

# CANTILLON ON THE CAUSE OF THE BUSINESS CYCLE

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Mr. Locke lays it down as a fundamental maxim that the quantity of produce and merchandise in proportion to the quantity of money serves as the regulator of market price. I have tried to elucidate his idea in the preceding chapters: he has clearly seen that the abundance of money makes everything dear, but he has not considered how it does so. The great difficulty of this question consists in knowing in what way and in what proportion the increase of money raises prices.

—Richard Cantillon

**R**ichard Cantillon was the first economist to successfully examine the cyclical nature of the capitalist economy. He lived at a time (1681-1734) when the institutions of the modern capitalist economy were first fully and widely established and the first major business cycles occurred. In contrast to the Mercantilists, Cantillon was an astute observer who developed a clear economic understanding of money, banking, international trade, and stock markets because this is where he risked his capital and earned his fortune. He modeled the economy as an interconnected whole and developed what we now know as the circular-flow model of the economy and the price-specie-flow mechanism of international money movements. He discovered that markets were regulated by the movements of prices based on supply and demand and identified equilibrating tendencies with market exchange.

Primary among the disequilibrating forces in the economy was government manipulation of money. While the Mercantilists generally viewed money as the source of wealth that could be profitably manipulated by government, Cantillon showed that money, interest rates, and international trade were all “well regulated” and reasonably stable in their natural state. Furthermore, manipulations by national banks and monetary interventions by government

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cause instability lead to harmful disturbances in the economy. Most famously, he showed that consumption and production patterns were altered and the economy was ultimately harmed when money and interest were manipulated by government, creating what we now call *Cantillon effects*. His approach provides both a methodological approach for studying business cycles and a theoretically derived cause of the business cycle (government intervention) that has subsequently been absorbed and elaborated by Ricardo and the Currency School, Wicksell, Mises, Hayek, and the modern Austrian School.

Since his rediscovery by Jevons in the late nineteenth century, the economics profession has applauded Cantillon as a methodologist and theorist of the first and highest order. However, the main body of the economics profession has largely ignored his work on business cycles. In fact, modern textbooks on macroeconomics rarely, if ever, make any mention of Cantillon and his contributions in this area. This neglect is puzzling given the profession's lack of consensus on what causes business cycles and given that one of Cantillon's primary reasons for inventing economics was to explain the cause of the business cycle and the events surrounding the Mississippi Bubble.

Hébert (1985, p. 276) first suggested that Cantillon presented the "germ" of Austrian business cycle theory *à la* Hayek's work on prices and production, and Hayek himself lauded Cantillon's contributions and insights. Rothbard (1995, p. 357) also found that Cantillon provided the "first hint" of Austrian business cycle theory, but Hülsmann (2001, p. 701) contended that even this acknowledgment understated Cantillon's contribution, despite Cantillon's failure to offer a full-blown version of the Austrian business cycle theory. The contention here is that Cantillon provided a cogent theory of business cycles, where cycles are caused by government manipulation of money and banking. Furthermore, he anticipated the key features of the Austrian approach in that his analysis is based on the non-neutrality of money, artificial changes to relative prices, and the resulting alterations in consumption, production, and investment decisions that ultimately are revealed to be harmful for the economy. On the key issues of theory, Cantillon clearly falls into the Austrian camp. Nowhere do we find him emphasizing psychological or irrational causes of the business cycle, such as animal spirits or bandwagon effects; and while money is clearly important, Cantillon downplayed the usefulness of the quantity theory of money and attacked the whole notion of government control of the money supply. Rather than emphasizing a stable purchasing power of money, Cantillon emphasized the Austrian point that any given quantity of money will be sufficient.<sup>1</sup>

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<sup>1</sup>Some commentators have found Cantillon's work on cycles to be puzzling, confusing, or counterintuitive. Two reasons why scholars have found Cantillon's approach to be confusing, or failed to link it clearly with the Austrian approach is that he analyzed several different types of business cycles and there are important institutional differences between Cantillon's world and our own.

In addition, his realistic approach to business cycles also includes a public choice, or “Neo-Austrian,” view of the nature of the cause of the cycle, where government manipulates money and credit, not out of ignorance, but to benefit those in government and their associates.<sup>2</sup> In so doing Cantillon proceeded in a similar vein as Hülsmann (1998) where the boom is described as the true cluster of entrepreneurial error which is perpetrated on the public by some fraudulent means, and business cycles are not the only cycles of economic errors that are caused by government. Cantillon not only provides us with the cause and effect of the business cycle, but also its cure. The cure would involve preventing government intervention into money and banking. This is a highly valuable insight in today’s world, which is dominated by central bank control of money and banking and beleaguered with ongoing financial crisis around the globe.

#### THE NON-NEUTRALITY OF MONEY

A great dividing line in macroeconomic analysis is the neutrality of money. Does money affect real values in the economy or is it just a neutral arbiter that facilitates transactions? Modern macroeconomics employs the assumption that money is neutral based on the notions that any real effects from money are dissipated in the aggregate and that macroeconomic data cannot generally account for the type of distortions that might be caused by money. This tradition began with the classical economists and is embedded in the pure quantity theory of money. Austrians and Keynesians have suggested that money is not neutral and some modern quantity theorists (e.g., rational expectations theorists) have grudgingly accepted the possibility of real effects, but only in the short run. At the divide, the neutral money assumption provides a convenient and powerful modeling tool, if not a realistic view of money, while the non-neutral view holds potential in its realism, but has supposedly yet to provide any consistent and verified hypotheses regarding the real effects of changes in the quantity of money. Chicago-School economist Don Patinkin discussed this battle of ideas and poignantly concluded:

Thus once again we are confronted with *la condition scientifique* of our discipline: its inability in all too many cases to reach definitive conclusions about theoretical questions on the basis of empirical studies, an inability *which increases directly with the political significance of the question at issue*. (Patinkin 1989, p. 278; emphasis added)

Cantillon suffered no such theoretical or empirical doubts. He based his analysis on the non-neutrality of money and his analysis clearly showed how money could have real effects, and also why empirical studies would leave the

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<sup>2</sup>For a description of this public choice, or Neo-Austrian view of government and the business cycle see Ekelund and DeLorme (1987, pp. 459-60). For more on the similarities between Cantillon and the Austrians, see Hülsmann (2001).

issue indeterminate in aggregate statistics. He began his analysis of money with its origin as a medium of exchange and then showed how the circulation of money takes place in a circular-flow model of the economy, including the role of the velocity of money. He agreed with John Locke and the quantity theorists that an increase in the quantity of money will engender an increase in prices (a point on which he claimed “everyone agrees”) (Cantillon pp. 212/161/67),<sup>3</sup> but from the perspective of a realist, Cantillon showed that changes in the quantity of money were not neutral in terms of production and consumption nor was there any dependable numerical relationship between the quantity of money and its purchasing power. Anticipating the Misesian critique of the helicopter theory of money, he stated, “by doubling the quantity of money in a state the prices of products and merchandise are not always doubled” (Cantillon, pp. 235/177/73). The impact depends on where money is injected into the economy and how the new money would give a “new turn to consumption and even a new speed to circulation. But it is not possible to say exactly to what extent” (pp. 239/181/74). A proportional, quantitative relationship between money and prices might not hold. In fact, according to Cantillon, it almost never did:

The dearness caused by this money does not affect equally all the kinds of products and merchandise, proportionably to the quantity of money, unless what is added continues in the same circulation as the money before, that is to say unless those who offer in the market one ounce of silver be the same and only ones who now offer two ounces when the amount of money in circulation is doubled in quantity, and *that is hardly ever the case*. (pp. 238-39/181/74; emphasis added)

Furthermore, he sought to understand *how* money generates higher prices: which prices will be most affected and which ones the least? He also clearly understood the difficulties of analyzing money from the non-neutral perspective:

Money flows in detail through so many channels that it seems impossible not to lose sight of it seeing that having been amassed to make large sums it is distributed in little rills of exchange, and then gradually accumulated again to make large payments. For these operations it is constantly necessary to change coins of gold, silver and copper according to the activity of exchange. It is also usually the case that the increase or decrease of actual money in a state is not perceived because it flows abroad, or is brought into the state, by such imperceptible means and proportions that it is impossible to know exactly the quantity which enters or leaves the state. (pp. 213-14/161-62/67)

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<sup>3</sup>Page references to Cantillon (1755) are given first from the original French, followed by the 1931 Higgs translation, and finally with the new Brewer (2001) edition.

However, the empirical difficulties of following the effects of money throughout the economy did not impede him because he had what is recognized today as a sound model of the economy and theory of money (Thornton 1998). From this theoretical foundation he illustrated his analysis, or “observations,” with facts that were readily understood by his readers.

All these operations pass under our eyes and everybody takes part in them. I may therefore venture to offer a few observations on the subject, even though I may not be able to give an account which is exact and precise. (Cantillon, pp. 214-15/163/67)

Cantillon showed that changes in the quantity of money could have several different types of real effects on production, investment, consumption, and trade depending on who first received the money; effects now labeled *Cantillon effects*, *injection effects*, or *first-round effects*. In his first example, he showed that increased money via domestic gold and silver mining would lead to increased consumption by people in the mining industry and that would drive the prices of the goods they purchased higher (e.g., meat and luxury goods). Entrepreneurs would adjust their production and farmers would plant their fields to meet this new pattern of demand so that the structure of production would be changed. People not associated with the mining industry would face higher prices and fewer goods to consume so there would also be a change in the distribution of income. As prices continued to rise, gold would be exported in exchange for imported goods and people from the non-mining population might even migrate to areas of higher real wages. Cantillon demonstrated here that the Mercantilists were wrong; more money could hurt the economy and cause distortions in the pattern of production and wages, as in the cases of Spain and Portugal.

If the increase of actual money comes from mines of gold or silver in the state the owner of these mines, the adventurers, the smelters, refiners, and all the other workers will increase their expenses in proportion to their gains. . . . All this increase of expense in meat, wine, wool, etc. diminishes of necessity the share of the other inhabitants of the state who do not participate at first in the wealth of the mines in question. The altercations of the market, or the demand for meat, wine, wool, etc. being more intense than usual, will not fail to raise their prices. These high prices will determine the farmers to employ more land to produce them in another year. . . . Those then who will suffer from this dearness and increased consumption will be first of all the landowners, during the term of their leases, then their domestic servants and all the workmen or fixed wage-earners who support their families on their wages. All these must diminish their expenditure in proportion to the new consumption. . . . If more money continues to be drawn from the mines all prices will owing to this abundance rise to such a point that not only will the landowners raise their rents considerably when the leases expire and resume their old style of living, increasing proportionably the wages of their servants, but the mechanics and workmen will raise the prices of their articles so high that there will be a considerable profit in buying them from the foreigner who makes

them much more cheaply. . . . This will gradually ruin the mechanics and manufacturers of the state who will not be able to maintain themselves there by working at such low prices owing to the dearness of living. (Cantillon, pp. 215-8/164-5/67-68)

Starting from the perspective that money is not neutral, Cantillon showed that the particular flow of money will have real consequences in terms of production, consumption, and income distribution. The net effect on the economy is negative, but the magnitude would normally be small and related to the resource cost of gold. The important point stressed by Cantillon is how gold production changes consumption, relative prices and the structure of production. Even with this first example, we can see that Cantillon differed markedly from modern macroeconomists who view money as neutral and study the effects of changes in the price level rather than changes in relative prices and their impact on the patterns of intra- and international production and consumption.

The quantity of money can also be increased as the result of a positive balance of trade. According to Cantillon, this will generally enrich people associated with export industries and increase consumption of the goods they favor. However, he thought it likely that the more industrious among them would save their money, earn interest, and increase their future consumption. Thus, prices will increase in the future and this would move the economy back toward a balance of trade in the long run (but not necessarily to an equilibrium condition because of the artificial nature of state borders). In the meantime, patterns of consumption and production would change in the domestic economy and abroad (pp. 220-25/167-71/69-70).

Money can also increase from cash flows associated with foreign subsidies to the state, international travel, and when large populations emigrate because of war, politics, and religious expulsions. Cantillon himself had emigrated from Ireland to France in large part due to the confiscation of his family's land by Cromwell. He also wrote about the expulsion of the Huguenots (Protestants) from France and considered it economically important. Those who flee tend to be affluent and bring large quantities of money with them and thus they would compete with the local upper classes for luxury goods and high-priced food and drink. The prices of these goods will rise and the domestic upper classes will be made economically worse off as a result. In contrast, the lower classes will feel little impact because of their relatively large size and the limited impact that the immigrants will have on the prices of the goods they consume (e.g., bread). Entrepreneurs and farmers will adjust the pattern of production to the changes in relative prices (pp. 226-31/171-5/71-72).

Cantillon treated the flow of funds into a country for investment purposes as a separate case from the related case of funds flowing from a favorable balance of trade. This flow of foreign capital reduces the interest rate and encourages entrepreneurs to undertake new production, make investments, and hire

new workers. As a result, the pattern of production in the economy necessarily becomes more capital intensive (e.g., hay to cattle, grain to vines and fruit trees, handmade crafts to factory production). Although not elaborated on by Cantillon, this would also necessarily lengthen the cycle of production in some areas of the economy. The changes in the pattern of production and consumption will depend on “all those through whose hands this money passes, consume more than they would have done if they had not been employed by means of this money, which consequently increases prices” (Cantillon, pp. 253/191/78).

In contrast to debates in the mainstream of the economics profession over the relative economic merits of war and government debt, Cantillon seems quite “Austrian” on these issues. He was clear that if the funds are borrowed by government it only creates a “temporary ease” and does not enhance the economy. As he put it, government debt often results in the bankruptcy of the nation and “comes to a bad end and is a fire of straw” (pp. 256/193/79). Likewise, acquiring funds by war is problematic and Cantillon simply noted that he “will content myself with saying that all the nations who have flourished in this way have not failed to decline” (Cantillon, pp. 259/195/80).

Based on his analysis of international inflows of capital, Cantillon demolished the Mercantilist view of money by demonstrating that changes in the quantity of money do not necessarily decrease the interest rate. In fact, Cantillon could be credited as one of the first economists to base his analysis of interest rates on the time-preference approach. As he described it, if increases in the quantity of money come into the hands of banks and savers the rate of interest will fall, but if the increased quantity of money is first introduced into the hands of consumers, the interest rate will rise as entrepreneurs borrow more in an attempt to increase their production and meet the needs of their now-wealthier consumers. Today we link Cantillon effects solely to central bank policy, but Cantillon himself analyzed the real effects of several different possibilities of new monetary injections.

For Cantillon, when new money enters the economy through foreign trade and entrepreneurs add to their savings via retained earnings, the country will grow rich. In his view, interest rates that are driven down by increased savings were a good thing because they allowed entrepreneurs to put more people to work in higher-skilled jobs, producing higher-valued products, and thus allowed the nation to grow rich. Borrowing for consumption purposes, usually by the nobility and the State, drove up interest rates and resulted in ruination. Cantillon concluded that governments could not drive down interest rates artificially without adverse consequence and his analysis of usury laws showed them to also be ineffectual and counterproductive. Following Locke’s analysis, he cited several typical cases where entrepreneurs effectively charged very high rates of interest, but their practices were considered legal and reasonable. Instead of usury laws, he recommended that markets should be free to determine interest rates.

Otherwise the law will be futile, because the contracting parties, obedient to the force of competition or the current price settled by the proportion of lenders to borrowers, will make secret bargains, and this legal constraint will only embarrass trade and raise the rate of interest instead of settling it. (Cantillon, pp. 292/221/90)

Cantillon showed that money was not neutral and had several types of real effects on the economy depending on how and where the new money was injected into the economy. The pattern of prices in the economy—including land rents, wages, and prices—changes according to the new monetary realities. Income distribution changes, but more importantly, the structure of production changes and these real changes have subsequently been dubbed *Cantillon effects*. For Cantillon such monetary processes were ultimately self-reversing, but not back to a safe equilibrium. Usually the result he depicted involved excessive luxury, bankruptcy, impoverishment, emigration of labor, and the ruination of the state. In contrast to the Mercantilists, Cantillon generally found that when government was involved in the change in the money supply that it was very bad for the economy, but when it resulted from the actions of entrepreneurs, it was potentially good for the economy.

#### MONEY AND BUSINESS CYCLES

Cantillon was far ahead of his time in understanding the cyclical nature of the economy. He is rightly famous for first describing the cycle in foreign trade whereby trade surpluses would cause gold inflows and higher domestic prices, which in turn would cause an inflow of foreign goods and an outflow of gold, turning the surplus into a trade deficit. As gold flowed out and goods flowed in, domestic prices would fall and the economy would move back toward a balance of trade. Here the prince could prevent or forestall economic decline by voluntarily withdrawing money from the economy to be used in case of a national emergency, but Cantillon was not optimistic that most princes would pursue this course. Viewing them from what is now called the public choice perspective, he saw their interest in their own fame, glory, and consumption, and Cantillon believed that they would typically make matters worse by their own excessive luxury spending (pp. 245-46/185-86/76).

Cantillon's "trade" cycle seems to be a long-run cycle based on long-run patterns of trade flows, monetary flows, production and consumption. Capital inflows ignite an increase in the trend rate of economic growth, followed by periods of capital outflows, which cause a decrease in the trend rate of economic growth. He wrote that "it does not need a great many years to raise abundance to the highest point in a state, still fewer are needed to bring it to poverty for lack of commerce and manufactures" (pp. 246/187/76). However, his trade cycle was a much longer cycle than the typical business cycle, for the examples he gave include France's prosperity from 1646 to 1684 followed by a decline that lasted from 1685 to at least the time he wrote his *Essai* (around



1730), as well as similar long-run changes in the economies of surrounding states (Cantillon, pp. 247-8/187/77). These cycles are often generated by the policy decisions of the prince—both good and bad—and the resulting economic choices of the population. The decline of France, for example, he attributes to the expulsion of the Huguenots (and the prohibition of cotton textile production circa 1685). Therefore, although there are some common features, Cantillon's trade cycle should be viewed separately from his business cycle.

Cantillon examined possible causes of the business cycle and found that several possible causes such as money, interest rates, and exchange rates were not in themselves the cause of these cycles. Generally, the prices of goods are determined by supply and demand. Likewise, interest rates are well regulated by the forces of supply and demand for credit, and he dismissed the underconsumption theory of the business cycle as a confusion of cause and effect (pp. 264/199/82 and 248/187/77). Problems can exist in the area of foreign trade, but trade is ultimately self-regulating. Exchange rates between nations are also not the cause and neither are the exchange rates within a nation for coins of different metals: "To judge then of the ratio between gold and silver the market price is alone decisive: the number of those who need one metal in exchange for the other, and of those who are willing to make such an exchange, determines the ratio" (pp. 355-69/269-77/109-12).

In the last four chapters of part three of the *Essai* Cantillon turned more directly to the topic of what causes the business cycle. Chapter five examines the curious topic of the "augmentation" and "diminution" of money. Here the king ordered the nominal value of silver coins to be reduced by 1 percent per month for 20 months so that the nominal value of coins falls from five to four livres (the French monetary unit of account).<sup>4</sup> This is a *diminution* in the sense that the value of a one-ounce silver coin falls from five livres to four livres. Cantillon saw this episode as a potential threat to his economic principles in that prices at the time appeared to be set by the nominal value of coins in terms of livres rather than by the weight of silver.

He showed that in response to the king's edict "all those who owe money will make haste to pay it during the diminution so as not to lose by them" (pp. 383/289/116). Loan contracts were specified in terms of livres and the interest rate on loan contracts was fixed so that as the diminution proceeded, it would take an increasing number of silver coins to pay off debts. Therefore people made every attempt to pay off debts as soon as possible. With debts being paid off and the diminution still in progress, loanable funds became available at very low interest rates, and this set off a type of economic boom:

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<sup>4</sup>The livre or pound was the basic unit of account in all Western European countries after Charlemagne's monetary reforms.

Undertakers<sup>5</sup> and merchants find it easy to borrow money, *which decides the least able and the least accredited to increase their enterprise*. They borrow money, as they fancy, without interest and load themselves with merchandise at current prices. Vendors have difficulty in getting rid of their merchandise for money which must diminish in their hands in nominal value. They turn towards foreign merchandise and import considerable quantities of it for the consumption of *several years*. (Cantillon, pp. 383-84/289/116; emphasis added)

Cantillon reported that in the early phases of the diminution the velocity of circulation increased and prices went up. As a consequence of higher prices, exports were curtailed and more specie was exported. As the diminution continued, he found that “enlightened” people began to hoard money and the king began to borrow heavily; and by delaying payments on debts, pensions, and offices he developed a large hoard of coin money. With money being hoarded domestically and exported to pay for imports, the supply of money in circulation shrank. The abundance of money available for loans had turned into a scarcity of money available for exchange. This scarcity of money was bad for business and merchants began to sell their goods at bargain prices and many were forced into bankruptcy (pp. 384-91/289-95/116-18). Cantillon showed that the full results of the king’s monetary interventions produced private benefits for the crown at the expense of much larger costs being imposed on the economy.

Cantillon’s analysis and private-interest (i.e., Public Choice) perspective on the king’s manipulations contrasts with the public-interest scenario presented by Hoffman, Postel-Vinay, and Rosenthal (2000) who suggested that the diminution was an attempt by the king to soften the blow to the public of any government default and to reassure government creditors. Given the deflation and heightened uncertainty, they found it puzzling that new private loans increased and that the “only reason the outstanding debt series did not rise rapidly was that loan repayments were climbing at an even faster rate” (Hoffman, Postel-Vinay, and Rosenthal 2000, pp. 78-79). They could only speculate about the possible causes for the increase in new loans and the rapid rise in repayments:

On the one hand, many Parisian investors were probably waiting for the payments due from offices, government rents, and short-term government credit. Others awaited money from financiers and bankers, to whom they had advanced funds to finance state loans. In either case, with the state late in repaying, these investors might have been obliged to borrow in the private credit market, and if they had had short-term debts fall due, they might have tried to convert them into longer term obligations. (p. 79)

They refer to the “lucky” individuals who used their cash balances to pay off debts or who liquidated their holdings of government debt. In contrast, Cantillon called them “enlightened” (no doubt many had insider information) and

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<sup>5</sup>The word undertaker should be understood as entrepreneur.

he saw the whole process as a scheme to pay off the king's enormous debts when the augmentation took place (Cantillon, pp. 384/289/117).

The King finds means to borrow much money on which he willingly loses the diminution, proposing to compensate himself by an augmentation at the end of the diminution. With this object after several diminutions they begin to hoard money in the King's Treasury, to postpone the payments, pensions, and army pay. (pp. 385/289-90/117)

The hoarding by the king and enlightened individuals combined with the export of specie to pay for imports resulted in a severe shortage of money and the economy was driven into depression. "Circulation falls into convulsions. Hardly enough money can be found to send to market. Many undertakers and merchants go bankrupt and their merchandise is sold at bargain prices" (pp. 386/291/117).

The king then augmented the coinage so that new coins are issued (worth five livres) and the old coins are demonetized and received at the mint for their nominal value of four livres. He then resumed paying pensions and back pay to the troops in the new coins. The king made a considerable profit, but the overall quantity of money was reduced and the resulting low prices brought the foreigner to France to purchase merchandise at greatly reduced prices. Even with the loss at the mint, the merchandise is a great bargain for foreign buyers. France bought high and sold low and "is all round the dupe of these operations" (pp. 389/293/118). Changing the nominal value of money also had an impact on the structure of prices, particularly the interest rate:

The difficulties of exchange in the times and operations of which we speak cause variations in the prices of things and in that of the interest of money which cannot be taken as a rule in the ordinary principles of circulating and dealing. (pp. 393/297/119)

Cantillon explained that the cause of this monetary disturbance and the resulting boom and bust cycle was government intervention. The king was deeply in debt and used the diminution/augmentation scheme to increase royal revenues even though the overall effect on the economy was negative. "The change in the nominal value of money has at all times been the effect of some disaster or scarcity in the State, or of the ambition of some prince or individual" (pp. 393-94/297/119). Cantillon was clearly not writing in an historical vacuum and after recounting several historical examples of monetary "reform" he concluded that such manipulations "have never failed to cause disorder in States. It matters little or nothing what is the nominal value of coins provided it be permanent" (pp. 395/297/120). If the quantity of money was stable during these manipulations the State would neither gain nor lose, but "individuals may gain or lose by the variation according to their engagements" (Cantillon, pp. 396/299/120). Once the manipulations have ceased and run their course, the economy will return to normal, but in the process the economy has experienced significant damage.

As a banker, Cantillon also recognized that the reserve policy of banks is a crucial aspect of the business cycle. When deposits are lent at interest into circulation it has the utility of accelerating the circulation but it also creates “risk and peril” and bankers “are or ought to be always ready to cash their notes when desired on demand” (pp. 399/301/121). Bankers are ruined if they fail “for one instant” to redeem notes on demand and therefore “they make it a rule based on their experience to keep always in hand enough to meet demands, and rather more than less.” He claimed that most bankers maintained at least one-half of deposits on reserve, but that a bank’s reserve policy (typically ranging from one-tenth to two-thirds of deposits) was specific to each bank because it was “naturally proportionable to the practice and conduct of his clients” (pp. 401-03/303/122).

Depositors have more confidence in a national bank and this confidence allows it to attract the largest depositors as well as the revenues of the state. It also creates an opportunity for such a bank to operate with a very low reserve policy because such large deposits are rarely withdrawn *en masse*. For example, Cantillon reckoned that the Bank of England could issue notes of “a very large sum and of very great utility for the circulation when it has need to be speeded up” but he cautions that this is not always the case “for I have remarked elsewhere that there are cases where it is better for the welfare of the State to retard the circulation than to accelerate it” (pp. 401-08/303-07/122-04). In fact he found national banks to be unnecessary for the collection of public revenue and he doubted the utility of a national bank in a great kingdom because their supposed advantage does more harm than good:

When money circulates there in greater abundance than among its neighbors *a national bank does more harm than good. An abundance of fictitious and imaginary money causes the same disadvantages as an increase of real money in circulation*, by raising the price of land and labor, or by making works and manufactures more expensive at the risk of subsequent loss. But this furtive abundance vanishes at the first gust of discredit and precipitates disorder. (pp. 413/311/125; emphasis added)

Finally he turned his attention to the role that national banks played in causing cycles and stock market bubbles. Cantillon noted that when stock in a corporation like the East India Company is sold, banknotes were generally accepted and no coins were required, but if coins were required to make such transactions it would “impede” circulation because banks would have to maintain much larger reserves against the possibility of withdrawals for such large purchases. In other words, the national bank would have to follow the same reserve policy as other banks and would therefore serve no special “utility.” He also concluded that if the government was not deeply in debt that a national bank would be of little use. However, he did find that the impact of national banks could be “astonishing.”

*Though I consider a general bank is in reality of very little solid service in a great state I allow that there are circumstances in which a bank may have*

*effects which seem astonishing.* In a city where there are public debts for considerable amounts the facility of a bank enables one to buy and sell capital stock in a moment for enormous sums without causing any disturbance in the circulation. (Cantillon, pp. 419-20/315/127; emphasis added)

He found the astonishing effects of national banks in creating the business cycle and stock market bubbles were well illustrated with the South Sea Bubble:

In 1720 the capital of public stock and of bubbles which were snares and enterprises of private companies at London, rose to the value of 800 millions sterling, yet the purchases and sales of such pestilential stocks were carried on without difficulty through the quantity of notes of all kinds which were issued, while the same paper money was accepted in payment of interest. (pp. 422-23/317-19/128)

The reserve policy of the national bank combined with the issuance of “fictitious and imaginary money” (pp. 413/311/125) to cause a tremendous rise in the value of “pestilential stocks” in companies that were mere “snares.” The bust would inevitably come because increased wealth would invariably lead to an increase in consumption and higher prices. As coin money is withdrawn from the banks to make purchases it increases the likelihood that banks would not be able to redeem their deposits.

But as soon as the idea of great fortunes induced many individuals to increase their expenses, to buy carriages, foreign linen and silk, cash was needed for all that, I mean for the expenditure of the interest, and this broke up all the systems. (pp. 423/319/128)

Cantillon depicted the activities of national banks as a type of con game run by a government minister for the purpose of manipulating stocks and paying off the national debt. The game must be manipulated by means of “infinite refinements or rather trickery” so as to induce those who lack any “understanding of these operations” to invest in the stocks:

It is then undoubted that a bank with the complicity of a minister is able to raise and support the price of public stock and to lower the rate of interest in the state at the pleasure of this minister when the steps are taken discreetly, and thus pay off the state debt. (pp. 428-29/323/130)

The ability to manipulate interest rates and stock prices is a powerful tool and is likely to be the subject of corruption for the purpose of personal wealth, not just extinguishing the national debt. While insiders benefit from the corruption, others will lose when depositors withdraw their funds and the bubble bursts.

But these refinements which open the door to making large fortunes are rarely carried out for the sole advantage of the state, and those who take

part in them are generally corrupted. The excess banknotes, made and issued on these occasions, do not upset the circulation, because being used for the buying and selling of stock they do not serve for household expenses and are not changed into silver. But if some panic or unforeseen crisis drove the holders to demand silver from the bank the bomb would burst and it would be seen that these are dangerous operations. (Cantillon, pp. 429-30/323/130)

Cantillon thereby described the issuance of excess banknotes in public-choice terms as an inherently corrupt and dangerous operation. His theory provides a cause for the cycle, the boom in stock prices, the eventual crash in stock prices, a rationale for the cycle to persist over time, and the source of corruption that is so commonplace in stock market bubbles.

#### CONCLUSION

Cantillon explained the cyclical nature of the market economy, both in terms of long-run trade-based cycles of growth and decay and shorter monetary-driven business cycles. In the trade cycle investors are generally making correct decisions based on changes in the economy, but in the business cycle investors are being duped by government manipulations. He laid the groundwork for his explanation of the business cycle with an examination of the possible causes for such “disturbances,” and found that money, interest rates, and exchange rates are more-or-less self-equilibrating in their natural state and do not cause business cycles on their own. However, he clearly described money as non-neutral and believed it had the potential for disturbing the pattern of resource allocation in the economy in a variety of ways.

The most striking feature of Cantillon theory is that government intervention is the cause of the business cycle. After he examined and then dismissed all the endogenous causes, Cantillon established government manipulation—either manipulation of money or the actions of the national bank—to be the initiating cause of the business cycle. In his analysis of what we now call *Cantillon effects*, he showed how these interventions cause a misallocation of capital and a redistribution of income. He accounts for the boom and bust, luxury spending, the timing of entrepreneurial error,<sup>6</sup> the prevalence of stock market corruption, and provides a public-choice explanation for the actions of government. In contrast to the many theories that hold business cycles to be an endogenous or equilibrating force of the market economy, Cantillon established a theory based on cause and effect and microeconomic

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<sup>6</sup>Manipulations of money, interest rates, and prices lead entrepreneurs to change their investments, to increase their levels of indebtedness and investment, and to encourage new people into entrepreneurial ventures; specifically the “least able and the least accredited to increase their enterprise” (Cantillon 2001, p. 116). These investments—because they are fixed and costly to reallocate—represent the real losses from the business cycle.

analysis. His approach is similar to, and has been further refined by, economists such as Ricardo, Wicksell, and Mises, and in its most developed form is now known as the Austrian business cycle theory.

Cantillon's contribution to business cycle theory has been largely neglected by mainstream economists for the last 250 years. During the intervening time numerous attempts to solve the mystery of the business cycle have failed and all the attempted remedies have been unsuccessful, or have even exacerbated the problem. The primary purpose here has not been to test or prove that superiority of Cantillon's approach to business cycles, but to show that he had a well-developed theory based on a realistic view of the economy and government. However, there is good evidence that Cantillon and the Austrian economists have had an upper hand when it comes to understanding and predicting the business cycle (Bordo 1992 and Thornton 2004). Furthermore, since Cantillon is the acknowledged founder of microeconomic analysis and is credited with such noteworthy macroeconomic contributions as the circular-flow model and price-specie-flow mechanism, his approach to business cycles and its subsequent development deserves greater consideration as a possibility for unlocking the mysteries of the business cycle and even for providing a cure.

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