

## Notes and Communications

## ORIGINS OF THE TERMINOLOGY "SUPPLY AND DEMAND"\*

WILLIAM O. THWEATT

Vanderbilt University, Nashville

Although discussion of the determinants of market prices dates back to at least the seventeenth century, the words "supply" and "demand" used conjointly did not appear until much later. However Peter Groenewegen's statement that "supply and demand" did not "become a common expression in economic literature till the beginning of the eighteen-twenties" (1973, p. 509) surely is unfounded. This article attempts to indicate the origins and subsequent use of the couplet "supply and demand" in British economic literature.

On the basis of a cursory inspection of seventeenth century literature it can be said that "supply" as a noun was rarely used and "demand" in conjunction with "supply" not at all. Rather we find expressions such as "scarcity and plenty", and "quantity and vent". John Locke, for instance, wrote of price being regulated by "Quantity in Proportion to . . . vent" (1969, p. 52). One of the very few writers to use "demand" as a noun in the seventeenth century was Sir Dudley North in 1691, but not in conjunction with "supply" or even "quantity".

The first writer to use the noun "demand" in conjunction with "quantity" was John Law in 1705. As against Locke, he insisted that "the Prices of Goods are not according to the Quantity in Proportion to the Vent, but in Proportion to the Demand" (1705, p. 5). Law's "quantity and demand" terminology soon became common usage appearing in, among others, Defoe in 1730, Hume in 1752 and Harris in 1757.

Still later we find "demand" combined with the verb "supply" as in Decker's "a vast Demand will certainly raise their Prices; but not being able to supply Quantities sufficient . . ." (1744, p. 68). Adam Smith also combined "demand" with the verb "supply", first in his *Lectures* (1762-63), and then in his *Wealth of Nations* on several occasions in the famous chapter on "Natural and Market Prices". But the first writer to use the nouns "supply" and "demand" in one sentence was Sir James Steuart in 1767,<sup>1</sup> where we find it some 17 times.<sup>2</sup>

\* Thanks are due to John P. Henderson of Michigan State University and Denis O'Brien of the University of Durham, and most particularly to Peter Groenewegen for his help and cooperation.

<sup>1</sup> It also appears on one occasion in John Mitchell's little known *Present State of Great Britain* (1767). We owe the references to Steuart and Mitchell to Peter Groenewegen, who himself is indebted for the information to Richard Wiles of Bard College, with whom we have corresponded.

<sup>2</sup> The number of usages of "supply and demand" recorded in all that follows obviously is a minimum since the number of pages scanned was well into the thousands. Additionally, some authors who may have used the terminology in our period we probably completely missed.

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Why it was that Steuart introduced the "supply and demand" terminology is not immediately obvious and, indeed, he was not at all consistent in its usage. More often than not he repeated John Law's expression "quantity and demand". However, in Book II, "Of Trade and Industry", Steuart introduced the nomenclature "supply and demand" on a number of occasions to explain how competition (or the statesman) proportions the "supply to the demand" (vol. I, pp. 234, 269, 356), and later on to discuss the "circumstance which raises the price of labour", i.e., "the demand of the market must be greater than the supply" (vol. IV, p. 205; also, vol. V, p. 289).

In the early nineteenth century although one finds references to Steuart's writings, as Hayek long ago indicated "James Steuart's *Political Economy* had no very wide influence" (1939, p. 37). Such, of course, cannot be said for Adam Smith's *Wealth of Nations* where we find the couplet "supply and demand" on 14 occasions. Indeed, within one 42-page stretch of Book I (in the chapter on "Rent" and even more so in its "Digression Concerning the Variations in the Value of Silver") Smith uses the "supply and demand" terminology 12 times as he describes the effects on the market price of silver from differential growth rates in its "supply and demand".<sup>3</sup> Consequently, we may very well owe the widespread use of the expression "supply and demand" to the *Wealth of Nations*, since many recognized authors who repeatedly used the phrase often referred to Smith. Interestingly, however, apparently the only one who actually quoted a passage from the *Wealth of Nations*, in which the expression "supply and demand" appeared, was Sir Edward West in his well-known pamphlet, *Essay on the Application of Capital to Land* (1815, p. 32).<sup>4</sup>

As Table 1 indicates, the first political economist to use "supply and demand" in the nineteenth century was Robert Malthus in his pamphlet, *The High Price of Provisions*, where it appeared on 4 occasions. For example, referring to Adam Smith's discussion on "Natural and Market Prices" Malthus remarks that in times of scarcity "natural price is necessarily forgotten and . . . actual price is regulated by the excess of demand above supply" (1800, p. 5). And in Malthus' influential 1803 edition of his *Essay on Population* he used "supply and demand" 21 times. In these early years of the new century the expression also appeared in several articles by Horner and Brougham in the *Edinburgh Review*, in Henry Thornton's widely read *The Paper Credit of Great Britain*, as well as in Robert Torrens' *The Economists Refuted*. So, prior to the discussion on the high price of bullion in 1810, the main sources of the "supply and demand" terminology were: Sir James

<sup>3</sup> Notwithstanding, Groenewegen has stated that while Adam Smith often used the words "supply" and "demand" he "did not use the noun 'supply' in this context, but the verb", as in "to supply the effectual demand" (1973, p. 507).

<sup>4</sup> Another possible eighteenth century source of the "supply and demand" terminology may have been Dugald Stewart's lectures given at Edinburgh between 1790 and 1809. Although not published until the mid-1850s, the lectures, which made considerable use of the "supply and demand" terminology, were attended by a number of students who later used the nomenclature in their own publications. These included, in addition to Lauderdale and James Mill, Francis Horner and Henry Brougham writing in the early issues of the *Edinburgh Review*.

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TABLE 1  
Usages of the expression "supply and demand" prior to Ricardo's *Principles*<sup>a</sup>

Date	Author	Publication	No. of times
1767	John Mitchell	Present State of Great Britain	1
1767	Sir James Steuart	Principles of Political Economy	17
1772	Sir James Steuart	Considerations on . . . Linnæus	1
1776	Adam Smith	Wealth of Nations, 1st ed.	12
1784	Adam Smith	Wealth of Nations, Additions to 2nd ed.	2
1800	Thomas Robert Malthus	High Price of Provisions	4
1802	Henry Thornton	Enquiry into . . . Paper Credit	13
1802	James Mill	Anti-Jacobin Review and Magazine	3
1803	Thomas Robert Malthus	Essay on Population, new (2nd) ed.	21
1803	Francis Horner	Edinburgh Review (January)	13
1803	Francis Horner	Edinburgh Review (July)	4
1803	Henry Brougham	Edinburgh Review (October)	1
1803	John Wheatley	Remarks on Currency & Commerce	2
1804	Lord Lauderdale	Inquiry into . . . Public Wealth	9
1804	Henry Brougham	Edinburgh Review (July)	3
1804	Lord King	Restrictions on Payments in Specie	5
1804	James Mill	Literary Journal (October)	2
1804	James Mill	Essay on Bounty . . . of Corn	2
1804	Francis Horner	Edinburgh Review (October)	3
1804	James Mill	Literary Journal (October)	1
1807	Horner/Brougham	Edinburgh Review (July)	2
1807	John Wheatley	Essay on the Theory of Money	1
1807	Thomas Robert Malthus	Letter to Samuel Whitbread	1
1807	Henry Brougham	Edinburgh Review (October)	2
1808	Robert Torrens	Economists Refuted	29
1808	James Mill	Commerce Defended	2
1808	James Mill	Eclectic Review (February)	4
1808	James Mill	Eclectic Review (June)	1
1808	James Mill	Edinburgh Review (October, 1808)	1
1809	Henry Brougham	Edinburgh Review (January)	4
1810	Francis Horner	Parliamentary Debates (Bullion)	1
1810	Spencer Perceval	Parliamentary Debates (Bullion)	1
1810	Henry Thornton	Parliamentary Debates (Bullion)	1
1810	N. Vansittart	Parliamentary Debates (Bullion)	1
1810	Davies Giddy	Parliamentary Debates (Bullion)	1
1810	Committee Report	On the High Price of Bullion	6
1810	S. Cock	Examination of the Bullion Committee	4
1810	John Hill	Inquiry . . . High Price of Bullion	8
1810	Charles Bosanquet	Practical Observations	3
1810	George Ellis	Quarterly Review (November)	4
1810	Coutts Trotter	Principles of Currency and Exchanges	1
1811	Ellis & George Canning	Quarterly Review (February)	1
1811	Thomas Robert Malthus	Edinburgh Review (February)	2
1811	Thomas Robert Malthus	Edinburgh Review (August)	2
1811	Henry Thornton	Two Speeches on Bullion Report	1
1811	Davies Giddy	Plain Statement of the Bullion Question	3
1811	N. Vansittart	Substance of Two Speeches	1
1811	A. W. Rutherford	Hints from Holland	1
1811	Robert Mushet	Inquiry on . . . National Currency	1
1811	Earl of Rosse	Observations on . . . Currency of England	2
1811	D. Boileau	Introduction to . . . Political Economy	10

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TABLE 1 continued  
Usages of the expression "supply and demand" prior to Ricardo's *Principles*<sup>a</sup>

Date	Author	Publication	No. of times
1811	David Ricardo	High Price of Bullion, Appendix to 4th edition	1
1811	George Chalmers	Consideration on Commerce, Bullion and Coin	11
1811	Dugald Stewart	Notes on the Bullion Report <sup>b</sup>	10
1812	Robert Torrens	Essay on Money and Paper Currency	72
1812	Thomas Smith	The Bullion Question	1
1813	Henry Parnell	Parliamentary Debates on Corn Laws	5
1814	David Buchanan	Buchanan's edition of Wealth of Nations	26
1814	Thomas Robert Malthus	Observations on the Corn Laws	10
1814	James Mill	Eclectic Review (July)	1
1814	Lord Lauderdale	A Letter on the Corn Laws	13
1815	David Buchanan	Edinburgh Review (February)	1
1815	Thomas Robert Malthus	Inquiry Into . . . Rent	2
1815	Thomas Robert Malthus	Grounds of an Opinion	1
1815	Sir Edward West	Applications of Capital to Land	3
1815	Robert Torrens	Essay on External Corn Trade	18
1815	A. Robinson	Parliamentary Debates (Corn Laws)	1
1815	Francis Horner	Parliamentary Debates (Corn Laws)	1
1816	Robert Torrens	Letter to the Earl of Liverpool	3
1816	William Jacob	Inquiry Into . . . Agricultural Distress	5
1816	J. R. McCulloch	Essay on . . . Reducing Interest	18
1816	P. Colquhoun	Epitome of a Scheme of Finance	7
1816	Jane Marcet	Conversations in Political Economy	14
1817	James Mill	Eclectic Review (February)	2
1817	Robert Torrens	Reducing the Poors Rates	10
1817	Alexander Crombie	Letter to D. Ricardo, Esq. (7 April)	2
1817	Thomas Robert Malthus	Additions to . . . Essay on Population <sup>c</sup>	13

(77)

(472)<sup>d</sup>

<sup>a</sup>Citations include the phrase "supply and demand" and the words "supply" and "demand" used conjointly within a sentence.

<sup>b</sup>These "Notes" Stewart sent Lord Lauderdale between February and April 1811, although technically they were not published until much later when Stewart's *Collected Works* appeared in 1856. The published lectures were "taken from Mr. Stewart's older [1800-1809] manuscripts" in which the phrase "supply and demand" appears an additional 11 times, for a total of 21.

<sup>c</sup>Malthus' fifth edition of his *Essay* appeared in June 1817, and presumably the "Additions" were published shortly before this time, although possibly a little after Ricardo's *Principles* (19 April).

<sup>d</sup>Page references for the above items and others mentioned in the text are available from the author upon request.

Steuart, Adam Smith, Robert Malthus, Henry Thornton, Robert Torrens and the *Edinburgh* reviewers, a rather impressive list.

Then in the two-year period, 1810-12, beginning with Francis Horner's motion in the house of Commons advocating a Select Committee to look into the "Bullion Question", the phrase "supply and demand" was contained in 26 publications, appearing 150 times. And in the 1813-15 period, when the Corn

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Law debate dominated public discussion, "supply and demand" was again used on over 80 occasions. In all, between 1767 and early 1817, as Table 1 indicates, the nomenclature "supply and demand" appears in 77 publications in which it was used some 472 times! It would thus appear that Groenewegen, in the only prior examination of the origins of the "supply and demand" terminology, is mistaken in attributing the wide spread use of the phrase to the publication of Ricardo's 1817 *Principles*.

Groenewegen's further contention that it was Ricardo who first stressed the importance of the doctrine is contradicted by an examination of writers who did precisely this long before Ricardo published.

As early as 1769 Stuart stressed that prices are determined by the "principle which regulates the prices of all commodities, viz. the proportion between the demand and the supply..." (vol. V, p. 289). And in 1802 in his seminal work on central banking Henry Thornton wrote "it is commonly said, that the price of a thing is regulated by the proportion between the supply and the demand" (1802, p. 193, italics added), in a virtual paraphrase of Stuart. It is interesting that as early as 1802 Thornton could speak of "supply and demand" being in "common" use. The following year, in the new edition of his *Essay*, Malthus, after giving all circumstances which might affect market prices their "due weight" insisted that "more powerful than all the rest combined... is, the proportion of the supply to the demand", and he was aghast that "when the demand for provisions is greater than the supply [politicians thought it possible] by publishing a particular edit, to make the supply at once equal to, or greater than the demand" (1803, pp. 462, 407).

By the turn of the nineteenth century, as the above citations make clear, the nomenclature "supply and demand" was used as an explanation of market price determination, as indeed it continued to be. James Mill, for example, writing in the *Edinburgh Review* stated: "The price of any article, or its value in exchange, is determined by the proportion which supply bears to the demand" (1808, p. 53; cf also 1802, p. 265).

That same year in his *The Economists Refuted*, Robert Torrens repeatedly insisted that "Demand always regulates supply" (1808, pp. 33, 44, 88, 95). And this assertion was repeated twice in his 1812 *Essay on Money*, and thrice in his *External Corn Trade* of 1815 in which he dogmatically maintained: "If there be, in the whole compass of this science, a principle universally admitted, and completely incontrovertible, it is, that demand regulates supply" (1812, pp. 30, 63; 1815, pp. 52-53, 212, 246-247). Torrens here uses the phrase in a macro-sense, unlike the previous writers we have cited.

In attempting to account for the high price of bullion in the years 1810-12, many authors fell back upon the principle of "supply and demand". On 1 February 1810, Francis Horner rose in the House of Commons to move for the appointment of a Select Committee to study the "Bullion Question" and in his speech used the phrase, as did the Chancellor of the Exchequer in his reply.

The following June the Report of the Bullion Committee appeared and it also made use of the phrase. A flood of publications on the Bullion Question followed and, as Table 1 indicates, many of them used the phrase, but none

more forcibly than Davies Giddy (a member of the Committee) when he wrote "No proposition seems more firmly established, more universally acknowledged, than that which declares the value of all commodities to depend on the supply and the demand" (1811, p. 11). A few months earlier Malthus, writing in the *Edinburgh Review*, commended Ricardo's recently published pamphlet on Bullion, saying that it was founded upon the "grand doctrine" from which follows the "general principles of supply and demand, which are unquestionably the foundation on which the whole superstructure of political economy is built" (1811, p. 341).

In view of these repeated assertions as to the importance of the principle of "supply and demand" for the determination of market prices in the pre-1817 literature, it would seem Groenewegen is mistaken when he maintains that (1) "the phrase was first given prominence... in the title to chapter 30 of Ricardo's *Principles*", and (2) that it was Ricardo who first used the "supply and demand" nomenclature in a micro-analysis of the determination of market price.<sup>5</sup> Also Groenewegen's main conclusion, that we owe the "supply and demand" terminology to Ricardo, even ignoring the findings of Table 1, seems a little strange since Ricardo relegated the "supply and demand" analysis to the temporary short-run phenomena of market prices, whereas the determination of long-run natural exchange values was a function of costs of production. Indeed, Ricardo's chapter 30, "On the Influence of Demand and Supply on Prices", was written to belittle "supply and demand" analysis, maintaining that: "It is the cost of production which must ultimately regulate the price of commodities, and not, as has been often said, the proportion between the supply and demand... an axiom in political economy [that] has been the source of much error" (1817, p. 382).

Malthus, on the other hand, used the "supply and demand" apparatus for both short-run and long-run analysis, and indeed, much of the running controversy between Malthus and Ricardo centred precisely upon this distinction. On the face of it, one would have thought, as between Ricardo and Malthus, it would have been Malthus and not Ricardo who first introduced the phrase. And such seems to have been the case.

As Table 1 shows, Malthus had used "supply" and "demand" in print over 50 times by early 1817, whereas during this period they appear in Ricardo's writings only in the Appendix to the fourth edition of his pamphlet on Bullion, and then he is quoting Malthus' use of the phrase (*Works*, vol. III, pp. 103-104). But that Ricardo in all likelihood learned the expression "supply and demand" from Malthus is best seen by examining their correspondence between 1814 and 1816 where the words "supply" and "demand" appear together on more than 50 occasions.

It is interesting that in Ricardo's first letter to Malthus he used the words "supply" and "demand" in discussing Malthus' *Edinburgh Review* article on the "Depreciation of Paper Money" in which the phrase had appeared and the "principle of supply and demand" emphasized. But numerous uses of "supply"

<sup>5</sup> Letters to the author dated 28 April 1981 and 3 August 1982.

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and "demand" in the correspondence by both Malthus and Ricardo begin in 1814 after Malthus wrote of the "proportion of demand to the supply which is always the main point in question". Within the week Ricardo replied, quoting Malthus "the proportion of demand to supply, which is always the main point in question", adding, however, "but I do not agree even to this explanation" (*Works*, vol. VI, pp. 117, 121).

Soon Malthus and Ricardo were discussing the concept of demand and that September we find Malthus writing: "I cannot help being of opinion that these high profits always indicate a comparative excess of demand above supply, even though the demand and supply should appear to be precisely equal" (*Works*, vol. VII, p. 131). Early in 1815, Malthus again complained: "Under the circumstances that you suppose it is contrary to every principle of supply and demand . . .," and in October he reiterated the point saying, "I only want to make you allow, according to the same great principle of supply and demand that . . ." Within the week Ricardo replied, "I acknowledge the effects of the great principle of supply and demand in every instance, but in this, it appears to me that the demand will enlarge at the same rate as the supply . . ." (*Works*, vol. VI, pp. 222, 296, 301).

The exchange continued with Malthus insisting, "your doctrine of the indefinite demand for capital without reference to a proportionate increase of population, is an assumption, directly in the teeth of the great principle of supply and demand, and uniformly contradicted by experience" (*Works*, vol. VI, p. 319). By 1816, the two writers use the phrase so often, another 26 times before Ricardo's *Principles* was to appear, that there can be no doubt it had become an accepted and useful part of their vocabulary in writing on political economy, as indeed, it had been for Malthus since 1800.

In conclusion, our research points to Sir James Stewart and Adam Smith as the eighteenth century authors whose writings first introduced the "supply and demand" terminology which thus appears to be a Scottish innovation, and as Groenewegen recently suggested in correspondence, it was "transmitted from Stewart and Smith via the *Edinburgh Review* and Dugald Stewart to the English speaking world".<sup>6</sup> In the opening years of the nineteenth century the phrase was repeatedly used, and the principle of "supply and demand" stressed by several important political economists: in the discussion of market price by Malthus, Thornton, Horner and Brougham, and at the macro-level as well as by Torrens and James Mill. All of these writers were to some extent influenced by Sir James Stewart and Adam Smith, with the latter undoubtedly being the more important. In the following decade public discussion on the "Bullion Question" and the "Corn Laws" called forth innumerable works where the expression "supply and demand" can be found on several hundreds of occasions prior to the publication of Ricardo's *Principles*. And, again, the most frequently cited authority was Adam Smith.

Perhaps, then, it is not an exaggeration to say we owe the "supply and demand" terminology to Adam Smith. As for Ricardo, he was a late comer in

<sup>6</sup> Letter to the author dated 3 August 1982.

the parade of users of the phrase, and in all probability imbibed the expression from his correspondence with Robert Malthus.

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