

Cantillon and the Invisible Hand

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Smith's three explicit references to the "invisible hand" do not add up to a unified notion. Maybe future research can unearth why Smith used the term in an inconsistent manner. Meanwhile, we can only work with the three texts, and these texts do not provide a uniform sense of the term. In any case, none of these references lends support to the modern understanding of the metaphor as (being) about the first law of welfare economics. Khalil, p. 54¹

Introduction

The invisible hand remains an important foundation of economic analysis, continues to be a source of new analytical and explanatory devices, and is the conceptual basis of a whole class of scientific models throughout the sciences. Indeed, Smith's famous concept has experienced a resurgence of interest as several new interpretations of the concept have been published in the leading general-interest economic journals and those that specialize in the history of economic thought. In addition, there is an entire volume of Palgrave's (1989) entries on the invisible hand. Most recently, what amounts to a textbook on the invisible hand has been published which places the invisible hand into the methodology of modern technical economics.²

¹ Khalil, p. 54. Khalil rejected two modern interpretations of the invisible hand and "paradoxically disregard(ed) the three explicit references to the invisible hand and examine(d) the implicit discussions of the invisible hand" in Smith. He discovered a "wisdom of nature" interpretation of the invisible hand which is at least sympathetic to traditional notions that are supported here.

² Aydinonat (2008)

However, rather than establishing clarity or refining the specific mechanisms of the invisible hand, these new interpretations have placed the concept into an intellectual quagmire that threatens its scientific usefulness. The widespread effort to discover the “true” meaning of the invisible hand appears to have muddied the conceptual waters almost beyond recognition. There are now at least a dozen different versions of the invisible hand ranging from the more traditional interpretations to those which attach the phrase to such things as slavery and national defense. The existence of multiple, mutually exclusive interpretations of Smith’s invisible hand threaten the phrase with what might be called a *multiple-conception disorder*. In addition to the problem of multiple definitions, there is also the problem of under-defining the concept, where the invisible hand remains clouded in mystery and belief rather than founded on a reliable scientific basis. Related to the problem of being ill-defined, is the normative battle under which the invisible hand has long been under siege, where proponents offer nebulous invisible hand solutions which are scoffed at by opponents of the market economy. The combination of these three problems with the invisible hand calls out for either a clear resolution to its meaning or abandonment of the concept.

The majority of the blame for the invisible hand problem surely rests with modern economists and their failure to solve the meaning of the invisible hand. However, some of the responsibility also originates from Smith’s writings. As noted in the opening quote, Smith used the phrase three times in three different ways. The solution to the meaning of the invisible hand should offer, as Khalil and others have suggested, some reasonable approach to understanding Smith’s three different uses of the phrase. Also, the phrase is an obvious reference to the supernatural powers of God and more than one modern

interpretation follows that route. The obvious problem here is that the concept remains at least partly mystical and normative and therefore unreliable in a scientific sense. To be fair to Smith, many scholars, such as Hirschman (1977) have recognized that he invoked this terminology as a rhetorical device meant to convince readers of the merits of the market economy. Despite this understanding of Smith's purpose, we still require a scientific understanding of the invisible hand.

One plausible and logical solution to the mystery of the invisible hand is that Smith found all the workings of his invisible hand in Richard Cantillon's *Essai sur la Nature du Commerce en Général* (1755, hereafter, *Essai*).³ We know that Smith was familiar with Cantillon because Smith names him in the *Wealth of Nations*. Second, we know that Cantillon heavily influenced Smith because many scholars have identified many telling similarities in their economics, such as in the case of wage rate differentials and their curious endorsements of the Navigation Acts. Here we extend the connection between Smith and Cantillon to the concept of the invisible hand through the use of textual evidence.

Smith's two economic applications of the invisible hand have long been thought of as completely different because in *The Theory of Moral Sentiments* it is invoked in the case of income distribution, while in the *Wealth of Nations* it is used in the case of production. However, the foundations for both applications of the invisible hand can be found in the three short chapters that follow Cantillon's calculations on the par value

³ *Essai sur la Nature du Commerce en Général* (hereafter, *Essai*) was written around 1730 and circulated privately until it was published in 1755. Therefore it might not have been available to Smith when he wrote the *History of Astronomy* in 1749, but probably was available for writing *Theory of Moral Sentiments* and was obviously available to him for the writing of *Wealth of Nations*. The *Essai* was also an important impetus to the establishment of the Physiocrats in 1756. Page numbers for references to the *Essai* are given for the original French edition-1755/the Higgs translation-1931/the Brewer edition-2001.

between labor and land. It was this calculation that led Smith to reference Cantillon in the *Wealth of Nations*. It is here we find Cantillon's *model of the isolated estate* where he takes the reader from the very visible hand of the feudal economy to the invisible hand of the market economy. His model demonstrates that production is maximized and follows the dictates of consumer demand as a result of entrepreneurs following the dictates of the price system and profit and loss. It also demonstrates that while the distribution of wealth on the isolated estate may be completely skewed, i.e. one person owns everything in the world, the distribution of income and consumption will be reasonably equal and the standard of living will improve over time if the estate owner simply follows his self interest. The fact that both of Smith's economic applications of the invisible hand appear together in Cantillon's model of the isolated estate and are explicitly driven by self interest makes Cantillon the most plausible source of Smith's concept of the invisible hand.

With Cantillon as the inspiration of the invisible hand, the phrase can now be shown to have a specific meaning. This resolution solves the problem of multiple meanings by eliminating all the modern interpretations that have appeared in academic journals. Likewise it solves the problem of ambiguity, eliminates the mystical remnant, and removes the normative image of the phrase. It also restores and refines the traditional interpretation of the invisible hand. Finally, this solution also reconciles the three different uses of Smith's invisible hand. Smith first used the phrase in 1749, prior to the publication of the *Essai* in 1755. This first use was not about economics, but about science in general. The two subsequent uses appeared in 1759 and 1776, after Cantillon's book was published. These applications were the economic applications concerning

distribution and production. Therefore this solution provides a reasonable resolution to the long standing question asked recently by Khalil as to “why Smith used the term in such an inconsistent manner.” Smith was simply unaware of Cantillon’s manuscript prior to its publication in 1755 and then found the invisible hand in Cantillon’s model of the isolated estate. With this plausible solution in hand, the invisible hand can remain a useful economic construct and analytic device. However, before turning to this solution, we briefly visit the problems now facing the invisible hand.

Popularity as a Major Problem

At a time when the subject of the history of economic thought has been largely banished to the specialized journals on the subject, Smith’s invisible hand has experienced a renaissance with economists searching ever deeper into its meaning and scholars from other disciplines employing the concept. However, this resurgence of interest has created problems, most notably the problem of multiple, mutually exclusive meanings and the more traditional problem of ambiguity.

A veritable cottage industry has sprung up in recent years to define the true meaning of Smith's phrase and to capitalize on its widespread recognition and use. The concept is deemed important enough that articles have been published in some of the top-ranked general-interest economic journals such as the *American Economic Review*, *Journal of Economic Perspectives*, and *Journal of Political Economy*. In addition, there have been numerous articles in specialized journals and book-length treatments of the subject—including an entire book of entries from the *New Palgraves* (1987) published

under the title *The Invisible Hand* (1989) and most recently a textbook on the subject for modern economists by Aydinonat (2008). It would seem that Smith's invisible hand passes the market test of economists.

However, rather than clarifying the meaning of the invisible hand, this literature has only served to cause confusion and to create what can be called a multiple-conception disorder which threatens the scientific usefulness as a concept. For example, Syed Ahmad (1990) offers us four different invisible hands while William Grampp (2000) offers ten different possibilities. Spenser Pack (1996) offers an interpretation where the invisible hand leads to increased destitution among the poor while benefiting the wealthy. Emma Rothchild (1994) interprets the invisible hand as a joke Smith played on his readers because the meaning of the term is not consistent in its three uses. Joseph Persky (1989) finds the invisible hand is related to the production of public goods because it retards the export of capital and thus enhances the national defense, adding the odd tastes of both mercantilism and public goods theory to Smith's invisible hand. Similarly, Grampp (2000) makes the claim that the invisible hand is self-interest leading individuals to keep their capital at home, rather than exporting it, and this promotes the national defense. In Grampp's words, the "invisible hand then is self-interest operating in this circumstance, the circumstance in which a private transaction yields a positive externality that augments a public good." Grampp claims that this is Adam Smith's own interpretation of the invisible hand even though it is based solely on a somewhat tortured view of Smith's third use of the invisible hand.⁴ Another long-standing interpretation is that the invisible hand represents God. Scholars have assumed some sort of religious element for the

⁴ For a lengthy critique of Grampp (2000) and indirectly of Persky (1989) see Minowitz (2004).

invisible hand because, as Hirschman (1977) notes, there was a need for a normative interpretation of the market to make it acceptable. Hill (2001), Waterman (2002) and Denis (2005) provide us with recent interpretations of the invisible hand with a spiritual glove, while Evensky (1993) sketches its ethical dimensions. It is easy to see that collectively these recent interpretations add confusion to the meaning of the invisible hand and give it a multiple-conception disorder.

The purpose here is not to criticize these modern interpretations, but merely to present them and to note that they are very diverse and mutually exclusive. These interpretations are disconnected from the traditional interpretations of the invisible hand and are mostly unrelated to each other. They certainly seem removed from Smith's texts and in some cases thrust Smith's hand forward in time and into the toolbox of modern economists. Therefore, it is reasonable to conclude that these modern interpretations have not clarified the concept of the invisible hand, but have collectively threatened the scientific usefulness of Smith's most prominent and lasting contribution.

The other major problem for the invisible hand is what Grampp (2000) labels the "Neo-Austrian" view where the invisible hand is the metaphor for how beneficial social orders emerge from the unintended consequences of individual actions. Grampp cites the entry on the invisible hand in the *New Palgraves* by Karen Vaughn as the basis of this interpretation. This prominent reference work is often the first source scholars and students consult when researching a new topic. Here they will find a proverbial black hole where the invisible hand is described, over and over again, as the emergence of social orders that were unintended. The actual *economics* of the invisible hand are absent, except for minor references to self-interest. Here the concept is said to be composed of

three “logical” steps: (1) human action leads to unintended consequences, (2) the law of large numbers is invoked and combined with evolutionary time to generate what appears to be intelligent design, and (3) the end result is beneficial and desirable even though it was unintended. The problem here is that step one is unnecessary, step three is normative, and step two is devoid of economic content. It is normally not a problem to invoke phrases like “spontaneous order” and “invisible hand,” but when presenting such concepts in an encyclopedia, it should be pointed out (and well illustrated) that it refers to a step-by-step real-world process of individual actions that are generally very much intended and very much designed.⁵ Scientifically empty, hand-waving expressions of the invisible hand should probably be condemned, as Smith similarly did in his *History of Astronomy* (1749).

It is important to note that even before these modern interpretations were “discovered,” the invisible hand already had a major image problem. The phrase was appreciated by many, but it was also widely disparaged by many as mere apologetics for capitalism. Even the traditional interpretations of the invisible hand are somewhat vague and nebulous and not based on specific real-world processes. Coming from the philosophy of science perspective, David Hull (1997, p. S119) found that “the real problem with invisible-hand explanations is the specification of the mechanism that is supposed to bring about the result.” Philosophers of science have found that invisible-hand explanations must make explicit the processes that they are based on and how the results are achieved in order to be successful, or as Hull (1997, p. S119) asks:

⁵ To distinguish the invisible hand of the Scottish Enlightenment from other views it should be pointed out that all the relevant human action need not be “purposeful” and that all unintended consequences need not be the result of a spontaneous order.

Can the mechanisms responsible for this behavior in science be set out explicitly? Are these mechanisms adequate to bring about the effects I claim for science, or do they merely appeal to mysterious coincidences that serve only to paper over these anomalous states of affairs?

Therefore, if the mechanisms of Smith's invisible hand can be made explicit it should reduce the number of competing interpretations, solve the Neo-Austrian problem, lead to a better understanding of the concept and reduce the level of disagreement between the friends and foes of Smithian economics. A good example of a proper application of the invisible hand is provided by Selgin and White (1994). They describe the mechanisms of several competing visions of what the invisible hand might look like in the area of money and banking.

Connecting Smith to Cantillon

Demonstrating that Adam Smith's invisible hand is plausibly based on Cantillon's *Essai* relies on three key linkages. First, we know that Smith read Cantillon because Smith (1937 [1776], p. 68) famously named Cantillon in the first edition of the *Wealth of Nations* and discussed Cantillon's famous calculation that "the lowest species of common labourers must everywhere earn at least double their own maintenance." The issue of a par value between land and labor is now considered an intellectual black hole in economics, but this result must have been of great importance to Smith, the moral philosopher, because Cantillon had proven that the rich had to hire workers and pay workers *at least* twice their subsistence—even slaves—if they were to actually realize their wealth.

Second, numerous scholars have identified Cantillon's influence on a wide variety of Smith's economic concepts, such as competition and the circular-flow mechanism, which are components of the traditional interpretation of the invisible hand. Of course, Smith could have developed these concepts independently, or read them elsewhere,⁶ but the totality of the correlations between Cantillon and Smith reveal a plausible case that Cantillon was a critical influence on Smith's economics.

Third and most importantly, both of Smith's economic applications of the invisible hand—which have long thought to have been disconnected from each other—can both be found in Cantillon's model of the isolated estate in the chapters that directly follow his famous estimate. Here he explained how the management of the isolated estate is transferred from the visible hand of the owner, i.e. feudalism, to the invisible hand of the market economy.

Regarding the general influence of Cantillon on Smith, scholars have long compared and contrasted Smith with Cantillon on a variety of subjects and have found numerous similarities.⁷ For example, according to McNulty (1967 & 1968, p. 647), Adam Smith gave competition “an intellectual and ideological significance,” but he was not the discoverer of how competition functioned:

On the contrary, he incorporated into the *Wealth of Nations* a concept of competition already well developed in the economic literature of his time...the essence of which was the effort of the individual seller to undersell, or the individual buyer to outbid, his rivals in the marketplace, and had earlier been employed and developed by a number of writers including Cantillon. (McNulty, 1968, p.647)

⁶ Most of the people he could have been influence by had also read and were influenced by Cantillon, including the Physiocrats, Turgot, and David Hume.

⁷ Notwithstanding these similarities, one example of a difference between Cantillon and Smith is on the issue of the supply of money. Smith was aware of the Cantillon-Hume analysis of the impact of increasing the supply of money, but chose not to adopt it in *Wealth of Nations*. Possibly it was too complex for his intended audience or it might appear to open the door to mercantilist thinking.

McNulty (1968, p. 646) found that the *model* of competition was invented by Cantillon and was adopted and developed by others, but that it was Smith's *presentation* of the concept that made Smith the prophet of competition—doing for economics what Newton did for physics and astronomy.

Several scholars have connected Smith with Cantillon on the distinction between market price and natural price.⁸ According to Robertson and Taylor (1957, p. 192), Smith's "natural price formula is applied only to the natural price of labour, and hardly goes beyond, if indeed it goes as far as, Cantillon." This is an important connection because Cantillon's concept of "intrinsic value" was an attempt to describe the value of a good in terms of the amount of land and labor that were entered into its production. This would certainly appear to resemble—as several scholars have suggested—Adam Smith's natural price. Cantillon then tried to determine a par value of land in terms of labor. However, he found that you could not calculate such a number, but his theoretical answer was that a worker would have to be paid roughly twice the amount of subsistence in order to maintain the size of the workforce over time. This is what Smith attributed to Cantillon when Cantillon is referred to in *Wealth of Nations*.⁹

Smith also broke down the price of goods into their component incomes of wages, rents and profits in a way similar to Cantillon. Schumpeter (1954, pp. 239-43) found that Cantillon, with "econometric help" from Quesnay, developed a circular-flow model of the economy based on class categories that were interdependent. This simplified model of

⁸ See for example Spengler (1954, p. 423) who finds that Cantillon influenced Smith on value theory, distribution theory, market and natural price, as well as wage differentials and the wages fund.

⁹ See Thornton (2007a) for an analysis which shows that Cantillon actually constructed a rudimentary concept of opportunity cost.

the economy was seemingly adopted by Adam Smith, although Smith and others “fumbled” some aspects of the model. Cannan (1926, p. 123) also linked Smith explicitly with the “Economic Table” and therefore to Cantillon.¹⁰

Indeed, Cannan (1937 [1776]) found several likely and possible connections between Cantillon and Smith in the *Wealth of Nations*, especially in terms of analysis and description in Part 1 of the *Essai*, most notably on wage differentials in the chapter that precedes the chapters on intrinsic value and par value that Smith referenced in *Wealth of Nations*.¹¹ Brewer (1992) also found numerous similarities and probable influences of Cantillon on Smith, as well as on the Physiocrats who are thought to have influenced Smith. Aspromourgos (1996) correctly cautioned that Smith could have derived his inspiration on a variety of microeconomic points from the likes of Quesnay and Turgot, rather than directly through Cantillon. However, indirect influence still counts as influence, and we are quite sure that Smith, Quesnay and Turgot all read Cantillon.¹² Thornton (2007b) provides evidence that Cantillon did influence Hume, as has been long thought, and Hume was also an important influence on Smith’s economics. Therefore it seems plausible that Smith read the *Essai* and was influenced by Cantillon and his followers on a number of key points, *including several that are related to the traditional*

¹⁰ See Brewer (2005) for the significant influence of Cantillon on Quesnay’s *Tableau Economique*.

¹¹ See the Cannan edition of the *Wealth of Nations* in Smith, Adam. (1937 [1776]).

¹² There are several sources that tie the Physiocrats and Turgot to Cantillon. For example, Blaug (1991, Introduction) noted that Cantillon’s *Essai* “circulated in manuscript among French and English economic writers and was widely quoted and even plagiarized by, among others, Hume, Turgot, Mirabeau, Steuart and Adam Smith.” He went on to note that “for someone (Cantillon) writing half a century before Adam Smith, his treatment is amazingly post-Smithian.”

interpretations of the invisible hand including the price and wage system, competition, and the circular-flow nature of the economy.¹³

Smith's Hand in Cantillon Context

Now let us look at the textual connection between Cantillon's *Essai* and Smith's invisible hand. Adam Smith was not the first person to use the phrase the invisible hand, as it was already in use to describe supernatural action.¹⁴ Indeed, Smith (1980, p. 49) used the phrase derisively in his *History of Astronomy* where he used the "invisible hand of Jupiter" to describe the beliefs of polytheism, savages, and the superstitious who would attribute all irregular events in nature, like thunder and lightning, to invisible gods. Smith was scorning those who concoct special explanations. In Smith's view these irregular events should be seen and studied scientifically as part of the natural order of the universe. Macfie (1971) argues that this use of the invisible hand should not be seen as completely at odds with its use in *The Theory of Moral Sentiments* and *Wealth of Nations*. It is, after all, an expression of Smith's scientific spirit and is a comment concerning the methodological foundation on which he would build his science of natural laws.

However, it is also quite different in the sense that there is no economic content to the passage. This is important because it was written at the time (1749) before Smith was in all likelihood exposed to Cantillon's *Essai* (1755).

¹³ Blaug (1991, Introduction) found that Smith "totally neglected" Cantillon's work on entrepreneurship (leading to its disappearance from economics for over a century) where everyone trades at risk and creates a *system* of "arbitrage through time and across space."

¹⁴ Spengler (1984, p. 73) shows that seventeenth century writer Joseph Glanville used the phrase. Rothbard (1995) argued that Smith only got the general conception of the invisible hand from his teacher Francis Hutcheson and it certainly is true that Hutcheson was a critical influence on Smith in terms of the "system of natural liberty" that both espoused.

In *The Theory of Moral Sentiments* (1759) Smith described his philosophy whereby nature produces results which seem to be divine. In the passage where he invoked the invisible hand he is addressing the massive inequality of land ownership that characterized his world. He showed that despite the immense size of estates, the landowner does not consume all that is produced, but only a tiny fraction of it. There is of course a limit to how much the landowner can eat, but more importantly he must feed and support all those who work for him; who work the fields, who maintain his house, who produce his clothes and luxury goods. Therefore, property owners support the poor to address their own “insatiable desires,” not directly as a matter of justice or humanity. As a result, Smith (pp. 184-5) found that the distribution of goods is nearly equal, with the landowners getting merely the first choice of quality:

They are led by an invisible hand to make nearly the same distribution of the necessaries of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society, and afford means to the multiplication of the species.

Self-love therefore is a driving element in Smith’s system of natural harmony where even the “unfeeling landlord” is forced to share with all. In this way the wealthy members of society are actually deceived by the meaning of their wealth. Smith (p. 185) ended his point by noting that even the lowest members of society have some advantages over the highest:

In ease of body and peace of mind, all the different ranks of life are nearly upon a level, and the beggar, who suns himself by the side of the highway, possesses that security which kings are fighting for.

In building his moral philosophy of social harmony, the near equality in the distribution of goods—despite the tremendous inequality of land ownership—plays a key role because it is an example of harmony that involves basic necessities and is more or less seen as an automatic process after it is theoretically revealed to the reader. Smith found that the landowner will consume little more than that of the lowest peasant. The deception is so great that in some respects the poor are actually better off in terms of leisure and stress so that Smith (p. 185) can conclude: “When Providence divided the earth among a few lordly masters, it neither forgot nor abandoned those who seemed to have been left out in the partition.” After reading the entire passage (p. 183), the invisible hand aspects seem obvious, but only after we “view it in this abstract and philosophical light” of Smith’s model of the landlord’s estate.

Cantillon (39/31/17) similarly wrote that land inevitably tends to come into the possession of the few and that it “does not appear that Providence has given the right of the possession of land to one man preferably to another.” This quote begins Chapter 11 of the *Essai* where Cantillon constructed the estimate that Smith references in *Wealth of Nations* of how much the landowner must “pay” his slaves, vassals, and other labor. In the next chapter Cantillon demonstrated how production is distributed among the owner, the farmers, the workers, and other trades. He went on to develop a circular-flow closed economy where goods and labor flow between farmers and employees, owners and artisans, city and country. In addition to demonstrating the mutual interdependence between landowners and labor, Cantillon (59-60/47/23) also showed that the owner has the incentive to maximize production and incomes:

The land belongs to the proprietor but would be useless to them if it were not cultivated. The more labor is expended on it, other things being equal,

the more it produces; and the more its products are worked up, other things being equal, the more value they have as merchandise. Hence the proprietors have need of the inhabitants as these have of the proprietors; but in this economy it is for the proprietors, who have the disposition and the direction of the landed capital, to give the most advantageous turn and movement to the whole.

It is the self interest of the estate owner that maximizes output and income for the populace.¹⁵ In the case of the feudal estate it seems obvious to us today that workers are dependent upon on the estate owner's desire to consume. However, that would not have been the case at that time any more than the average citizen today understands that his standard of living is dependent upon the savings of past generations as represented by stocks, bonds, and bank deposits that make all of our capital possible. It is this unseen feature of the economy that Cantillon (60-1/47/23, emphasis added) highlighted:

It is need and necessity which enable farmers, mechanics of every kind, officers, soldiers, domestic servants and all the other classes who work or are employed in the state, to exist. All these working people serve not only the prince and the property owners, but each other, so that there are many of them who do not directly work for the property owners, and so *it is not seen that they subsist on the capital of these property owners* and live at their expense.

It should be clear that Smith took Cantillon's point of logic and observation (in Chapter 12) to make the moral point that there is natural distribution of goods in society that is fair in some sense, despite the unfair distribution of land ownership.

The third and final appearance of the invisible hand occurs in *Wealth of Nations*; here Smith invoked the phrase in his famous assault on mercantilism. Smith noted that population is limited by production and production is limited by the amount of capital;

¹⁵ Note especially that the proprietors "give the most advantageous turn and movement to the whole" [Cantillon (60/47/23) "à donner le tour & le mouvement le plus avantageux au tout."] is similar to Smith's property owners who have fallen victim to a "deception" and "have turned the rude forests of nature into agreeable and fertile plains, and made the trackless and barren ocean a new fund of subsistence."

two points he could have derived from Cantillon. He further noted that individuals direct their capital according to self-interest to achieve the greatest value and there are economic reasons why capital is often employed domestically. By seeking to obtain the greatest value from his capital, the individual is part of the nation achieving its greatest level of production:

By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, *as in many other cases*, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it.¹⁶

As a way of ameliorating people's fears about free trade and foreign investment, Smith wrote that investors who faced equal profit opportunities at home and abroad will choose to invest domestically because there are fewer risks involved (i.e., "his own security"). In other words, the economics of self-interest in capital markets will propel people to keep a large portion of their capital employed domestically.¹⁷ Smith believed that we could rely on self-interest—not some government decree—to direct and maintain the capital that we subsist on. Capital flight is just an example of the "many other cases" where we can count on the invisible hand.¹⁸

¹⁶ Smith (1976 [1776] p. 456, emphasis added). This important phrase indicates that Smith meant the invisible hand applied "in many other cases."

¹⁷ Incidentally, while Smith was writing to the mercantilists, he is also "answering" Gomory and Baumol (2000) who use the fear of capital flight in recent years to construct an infant-industries argument for protectionism.

¹⁸ Contrary to Grampp, it is the risks of foreign investment (e.g. goods lost in transit due to storms or pirates) that is at issue here, not national defense. Foreign investments in the carrying trade can be quickly liquidated and easily transferred in the event of war, even during Smith's day. Indeed, the argument of linking the invisible hand to defense is so weak that Grampp is forced to acknowledge: "At this point the thoughtful reader may demur and wonder if what Smith said about the invisible hand can reasonably be interpreted to mean it promotes defense. He (p. 454) does not use the word defense; what he expressly says is that the invisible hand increases domestic capital." Grampp even noted in his paper that the "anonymous and learned referee" found fault with the notion that the invisible hand is related to defense, not capital.

After explaining the distribution of income, Cantillon then explained in the next chapter (13) that everyone is really an entrepreneur because their incomes and profits are at risk. Then in chapter 14 he presents his model of the isolated estate where the estate owner who directs his own estate “will necessarily use part of it for corn to feed the laborers, mechanics, and overseers who work for him.” He described how the transition from the command or feudal economy to one based on the price system—where the motivation of profit and loss drive the economy—will *ceteris paribus* move the economy or “circulation” into harmony or equilibrium. The owner breaks up the estate into farms that are leased to farmers. Farmers, in turn, direct and sustain their workers. The owner uses rent payments from the farmers to buy goods from artisans and entrepreneurs so that “after this change all the people on this large estate live just as they did before...and that the farms of this great estate will be put to the same use as it formerly was.” (79-80/61/28) If the farmers produced more of a good than previously, there would be a surplus, price would fall, and according to Cantillon (81/61/29) “farmers always take care to use their land for the production of those things which they think will fetch the best price at market.”

Next, Cantillon (84/65/30) introduced a change in taste on the part of the estate owner to show that changes in taste “bring about the variation of demand which cause the variations of market prices” and a new market equilibrium. Cantillon noted that successful and prudent entrepreneurs can become rich, while failed and profligate entrepreneurs will go bankrupt. He also demonstrated that members of a profession naturally proportion themselves based on the demand for their product. Cantillon thereby

Grampp attempted to shore up his position by adding that local capital creates more employment and that a more rigorous economy contributes to a nation’s power.

presented a model of the transition from the feudal-command economy to the market economy and demonstrated the workings of what we now call consumer sovereignty and the circular-flow model of the economy. Cantillon's model makes clear that the self interest of entrepreneurs can be relied upon to regulate the economy according to the demands of consumers.

Now we return to the invisible hand in the *Wealth of Nations*. Smith employed the phrase invisible hand within an example about a general point he was making that the market could be relied upon to regulate the economy and that government intervention was not required or desired. In leading up to the invisible hand Smith (1976 [1776], p. 453) made his general point that:

Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of the society, which he has in view. But the study of his own advantage naturally, or rather necessarily, leads him to prefer that employment which is most advantageous to the society.

Smith then presented his example of the invisible hand where people prefer to keep their capital at home, when profits are equal, and that the more capital at home means more production and a larger population—points first made by Cantillon. Cantillon defined wealth as the ability to consume and Smith followed Cantillon on this important point.

The issue of the use of capital in foreign trade is discussed at great length in Part III of the *Essai* where Cantillon (334/251-253/102-3) explained that there are expenses and risks with placing capital in international trade:

The charge of exchange between Paris and Chalons is rarely fixed at more than 2½ or 3 per cent over or under par. But from Paris to Amsterdam the charge will amount to 5 or 6 per cent when specie has to be sent. The

journey is longer, the risk is greater, more correspondents and commission agents are involved. From India to England the charge for carriage will be 10 to 12 per cent. From London to Amsterdam it will hardly exceed 2 per cent in peace time.

Smith would probably not have firsthand knowledge of this specialized information, but Cantillon was a merchant banker and was intimately familiar with such details. The added expense of foreign capital movements would indeed suggest that if profit opportunities were the same, capital would tend to stay at home because of the added cost and risk of foreign investments.

It is therefore plausible that Smith derived the general notion of the invisible hand in the *Wealth of Nations* from his reading of Cantillon, especially the model economy of the isolated estate. All the components of Adam Smith's invisible hand—as it appears in *Wealth of Nations*—can be found in Cantillon's *Essai* including entrepreneurship and self-interest (Chapter 13), the role of prices, profit and loss, and consumer sovereignty (Chapter 14), and even the relationships between capital, production and population. Finally, Smith's statement regarding the risks of employing foreign capital can be found in Part III of the *Essai*. Although the costs and risks of transportation and foreign transactions were themes that ran throughout the *Essai*, Smith's application of the invisible hand to maintaining capital in the domestic economy is a new argument.

Conclusion

The case for Cantillon as a plausible source for the analytical foundations of Smith's invisible hand rests on the facts: (1) Smith knew Cantillon's work and referred to

Cantillon in the *Wealth of Nations*, (2) numerous scholars have identified telling similarities between Cantillon's and Smith's writings, and (3) Smith's two economic applications of the invisible hand appear right next to each other in Cantillon's *Essai*, in the chapters that follow the chapter that Smith referenced in the *Wealth of Nations*. Scholars have also suggested that the key to unlocking the mystery of the invisible hand is making sense of Smith's three disparate uses of the phrase. The fact that Cantillon provides a plausible key to those three uses of the phrase strongly reinforces the textual evidence.

This finding supports the following conclusions:

1. The modern interpretations are wrong and generally represent nothing more than modern economists trying to write their own approach into Smith.
2. The traditional interpretations regarding self interest and the market system were generally correct.
3. There is nothing mystical about the invisible hand.
4. The invisible hand consists of real world processes that are fundamentally well-grounded in logic and experience.

Specifically, the evidence suggests that we can find the mechanism of Smith's invisible hand in Cantillon's *well disguised hand*. Here, the invisible hand begins with property ownership. Property rights are the keystone of economic analysis for Cantillon and a key concern for Smith. From here, production decisions are made that result in a natural distribution of income based on mutual interdependence of interests between

property owners, labor, and entrepreneurs, all of which takes place in Cantillon's "circulation," or what we call the circular-flow economy. Natural self interest regulates and harmonizes this circulation with the market mechanisms of prices and profits. Prices regulate the distribution of goods among consumers, while profits and losses regulate the use of labor and resources among the production of goods. The system is brought full circle because the accumulation of profits and bankruptcy determines the future of property distribution.

While self interest, entrepreneurship, and consumer sovereignty are certainly important, the "hand" may have been invisible for Smith because it represents both nothing and everything. It is "nothing" in the sense that there is no direction, no director, in the economy. It is "everything" because everyone is involved, or could be involved, in determining the economic results. When faced with such complexity, Smith may have simply resorted to the imagery of the invisible hand as a shorthand way of capturing the complex workings of the market economy in a simple, but highly effective phrase to convey his meaning.

The evidence presented here is sufficiently strong to make Cantillon the most plausible source for the economics of the invisible hand and hopefully the interpretation based on it will prevent the invisible hand from succumbing to the multiple-conception disorder that currently threatens its future scientific use.¹⁹ Cantillon continues to offer us new insights²⁰ and the reader is encouraged to read Cantillon's *Essai* for a deeper

¹⁹ Ironically, the best example of a concept losing its scientific usefulness due to a multiple conception disorder is mercantilism, a term made famous by Smith.

²⁰ Modern research in both the general interest and specialized journals has shown that the tremendous analytic legacy of Cantillon continues to grow. Only in recent years have scholars recognized Cantillon's contributions to such diverse fields as spatial economics (Hébert, 1981), population theory (Tarascio, 1981), monetary economics (Bordo, 1983), and our concept of opportunity cost (Thornton, 2007a). Cantillon has also seen new recognition for his contributions to business cycle theory (Thornton, 2006). In

understanding of the invisible hand, and to see what Cantillon has to contribute to the normative debate over the invisible hand. To all that he has given us, we can now add the underpinnings of Smith's invisible hand.

This evidence also reveals several interpretations that have been published in the leading general-interest economics journals are highly dubious, including interpretations that have attempted to make Adam Smith in the image as a modern welfare theorist and to thrust the Scottish professor onto the Procrustean bed of general equilibrium theory. In recent years, many of the general interest economic journals have justified the marginalization of the topic of the history of economic thought on grounds that they needed to raise their standards and to better address the needs of their subscribers. In the case of Adam Smith's invisible hand it would seem that they have lowered their standards to better serve their self interest.

addition to his recent recognition as an important influence on David Hume (Thornton, 2007b), Cantillon now be recognized in a crucial influence on Turgot, the Physiocrats, the French liberals and the overall Anti-mercantilist movement.

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