (Sonnenfels 1796, Vol. 2, p. 4ff) For that purpose, it would have to meet certain requirements, such as divisibility, durability, incorruptibility, etc. "Only after several unsuccessful experiments peoples discovered that precious metals were best suited." As a consequence of

[12] A comprehensive intellectual biography of Sonnenfels is provided by Kann (1960). The most recent monography is Karstens 2011.

this discovery, “exchange became purchase”, but in its essence the economic process is still “exchange of goods against goods, or representation of goods.” (p. 11) An “intermediator” had to step in to eliminate uncertainty about content, weight and composition of metal pieces – a role that could be taken over only by the state (“Regent”) with its impartial position between buyers and sellers. Metal becomes money in the proper sense by the minting of coins under state monopoly. (p. 412f)

Although Sonnenfels thinks of the economic process essentially as a (continuous) process of exchange of goods (and services) between agents, he does not discuss the question of constancy of the value of money in general terms. The concept of value of money hardly appears in his writings. Only in passing he speaks of the advantages of the correspondence of nominal value and actual metal content of coins, where he discusses the consequences of debasement - “whether the issue of coins of lower content is advisable under pressing circumstances of a state”. For that purpose, Sonnenfels adopts a strong version of the quantity theory. In the hypothetical isolated state the consequence of a numerical increase of money is an increase of prices “in the same proportion, as the increase of coins has increased the amount of money.” (Sonnenfels 1796, Vol. 2, p. 447) Hence, as buyers neither the state nor private households have an advantage. The advantage is on the side of debtors – the state, and also private debtors. Since, on the opposite side, the creditors are “the productive class” (“*arbeitende Klasse”*), whereas the debtors often belong to the “most useless (wasteful) class of citizens”, Sonnenfels considers such a measure grossly unjust. Even more importantly, public credit will be “destroyed for long”, because creditors have to fear to receive less than what they have given. (p.451f). In reality, matters are even more complicated. The old coins with higher metal content will disappear from circulation, part of them will be shipped abroad and newly minted in foreign currency. The consequence is that overall activity declines. “Nowadays, nobody can be fooled by such artificial manipulations.” Sonnenfels thinks that a general partial debt relief, if necessitated by circumstances, is preferable to debasement of the coin. (p. 455)

Sonnenfels’ main concern about the functioning of money in the exchange economy is circulation and its possible disturbance. “The effect of the circulation of money is an increase of employment wherever money passes through.” The product increases “if the circulating sum of money is augmented by the number of turnovers” (“Zahl des Umlaufs”). The velocity of circulation is defined as “circulating quantity times turnover “within a certain period” (p. 458f). Smooth circulation requires that “a sufficient quantity of money is available which performs its service at the sufficient speed." Thus, a certain relationship is established between the prices of goods and money. With reference to the quantity theory[13] Sonnenfels argues that a change in the price level ("Preiszahl") indicates a change in the relation between the quantities of goods and money. A sufficient quantity of effectively circulating money ensures that suppliers of goods find suppliers of money, so that the former can continue in their production of goods.

In Chapter IX Sonnenfels lists a great variety of different causes through which circulation may be impeded or slowed down. (p. 462ff) By this, he demonstrates the severity of risks to which the income-expenditure flow is exposed from possible withdrawal of money from circulation. He distinguishes between permanent and temporary withdrawals, which is, however, not coincidental with a distinction between reductions of the stock of money, and reduction of the portion effectively circulating, which Sonnenfels does not make. Some of the permanent withdrawals reduce the stock, especially transfers of money abroad due to emigration of citizens, payments for external debt, deposits in foreign banks, transfers to the Holy See, subsidies to foreign states; other withdrawals reduce circulation, such as the build-up of treasure by the regent, donations to institutions of the mortmain, purchase of jewellery. In this context, Sonnenfels also points to practices of payment for contracts, which often require temporary amassing of funds e.g. for annual payments of rent, salaries for extended periods, etc., and also to the consequences of uneven distribution of money between cities and the countryside.

Under the assumption of a reduction of circulating money, i.e. of overall demand, of 20 percent Sonnenfels discusses the movement of economic activity following this "withdrawal". He develops a model of an economic cycle which is driven by monetary factors. (p. 483ff) He – half explicitly – distinguishes between the rate of profit derived from productive investment, and the "money rate of interest" ("Geldzins"), which has two components: "the foregone profit from not directly using the money for productive investment", and "the risk of time, or of money in itself." (p.495)

Under the above assumption, prices decline by 20 percent according to the quantity theory, but with a certain time lag, since "the adjustment cannot take place in one moment". At this point, the reasoning becomes rather murky. Sonnenfels just argues that the impact of the disturbance in circulation is unevenly distributed, and that the working classes (mostly self-

[13] Montesquieu and Hume are explicitly mentioned references.

employed artisans and traders, with their dependent workers), who spend all their income, now have to borrow to continue their operations. It appears that Sonnenfels follows Justi's assumption that the decline of prices starts from luxuries and "non-necessities" (see above). The ensuing increase of the interest rate diverts more money into investments in financial assets, which by (implicit) assumption are outside the current circulation, i.e. the income-expenditure flow. In addition, higher income from capital leads to increased expenditure on luxuries, which further withdraws money from circulation (jewellery, imported luxuries) and further drives costs of borrowing for ordinary businesses.[14] After some time, the cost of borrowing becomes unsustainable for a rising number of businesses. The decline of overall economic activity arrives at a point where the "capitalists" realize that they have to moderate their claims. Also, public demand for imposing limits on interest rates become irresistible, although Sonnenfels is convinced that such interventions are not helpful and unnecessary. (p. 503ff)

It is inherent in Sonnenfels' concept of a state-controlled economy that he does nowhere suggest to rely on such an automatic mechanism. But instead of the imposition of legal restrictions he recommends "to replace the shortage of money" by the issue of paper certificates in a way that "makes them acceptable like money". (p. 513f) At the same time, he emphasizes the need for regulatory provisions which guarantee the beneficial use of a higher quantity of means of payment through "suitable lend banks" (*Leihbänke*) which make capital available for productive businesses, and other forms of promotion. (p. 515f)

2.2. *Credit and banking*

With respect to credit and bills of exchange Sonnenfels broadly follows Justi by emphasizing the importance of a legal framework and a judicial system. The state is directly responsible for the security of investment in public debt which constitutes a significant part of private wealth. Therefore, loss of confidence in state credit inevitably affects private credit negatively (p. 526f)

Among banks, Sonnenfels distinguishes between "commercial banks" (*Handelsbanken*), which are giro- and deposit banks, lend banks, and public banks[15]. (Vol. III, p. 447f)

[14] In this context, Sonnenfels mentions other consequences which are difficult to understand: rising prices due to higher costs of borrowing for businesses, and even declining population due to declining living standards.
[15] In addition, the shares of privileged trading companies (*Handlungsgesellschaften* - joint stock companies) may also obtain the function of money substitutes. To demonstrate the serious risks involved in such practice, Sonnenfels points to the example of John Laws Mississippi company (Vol.II, p. 548f)

Commercial banks, like the Amsterdam Bank or Hamburg Bank, make transactions between private businesses more convenient, but "they do not provide a perceptible advantage for the state. They have a more wide ranging impact, if they make use of their credit." (p. 448f) By issuing paper certificates whose amount exceeds the amount of original deposits in specie the lend banks play an instrumental role in compensating a withdrawal of money which restrains circulation, thereby promoting industry and overall economic activity - as stated above. Paying respect to the quantity theory, Sonnenfels does not deny that this increases prices, but this effect is compensated by a reduction of the interest rate which lowers the cost of production. (p. 452f)

If lend banks grant credit to private borrowers at a lower rate of interest, this is also to the advantage of the state. In case of need, the bank gives advances to the state, either in specie, or in paper money – in the latter case the lend bank transforms into a "political bank"[16]. (p. 455) Usually, the state designates the revenues of certain taxes as security of the advance. Sonnenfels distinguishes between "paper coins" (*Papiermünze*) which bear no interest, which have to be paid out in specie on demand, and certificates with higher denominations issued by the bank as credit to the state, which are interest-bearing and have a certain date of maturity for redemption, and can also be used for current payments. For the state, the latter have the advantage of deferred obligation of payment in specie. Broad acceptance of paper certificates can be promoted by making paper mandatory for payments to the treasury. (p. 429ff)

As beneficial as this credit can be if used modestly, it becomes suspicious, and the more so if the powers of the sovereign are unrestricted. The Royal Bank of France, better known as Law's system, should be understood as warning example for exaggeration and abuse of credit." (p. 457f, in greater detail p. 467f)

State credit depends on public confidence in its redemption. Loss of confidence results from either effective or presumed insufficiency of underlying securities. The latter may be caused by a lost battle, or by mere speculation, which may result from faked information. For such situations, Sonnenfels proposes a formula: if the sum of money substitutes exceeds coverage by securities by 20 percent, paper substitutes will lose 20 percent of their value compared to specie. (p. 461ff) Once confidence in state credit has started to erode, the decline of the value

[16] As examples, Sonnenfels mentions the banks of London, Venice and Stockholm.

of paper money accelerates, when out of fear the owners try to get rid of paper at any cost. (p. 466)

Enforced reduction of interest rates mostly results in an additional loss of confidence. A cautious reduction of interest rates can be a viable means to reduce the debt burden on the state budget in case that the major part of the debt is held by domestic creditors. In this case, the benefits from lower taxes stand against the sacrifice of creditors. (p. 481f) Sonnenfels mentions the operations of the *Wiener Stadtbank* as an example of a successful operation of this type. (See below section 4)

For effective reduction of the volume of outstanding state credit an increase of taxation is inevitable. Such increase should be explicitly declared as transitory, the revenues as “extraordinary revenues”. Undoubtedly, higher taxes will do some damage to industry, trade and agriculture. “But what does this prove? Only, that the state would be better off without debt, that among competing states, the state with a smaller debt is in a better position, and “that this state would have an advantage which is able to redeem its debt first.” (p. 485)

In a pamphlet published 1789 (*Was ist Wucher*, quoted in Sommer 1925), Sonnenfels proposed the foundation of a lend bank which should offer credit to landowners, industrial companies and trading companies. Instead of raising equity from the public, the bank would be funded through state paper notes, for which the abstract credit of the state would serve as security[17]. Not burdened with the obligation to pay dividends to its owners, the bank would provide credit at low interest cost (4 percent). To the benefit of overall economic activity the volume of circulating money could be increased. Sonnenfels also raises the problem whether the bank could be the cause of an excessive increase of circulating money, or a distortion of the relation between specie and paper. It appears that his answer anticipates Thomas Tooke’s banking theory: fear of price increases are unjustified because the bank would not create additional purchasing power, but only provide additional money demanded by commerce (Sommer 1925, p. 410ff)

3. Some comparisons and concluding observations

Justi’s and Sonnenfels ideas about of the origins of money are similar to what Carl Menger (1909) later described as working of spontaneous forces, a process of trial and error to discover the materials best suited for use as general medium of compensation as exchange for

[17] It appears that the model of Sonnenfels’ bank project is the “London bank”.

goods. If state interference came at a later stage, Justi and Sonnenfels consider it indispensable to establish the conditions through which the effectiveness of the medium was vastly enhanced so that it could function as "money" in the proper sense. At the same time, they warn that money could not be manipulated arbitrarily by the regent. Both authors emphasize the importance of money's service in facilitating and promoting internal and external exchange of goods and services as basis for an increase of production, population and welfare.

Justi and Sonnenfels are somewhat ambiguous about the question whether money has a value of its own, an intrinsic value, or is only a symbol/representation ("Zeichen"). They do not think of intrinsic value as an absolute necessity, but they adopt a metallist position for pragmatic reasons. Justi is more critical towards paper money, but there is agreement that paper certificates are like money only under the condition of strict redeemability in specie. These issues are not discussed in terms of what constitutes the "essence" of money, what later became a specialty of German monetary theory.

Due to the absence of an explicit concept of price level, discussion of the mutual relationship between money and prices appears to be rather unsystematic. Justi and Sonnenfels are unanimous in their uncompromising rejection of debasement, which was considered fraud of the prince inflicted on his subjects by popular opinion. Above that, it destroyed confidence in the currency, which they considered vital for economic prosperity. Only Justi explicitly addresses the question, whether and to what extent constancy of the value of money (in terms of purchasing power) is desirable. He concluded that absolute constancy was unrealistic.

Both, Justi and Sonnenfels obviously found the quantity theory quite attractive as an analytical tool. On the other hand, they were reluctant to apply it in its strong version, except in cases of severe debasement of coins, probably because they approached economic problems primarily from the practical side. Apparently, they concluded from their experience that not all expansive effects of price increases are lost at a later stage.

If both Justi and Sonnenfels adopted the quantity theory of money only in a weak form, they were influenced by the ambivalence which cannot be overlooked in Hume's presentation of the matter. More important, at least for Sonnenfels, was the influence of John Law, who had provided arguments that the price-driving effects of an increase of the quantity of money would be controlled, and therefore the welfare gains of the transitional period permanent.

There is a striking contrast in the Austrian cameralists' discussions of money: On the one hand, Justi and Sonnenfels are fully aware of the indispensability of money in facilitating exchange and functioning as measure of value. On the other hand, they are deeply concerned that money's other function as store of value can easily result in a disturbance or an interruption of the circular flow of income and expenditure. In this way, they look at money as "Disturber General" of a prospering economy (Schumpeter 1954, p. 280) that is the foundation of the power of a state in the concert of European nations.

Disturbances of the circular flow are made possible by the existence of money because it can be withdrawn from circulation – in such cases the cause of the disturbance may either be money itself as direct result of developments in the monetary sphere; or, the disturbance originates from the "real economy", or other domestic, external or exogenous (e.g. wars) factors.

In contrast to Hume, who is fundamentally optimistic about the spontaneous forces which drive the economic process, Justi and Sonnenfels are full of suspicions about causes and events lurking permanently to disturb the smooth functioning of circulation. Hence, for them the state must play an active role in the economy, it must be prepared to intervene whenever necessary to prevent disturbances, to provide remedies once they have become visible, or to promote circulation actively through suitable institutional arrangements; again in contrast to Hume, who primarily sees the state as principal threat for stable economic development due to its propensity to ruthless abuse of credit.

Thus, Justi and Sonnenfels, together with Francois Quesnay and his *Tableau economique*, deserve credit for having introduced a form of aggregative analysis, by which they demonstrate the key role of overall effective demand and mass consumption in the economic process, with "striking similarity with Keynesian views." (Schumpeter 1982, p. 287) If shortly after, this strand of thought "almost vanished into thin air", it surfaced occasionally in the writings of non-mainstream economists, to rise to prominence again as a consequence of the Great Depression of the 1930's.

As regards the rate of interest, again the difference of the cameralists' views to Hume's position is telling. Hume recognizes the beneficial effects of a low interest rate, which he explains as a consequence of a high level of real wealth brought about by a high level of commercial and industrial activity. Justi and Sonnenfels understand the interest rate primarily as a monetary phenomenon, depending on the quantity of money available in a country. Both strongly advise against direct state interventions (statutory upper limits) into the formation of interest rates. Savings are seen a residual (money left over after expenditure), not sensitive to interest rates. They do not have a concept of "investment" (in structures, plant and equipment), only the concept of "advances" ("Vorauslagen", unspecified use of money for businesses, e.g. for raw materials, intermediate products, inventories, wage payments). Advances are considered as productive expenditure, which compete with unproductive use (hoards, jewellery, bonds of domestic and foreign governments) for available financial funds (capital). On one occasion, Sonnenfels admits for an influence of the profitability of productive investment on the rate of interest, without, however, pursuing this aspect more thoroughly.

With respect to banks, whose development in Austria and Germany was still in its infant stages, John Law's writings were more important than Hume's for Sonnenfels. Justi's views on the subject were much more pessimistic, but he failed to formulate a consistent position. Like Sonnenfels, Justi was convinced that low interest rates could be brought about only by augmenting the amount of circulating money through the use of substitutes issued by banks. At the same time, he argued that a lend bank should be established "only in the case of need", while he also made proposals for his own bank projects.

For Sonnenfels, guarantee of bank liquidity required state ownership, with earmarked parts of specified state revenues and the "credit of the state" providing sufficient funding. Of course he was well aware of the risks of credit and paper money, as demonstrated by the disastrous experiment of the French Royal Bank some fifty years ago. For Sonnenfels the *Wiener Stadtbank* with its prudential conduct of bank business and modest use of state credit was a practical example, that those risks could be controlled. (see the following section 4)

The central role of the state in economy and society was an essential part of cameralist economic thinking, which contrasts with Hume's fundamental distrust in the management of state affairs, who warned that despite the "good effect" of paper credit "it is dangerous to precipitate matters, at the risk of losing all by the failing of that credit as must happen upon any violent shock in public affairs." (Hume 1777, p. 335) Where they shared Hume's concerns is the fear of excessive taxation could be suppressive to business activity.

Whereas Hume became the founder of the British economists' sceptical attitude towards paper money, the cameralists' position foreshadows a positive attitude of its use which prevailed among German economists in the 19th century (Rieter 2014), with Adolph Wagner as most prominent advocate (Chaloupek 2018). Wagner was an ardent supporter of banking theory of Tooke, whose main argument appears to have been anticipated by Sonnenfels.

4. Epilogue: Money and banking in the German empire and in Austria in the 18th and early 19th century

4.1. *“Mosaic Germany”*

According to the arrangements of the Westphalia Peace, the German empire was divided into some 300 formally independent states, of which Austria and Prussia had the status of major European powers. Most of the member states had their own mints. There was an enormous variety of different kinds of coins with different denominations and metal content. To make the situation even more confused, French, Dutch and other coins were circulating especially in the Western parts of the empire.

4.2. *Money and banks in Prussia*

In 1750, King Friedrich II. set out for a far-reaching reform of the Prussian currency system, the so-called “Graumannsche Münzreform”, named after J.P. Graumann, who was appointed to master of the mint. (Greitens 2017) The reform aimed at establishing the Prussian “Reichstaler” as new currency standard, but also at generating state revenues from seigniorage income. After a few years, the reform came to a standstill due to rising costs of silver.

During the Seven Years War (1756-1763) Prussia resorted to debasement. After the end of the war, Prussia returned to the currency system of 1750. Undervalued coins were redeemed at a rate below their metal content, with the loss of owners amounting to up to 75 percent. (Trapp 1999, p. 90)

Prussia’s first “public bank” (in Sonnenfels’ terminology) was founded as late as 1765. Owned by the state, the “*Königliche Giro- und Lehnbanco*” had the privilege to issue bank notes. Due to the lack of specie, the bank’s business did not take off, despite the sizable treasure amassed by the king during the last decades of his rule, which was, however, stashed in fortresses and in the royal palace. (Born 1977, p. 29)

4.3. *Austria's monetary system in the 18^th^ century*[18]

Austrian state finances and currency were comparatively stable in the 18th century. The Austrian Guilder (*Gulden* - fl, 1 fl=60 *Kreuzer*) retained its fixed silver content. In 1753, the Guilder was adopted as joint currency by Austria and Bavaria in the so-called "*Münzkonvention*", hence the name *Conventionsmünze (CM).*

In 1706 the *Wiener Stadtbank* ("Vienna City Bank") was established for the management of government debt, and also to make private savings available for state finances. The obligations of the bank with a minimum denomination of 100 fl were well received by the general public. The high credibility of the bank rested on two factors: management by the city of Vienna, which gave the bank a certain degree of independence from the state; and permanent liquidity. Parts of state revenues were earmarked to pay for the interest of the bonds. The volume of bond emissions increased gradually but remained modest until 1796.

During the Seven Years War against Prussia (1756-1763) uncovered bonds called *Wiener Stadt Banco-Zettel* were issued in 1762 which became a voluntary surrogate for gold and silver coins – a first step towards paper money. At the end of Empress Maria Theresa's reign (1780) the volume stood at 12 million. The increase until 1796 was modest, *Banco-Zettel* were accepted on par with silver.

The protracted wars against revolutionary France and Napoleon disrupted Austria's state finances and its currency system. Financing these wars created the necessity to resort to the issuance of more and more paper money. In 1797 silver convertibility was suspended, *Banco-Zettel* were formally declared legal tender in 1797. Between 1796 an 1811 the volume of outstanding banknotes exceeded one billion, which amounts to an increase of some 2400 percent, while in 1811 the price of 1fl CM (silver) in Banco-Zettel was close to 1.000. Stabilization was achieved only after the end of the war, at the cost of serious depression. Convertibility into specie was re-established in the 1820's.

4.4. *Sonnenfels on* Banko-Zettel

As regards the beneficial effects of provision of artificial means of payment by banks, Sonnenfels refers to the *Wiener Stadtbank*, a "political bank" in Sonnenfels' terminology from its foundation in 1706. As late as 1796 (publication of 6th edition of *Grundsätze*) he thought

[18] This section is based on Chaloupek (2016), where more details and sources are provided. The most detailed analysis of the Banco-Zettel period is Wagner (1861/63).

that “the Viennese bank notes – Bankozettel – have all the properties which make a public paper suitable for circulation, maintaining their value at par without interest.” (Vol. 3, p. 444, Footnote) He advocated voluntary – as opposed to unilateral - reduction of the interest rate by offering redemption of the bonds before maturity (p. 479f). In his view, then reduction of the interest rate by the Vienna City Bank from 5 percent to 4 percent implemented by this method in 1776 was a near perfect operation through which a significant reduction of the debt burden on the state budget was accomplished[19].

Reaching as high an age as 84 years, Sonnenfels became witness of the violently changing experiences of inflation, stabilization, “state bankruptcy”, and deflation, but there are no hints in the literature what he might have thought about the conduct of policy. His successor on the chair of cameral sciences at the University of Vienna, Joseph Heinrich Watteroth, of whom Sonnenfels had but a low esteem, argued that the issue of paper money had to be seen “as an emergency measure to replace revenues which the state is unable to raise through ordinary taxation in order to finance exceptional expenditure. The volume of paper money issued for that purpose is equivalent to the (additional) volume of tax revenues which the state would have been entitled to impose upon its subjects.”

Taking into account that Sonnenfels in general had a pragmatic attitude how to deal with economic problems, one might surmise that he agreed with the judgement of Friedrich Gentz[20], who justified the issue of paper money for war finance as political inevitability; probably not really with Gentz’s argument that non interest-bearing notes were functionally superior to war loans or war taxes. With respect to banks and money substitutes, there appears to be no reason that Sonnenfels would have changed his position.

[19] In 1766 such an interest reduction had formally been declared unilaterally, but in practice, redemption had been offered to bond holders. Hence, the operation gets Sonnenfels’ approval, while he criticizes the extension of mandatory reduction to private debt relationships (Vol. II, p.505ff)

[20] Friedrich von Gentz (1764-1832), in Austrian services since 1802, Metternich’s closest collaborator, secretary of the Congress of Vienna, published several political tracts.

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