Cambridge Journal of Economics Advance Access published October 8, 2012

Cambridge Journal of Economics 2012, 1 of 18
doi:10.1093/cje/bes048
Advance Access publication 2012,

An 'unproductive labour' view of finance

Aldo Barba and Giancarlo de Vivo*

The present paper discusses the role of the financial sector in a capitalist economy, arguing that the huge increase in its weight (economic and otherwise) in the last decades is not justified by the importance of its contribution to economic growth. The point is developed going back to the classical concepts of productive and unproductive labour. There are two dimensions of these concepts that we discuss. The first links the social efficiency of the financial sector to its role in the reproduction process, crucially distinguishing basic from non-basic uses. We argue that many financial services usually seen as services to production really consist of the provision of gambling facilities, and thereby have to be considered at best as luxury goods. When evaluated according to its reproductive capability, the service of arranging a gambling house cannot be seen as producing social value. A second sense in which the discussion of productive and unproductive labour casts light on the nature of some financial services is that connected to the conception of pure circulation costs, as different from costs of production proper. The amount of circulation costs varies with the varying intensity of the realisation problem. They are not defined by the production technique and are, in this sense, arbitrary.

Key words: Financial sector, Productive and unproductive labour, Derivatives
JEL classifications: A10, B24, G20

I confess to an uneasy Physiocratic suspicion, perhaps unbecoming in an academic, that we are throwing more and more of our resources, including the cream of our youth, into financial activities remote from the production of goods and services, into activities that generate high private rewards disproportionate to their social productivity. (J. Tobin)

1. Introduction

A passage in Gramsci's *Prison Notebooks*, which Sraffa approvingly marked in his copy, reads: 'It is a superstitious construction worthy of fossilised intellectuals to think that

Manuscript received 10 November 2010; final version received 10 May 2012.
Address for correspondence: Aldo Barba, Dipartimento di Economia, Università di Napoli 'Federico II', via Cinthia - Monte S. Angelo, I 80126 Naples, Italy; email: albarba@unina.it

* Università di Napoli 'Federico II'. Paper presented at the *Cambridge Journal of Economics* conference held at Queens' College, Cambridge, July 2010, to mark the 50th anniversary of the publication of Piero Sraffa's *Production of Commodities by Means of Commodities*. We should like to thank the participants to the conference, the editors and the anonymous referees of this journal, and M. Pivetti for very useful comments and criticisms of the arguments presented in this paper.

© The Author 2012. Published by Oxford University Press on behalf of the Cambridge Political Economy Society. All rights reserved.

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

a whole vision of the world can be destroyed by criticisms of a rational kind'.[1] Indeed, whoever after the publication of Sraffa's (1960) book may have naïvely entertained hopes that marginalism would be destroyed by his radical critique—and many may have[2]—had to think twice. Gramsci's remark is particularly to the point with respect to economic theory, because economic interests and preconceptions very powerfully affect one's 'vision of the world'. This is not to say that 'rational criticisms' of economic theories have no influence on the development of economic doctrine—suffice to think of Keynes to deny this—but that 'schools are not destroyed so easily' (Schumpeter, 1954, p. 478).

Reference to Keynes is relevant here also because the impact his critique had on economic thought has much to do with the fact that he extensively employed a radically new standpoint from which to look at economic problems, and both Gramsci and Sraffa would have probably agreed that putting to work a new 'vision' is an essential step to 'destroy' a pre-existing one.

Undoubtedly, there is much to be done in order to use classical economic theory, as rediscovered and reconstructed by Sraffa, to analyse and interpret the functioning of economic systems, in a way that is not only different but more consistent with facts and more fruitful than what can be construed using marginalist theory. This is a complicated task, because it is not just a question of employing ready-made, mechanistic 'models', which simply require filling in the data and churning out the result as from a computer. There is a core of economic reasoning with some 'degree of freedom' that enables one to assemble pieces together in non-deterministic ways, also allowing the introduction in the picture of institutional and historical elements in an essential way. It is in this vein that the present paper is offered, as an attempt to present and discuss the role of the financial sector in a capitalist economy from a point of view different from the one usually taken by mainstream economists.

While before the current crisis the positive effect of an ever-widening financial sector was regarded as a well-established truth by most mainstream economists,[3] nowadays many are raising awkward questions about it, and the idea that a substantial part of financial services can be properly understood as the provision of gambling facilities has started to be floated also in 'respectable' circles.[4] The resemblance between finance and gambling is not here evoked simply to bring to mind the high riskiness of many financial activities. It qualifies them—in Keynes's words—as 'having very little social value and partaking (at their best) of the nature of a game of skill' (Keynes, 1938, p. 109). But can a sector to which is attributed a relevant and increasing share of value added, and which has come to pocket almost half of total corporate profits, be deemed as not productive—or even detrimental—for the economy as a whole? Is not

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

[1] 'E' un'ubbìa da intellettuali fossilizzati credere che una concezione del mondo possa essere distrutta da critiche di carattere razionale' (Gramsci, 1975, p. 1292; a partially different translation from the one given here in the text can be found in Gramsci, 1995, p. 406).

[2] Not Sraffa himself, we may notice: he was extremely cautious on the effect of the critique on marginalist theory—it was not for nothing that he defined his book as simply a *prelude* to a critique.

[3] See, e.g., Levine (1997).

[4] '[T]he betting tip of the financial tail of the real economy dog does all the wagging. It does not create value but redistributes it in a way that consumes real resources and exposes the real economy to unnecessary risk. It's time to tame the tiger' (Buiter, 2009; this blog, one of the most critical of the financial sector run by a mainstream economist, was discontinued in December 2009 after Buiter was hired as Citibank's chief economist).

that very growth, by itself, proof of its increasing direct contribution to the creation of 'social value', not to speak of its indirect contribution?[5] Indeed, the idea that a vast amount of financial transactions do not increase the economy's product is difficult to countenance from the perspective of marginalist economic theory. In this theory any addition to the utility of an individual is an addition to 'national prosperity', and under perfect competition all earnings would be the counterpart of (and be determined by) the addition to the social product generated by the recipient of those earnings. With voluntary transfers being only conceivable as acts of altruism by a donor, not as market transactions,[6] every payment made in a market transaction must be made in exchange for an amount of product, or for the performance of a service that is able to produce an amount of product.

With classical political economy we are in a different world. Earnings are not necessarily related to a value added by their recipient; they are not regulated by productivity. Ricardo put it bluntly: 'Wages do not depend upon the quantity of a commodity which a day's labour will produce' (Ricardo to Malthus, 8 May 1815, in Sraffa, 1951–73, vol. VI, p. 226). Adam Smith had gone beyond this in his famous chapter on 'Productive and Unproductive Labour', arguing that unproductive labourers are paid *out of revenue*; their earnings being merely a transfer from somebody else's income, they are not paid from a value added to the product by their labour: 'Both productive and unproductive labourers, and those who do not labour at all, are all equally maintained by the annual produce of the land and labour of the country … Unproductive labourers, and those who do not labour at all, are all maintained by revenue' (Smith, 1789, II, p. iii). For marginalist theory, instead, whoever 'produces' something that is exchanged adds to 'national prosperity' the value of the enjoyment created by his work. His earnings are equal to this addition. He does not subsist on the transfer of part of another person's income. Under perfect competition, nobody reaps where he has not sown.

In the present paper, the classical distinction between productive and unproductive labour, between earnings that derive from an addition to the product and earnings that are a mere transfer from somebody else's income, will be revisited with a view to discussing the role of sectors like finance within the economic system in which we live. We shall try to substantiate an idea that has been gaining consensus since the crisis: that the huge increase in the weight (economic and otherwise) of the financial sector in the last decades is not related to the importance of its 'contribution' to economic growth. We shall argue that there are two senses in which important parts of the 'financial services industry' may be looked at as 'unproductive' and, correspondingly, that the activity of this sector results in a drag on resources. It is perhaps worth repeating that from the standpoint of marginalist theory this can only be conceived as the result of a (partial) absence of the requisites of perfectly competitive markets. It could of course be easily argued that, in reality, financial markets are far from showing the perfection

[5] The notion of an *indirect* contribution to production can be easily criticised as being too loose to lead to any significant results. As Malthus put it, 'it would occasion interminable confusion, and break down all barriers between production and consumption, to attempt to estimate the circumstances which might *indirectly* contribute to the production of wealth' (1827, pp. 13–14; Malthus's italics).

[6] 'A transfer transaction is unlike an exchange transaction. The latter … involves two trading partners both of whom give up something of value in search of mutual gain. The former involves a donor and a recipient, with the donor giving up something of value without receiving anything in return … Transfers … can be voluntary or involuntary and may be motivated either by altruism of the donor or malevolence of the recipient' (Lampman, 1987, p. 681).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

that many economists have been prone to see in them, but it is our contention that the productiveness of the financial sector can be questioned regardless of the existence of any market 'imperfections'.

The next section discusses different conceptions of unproductive labour within the lines of classical theory. Section 3 highlights the growth of the financial sector in recent decades. In Sections 4 and 5 we will show how that growth can be analysed in the light of our discussion of conceptions of productive and unproductive labour. Section 6 concludes.

2. Conceptions of productive and unproductive labour

It is well known that the distinction between productive and unproductive labour was dismissed as 'a dusty museum piece' by Schumpeter (1954, p. 628); in fact, as already mentioned, it is not a distinction that can be really allowed as long as production is conceived as production of utility for the individual. Yet to pin down some economic activities as unproductive is a powerful idea and, in fact, also marginalist thinkers—e.g. Marshall—have sometimes used the concepts of productive and unproductive labour. And it is to this distinction that James Tobin was harking back, in the remarkable passage of his Hirsch Memorial Lecture 'On the Efficiency of the Financial System' we have quoted in our epigraph.[7] It is beyond the scope of the present paper to discuss the literature on productive and unproductive labour in classical political economy. We will limit ourselves to a few but in our view essential points.

The basis of the distinction between productive and unproductive labour is of course in the works of the physiocrats. The most interesting formulation is to be found in Turgot (1770). He makes two different though related points. One is the distinction between agriculture, which produces a *surplus* (*produit net*), and the other sectors, which produce no surplus and merely *transform* what they employ into something that is *different*, but not *more* (in some sense) than what was used to produce it. This well-known physiocratic conception—no doubt a path-breaking innovation—was, however, also problematic. It excluded manufacturing from the productive sectors, something that soon appeared unacceptable and was, in fact, an important cause of its rapid dismissal. The grounds for this exclusion were shaky: to establish whether in sectors different from agriculture what was produced was (or was not) 'more' than what was employed (i.e. to establish if a surplus is thereby produced) required a consistent theory of value, which the physiocrats lacked.[8] Marx obviated these difficulties, defining as productive all labour that produces *surplus value*.[9] But if one assumes uniformity of the rate of real wages in all industries, they would all have the same rate of surplus value,[10] so that they would all be productive,[11] according to Marx's definition. In fact, this criterion[12] leads Marx to maintain that all wage labour is productive, insofar as all wage labourers perform more

[7] Tobin added: 'I fear that, as Keynes saw even in his day, the advantages of the liquidity and negotiability of financial instruments come at the cost of facilitating *n*th-degree speculation which is short sighted and inefficient' (Tobin, 1984, p. 294).

[8] This is not to say that the physiocrats had no conception of value or price, but that that they did not have a theory of value that allowed them to consistently maintain that what is produced in manufacture is not 'more' than what is used as means of production, and therefore no surplus is produced. On this, see Marx (1861–63, vol. I, p. 46).

[9] 'Productive labour … is wage-labour which … produces surplus-value' (Marx, 1861–63, vol. I, p. 152).

[10] Uniformity of wages per unit of living labour $[v/(v + s)]$ of course implies uniformity of $[s/v]$.

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

labour than they receive as wages. Productive labour is 'labour which exchanges for capital' (i.e. for wages); non-productive labour is 'labour exchanged for revenue', as for example the labour of 'a jobbing tailor who comes to the capitalist's house and patches his trousers for him, producing a mere use-value … [his] labour … is exchanged with revenue' (Marx, 1861–63, I, p. 157).

Let us now come to the other side of the conception of productive labour found in Turgot. He writes:

> [T]he whole society [is] divided, by the nature of things, into two classes … one of these by its labour produces, or rather draws from the land, riches which are continually springing up afresh, and which supply the whole society with its subsistence and with the materials for all its needs. The other, occupied in giving to materials thus produced the preparations and the forms which render them suitable for the use of men, sell its labour to the first class, and receives in exchange its subsistence. The first may be called the *productive* class, the second the *stipendiary* class. (Turgot, 1770, p. 10; Turgot's italics)

Labour is productive if it produces something that can be used for reproduction—and therefore accumulation. Agricultural workers are the 'productive' class: they provide the 'stipendiary' class 'with its subsistence and with the materials for all its needs'. The 'stipendiary' class is maintained by them with the part of their product they do not consume themselves. The luxuries produced by the 'stipendiary' class cannot be used to increase the wealth of the nation—production of luxuries implies a *destruction* of productive capacity. All that goes into the production of basic commodities and workers' subsistence is, instead, *reproduced*. This view of productive and unproductive labour we would call the 'reproduction view'. It allows us to make a significant point that Adam Smith derived from his distinction between productive and unproductive labour: an economy grows rich by employing a multitude of productive labourers, it grows poor by maintaining a multitude of unproductive labourers; the latter, in fact, 'do … not continue the existence of the fund which maintains and employs them'.[13] The relevance of this conception can only be seen if one adheres to what, following Pasinetti (1981, p. 5 ff.), we could call the 'reproduction approach', which envisages production and consumption as a circular process, in stark contrast to the 'scarcity approach' of marginalists. From the latter point of view, with its 'one-way avenue that leads from 'Factors of production' to 'Consumption goods' (Sraffa, 1960, p. 93), the distinction is impossible to discern.

Sraffa's *Production of Commodities by Means of Commodities*, in its extreme terseness, does not even mention the distinction between productive and unproductive labour, but distinguishes between 'luxury products' (i.e. non-basics) and other commodities, the former being of inferior rank[14]—e.g. because they are completely irrelevant in the determination of the rate of profits. It must be noticed, however, that in some notes related to *Production of Commodities*, Sraffa qualifies luxuries as 'unproductive'.[15] He does not further elaborate on this, but we may notice that his use of the term 'unproductive' is fully warranted on the basis of our 'reproduction view'.

[11] Or they would all be unproductive in case wages absorb the whole product, so that the rate of surplus value would be zero in all sectors.

[12] At the end of this section we will discuss a distinct conception of unproductive labour, also to be found in Marx, according to which also wage labour could be unproductive.

[13] See Smith (1789, II, p. iii and IV, p. ix). For interesting comments on 'the fallacy of maintaining that labour because it is useful must necessarily be productive' (and Adam Smith's position on this), see Buchanan (1814, p. 132).

[14] Sraffa (1960, §6).

[15] See de Vivo (2003, pp. 12–13).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

The cogency of this conception is such that even Marshall (if we interpret him generously, *à la* Marshall) could be seen as to some extent adopting it, as usual through the good offices of John Stuart Mill (see 1844, p. 284). Marshall in fact writes:

> the word 'productive' … has had special reference to stored-up wealth, to the comparative neglect and sometimes even to the exclusion of immediate and transitory enjoyment … [we must] regard the central notion of the word as relating to the provision for the wants of the future rather than those of the present … Whenever we use the word *Productive* by itself, it is to be understood to mean *productive of the means of production, and of durable sources of enjoyment*. (Marshall, 1920, pp. 65–6; Marshall's italics)

It seems worthwhile to notice here that, according to our view, in classifying an activity as productive or not, whether its product is material or immaterial has no relevance.[16] What really matters is that the sector produces workers' subsistence or something (material or immaterial) that (directly or indirectly) is used in the production of all commodities. The set of luxuries is not arbitrarily defined according to some moral or subjective judgement, but by objective circumstances ('physical necessity', we could say following Turgot, 1770, p. 7), and it can change with changes in the historical and social circumstances that determine the workers' subsistence.[17] We intend to use this 'reproduction view' in the present paper to discuss the (un)productiveness of the 'financial services industry', or parts of it.

In addition to the 'reproduction view' we may, however, notice that in Marx we can find a wholly different basis for qualifying labour as unproductive—even if it is 'exchanged against capital': activities that are part of the process of 'circulation and exchange' consist, according to Marx, of mere redistribution of a value created elsewhere. In his view, no value can be generated outside the strict sphere of production (see Marx, 1893, ch. VI).[18] All labour employed in circulation has to be considered as unproductive (*faux frais* of production): it is only needed to the extent that a given production must circulate as a commodity or for the realisation of its value.[19] Circulation—to be intended as encompassing the selling of goods and services (the realisation of value added), as well as the transfer of claims on output and wealth[20]—would not add any value. Labour employed in circulation is, however, essential to *realise* a given mass of value, and this essential role is so much recognised by Marx that he even conceives a possible positive influence of credit on the average rate of profit (e.g. when it allows capital to circulate more rapidly).[21] That it has to be regarded as unproductive derives from the idea that the conditions of production of value and the conditions of its realisation are qualitatively different.

[16] The mistaken view that the distinction between productive and unproductive labour rests on the assumption that any activity that does not produce a *material* commodity is unproductive has recently been revived by Bhagwati (2010), in an attempt to defend finance from the charge of being unproductive. For a critical appraisal of services from a Leontief–Sraffa perspective, see Parrinello (2004).

[17] '[T]he labourer must obtain … not only what the climate may render necessary, but what the habits of the country, operating as a second nature, may require' (Torrens, 1815, pp. 62–3).

[18] Transportation (at difference from circulation) is regarded by Marx as an essential part of the production process and the expenses thereby incurred as necessary costs (see, e.g., Marx, 1893, p. 169 ff).

[19] On this, see also Marginson (1998, in particular pp. 577–81).

[20] Although national accountants do not attribute any value added to the benefits derived from the possession or the disposal of an existing asset (only the use of the asset in production adds some value), expenses for ownership transfers are always regarded as a source of value added.

[21] See Marx (1893, ch. XIV and 1894, ch. XXX).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

The distinction does not surface in the production equations themselves, where technical coefficients do not discriminate between necessary and unnecessary expenses.[22] As long as, for example, financial services are employed, they enter the interindustry relationships with their own coefficients, on the same footing as the technical coefficient of, for example, the steel needed to produce a unit of corn. Nevertheless, it would be difficult to deny that these expenses exhibit some peculiarities. What a 'circulation coefficient' expresses is not a relationship that can be defined once the technology is given. Circulation expenses depend on the changing conditions of realisation. Marx's distinction between production and circulation appears here to reflect a difference between a *stricto sensu* technique of production and a wider definition of it, which would also include circulation and realisation expenses.

The case of increased circulation costs may be portrayed as a worsening in the technique of production. But this worsening is not related to the production activity strictly defined. It should be noted that (abstracting from the existence of exhaustible natural resources) only if the technique is defined in this wider sense is an *absolute* worsening in the conditions of production possible. No worsening in the conditions of production *stricto sensu* is conceivable: one would otherwise have to maintain that for some inexplicable accident the better technique has been forgotten and is no longer available.

To sum up, there are two distinct criteria of 'productiveness' and 'unproductiveness' that the foregoing discussion has highlighted. On the one hand, we have argued that the production of luxuries can be seen as unproductive, in the sense that it 'does not continue the existence of the fund which maintains and employs [it]'; thus it destroys rather than produces. On the other hand, drawing on a point made by Marx, we have argued that the labour employed in the circulation of the product is not determined by a technical necessity, but by the conditions of its realisation; greatly increased circulation expenses may be needed to realise the value of the same amount of product. *In this sense*, these increased expenses would have not contributed to increase either the physical amount or the value of the product. These two views of unproductiveness, we may notice, do not collide and can coexist: a sector can be seen as 'unproductive' on either of the two criteria.[23] Our discussion of the 'financial services industry' will be made on the basis of both of them, in Sections 4 and 5, respectively.

3. The growth of the financial sector

It is well known that over the last decades, finance and insurance have thrived. In the USA, to take the most prominent example,[24] the financial sector's share of total value added more than doubled: it grew from about 4% of nominal GDP in 1970, to 8.4% in 2010.[25] While at the beginning of the 1970s the value added of the manufacturing sector was five times the value added of the financial sector, at present their weights are more or less the same (Figure 1).

[22] For an attempt to take into account circulation expenses within a Sraffian framework, see Steedman (1977, p. 112 ff); for an analysis of this point from a Leontief perspective, see Wolff (1987, in particular pp. 56–85).

[23] The coexistence of two (compatible) criteria is also found in Marx: for an explicit and clear example, see Marx (1894, pp. 292–3).

[24] For an effective picture of the global swell of the financial sector in recent years, see Blankenburg and Palma (2009, pp. 531–2).

[25] The finance and insurance sector includes Federal Reserve banks. The value added by them, however, has been more or less constant at about 2% throughout the period.

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

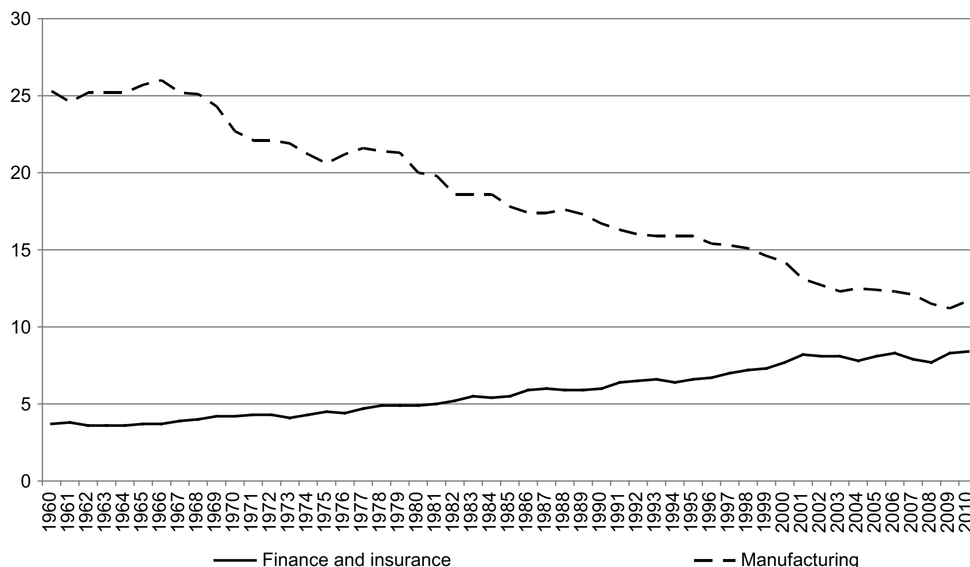

Fig. 1. *USA: value added as a percentage of total GDP. Source:* Bureau of Economic Analysis (BEA) http://www.census.gov/hhes/www/housing/hvs/qtr110/files/q110press.pdf (date last accessed 13 July 2011)

The performance of the financial sector is remarkable even with respect to most other private service-producing industries: in the same period the shares of trade (both wholesale and retail) and of transportation recorded a steady fall; the share of utilities also fell; the real-estate and the information and recreation sectors grew moderately; only professional business services and health care and education experienced a growth comparable to that of the financial sector, with the growth of the professional business services largely due to the outsourcing of many of these activities (Table 1).

Table 1. *USA: value added by private service-producing industries as a percentage of total GDP*

	1960	1970	1980	1990	2000	2005	2010
Finance and insurance	3.7	4.2	4.9	6.0	7.7	8.1	8.4
Real estate, rental and leasing	10.5	10.5	11.1	12.1	12.4	12.5	12.7
Trade (wholesale and retail)	14.5	14.5	13.8	12.9	13.1	12.4	11.4
Transportation and warehousing	4.4	3.9	3.7	3.0	3.0	2.9	2.8
Utilities	2.3	2.1	2.2	2.5	1.7	1.6	1.9
Information	3.2	3.6	3.9	4.1	4.2	4.7	4.6
Professional and business services	4.3	5.0	6.2	8.9	11.2	11.6	12.1
Educational services, health care and social assistance	2.7	3.9	4.8	6.5	6.8	7.5	8.7
Arts, entertainment, recreation, accommodation and food services	2.8	2.9	3.0	3.4	3.8	3.8	3.6
Other	3.0	2.7	2.5	2.7	2.8	2.5	2.3

Source: Bureau of Economic Analysis (BEA).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

If from GDP we turn our attention to profits, the picture is even more striking. While the financial sector's corporate profits in the percentage of total domestic corporate profits averaged around 13% from the early 1960s to the mid-1980s, the pattern has since changed noticeably. From the mid-1980s to the turn of the century, the expansion of the profits of the financial sector was matchless, rising from 13% of total corporate profits in 1985 to the peak of more than two-fifths of total corporate profits in 2002 (Figure 2).

The share of corporate profits in manufacturing fell accordingly: while from 1960 to the mid-1980s manufacturing corporations accounted for 45% of total corporate profits, from 1986 to 2000 their share averaged 30%; from 2001 to 2010 it averaged just 15%, approximately (Figure 2).

4. Finance and the 'reproduction view' of productive and unproductive labour

In Section 2 we argued that although both basic and non-basic sectors generate value added, only the production of basics (including workers' subsistence) is *re*productive. From the conventional point of view, the distinction between production goods and luxury goods is irrelevant, both being (directly or indirectly) productive of utility; in our view, productiveness depends on reproducibility, not on utility.

At first sight it would appear difficult to see the importance of this distinction in the discussion on the productiveness of activities such as financial intermediation. The astonishing growth of finance documented in Section 3 seems, in fact, hardly conceivable as resulting from the production of luxuries. Firms in the financial sector are engaged in channelling funds from lenders to borrowers, pooling risk by underwriting insurance, etc. In Table 2 and Figure 3 the gross output (intermediate plus final uses) of the US financial sector is broken down in its four main subsectors, none of which appears to be involved in the production of 'non-basics'.

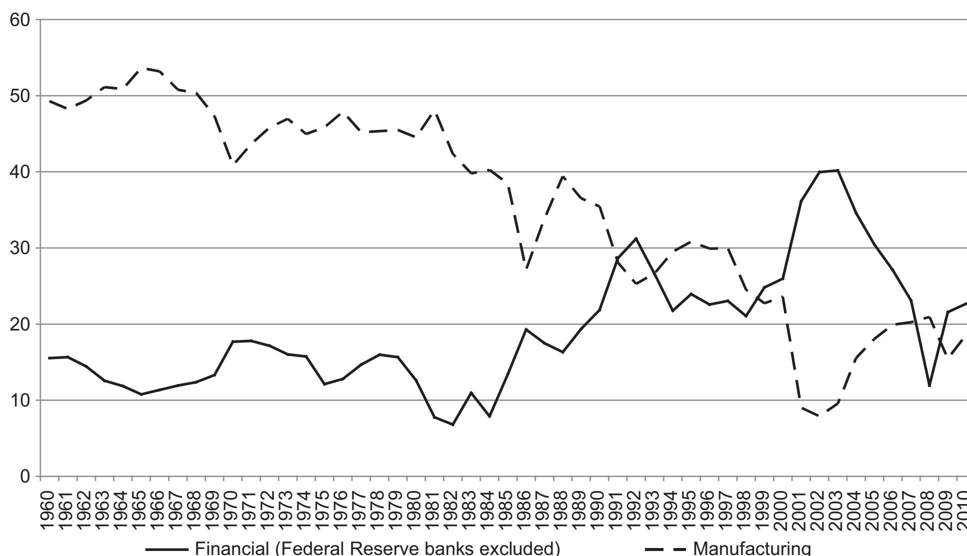

Fig. 2. *USA: corporate profits as a percentage of total domestic corporate profits. Source:* Bureau of Economic Analysis (BEA).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

Table 2. *US: Commodity intermediates and final uses in percentage of total domestic gross output, 2009* (Source Bureau of Economic Analysis (BEA))

	Commodity intermediates	Final uses			% of Total finance and insurance
		Consumption	Exports	Imports	
Federal Reserve banks, credit intermediation and related activities	72.0	25.6	2.5	−0.1	40.7
Securities, commodity contracts and investments	66.0	27.3	6.7	0.0	20.1
Insurance carriers and related activities	59.3	46.7	2.3	−8.3	32.6
Funds, trusts and other financial vehicles	8.3	91.7	0.0	0.0	6.6
Total finance and insurance	62.7	36.6	3.2	−2.5	100.0

Source: Bureau of Economic Analysis (BEA).

The finance and insurance sector appears deeply rooted in interindustry relationships (more than 60% of the gross production of the financial sector is sold to domestic businesses) and as far as final uses are concerned (37% of the gross production is for personal consumption expenditure), a large part of them may appear to consist of basic uses (e.g. services to depositors and medical insurance services, most of which one may presume to be consumption of wage and salary earners). Yet, it is worthwhile to examine in more detail the nature of some services provided by the financial industry. Their being means of production is in fact much less obvious than what at first sight could appear.

4.1 Value added by channelling funds to insolvent borrowers

Consider the case of fees and interest margins on mortgages. As is well known, households are regarded in national accounts as producers of owner-occupied dwelling services. This implies that a substantial part of what the financial sector earns as fees and interest margins on mortgages appears in national accounts as a payment for the provision of a service to production. In the last decade these earnings increasingly arose through securitisation (mortgage-backed securities (MBS)). The percentage of US mortgage originations that are securitised, in fact, rose from about 50% in 1995 to more than 80% in 2008 (see Financial Crisis Inquiry Commission (FCIC), 2010A, p. 11). At the end of 2009, the overall outstanding mortgage-related debt quadrupled its 1996 level, totalling about 9 trillion dollars (more than a quarter of the total US bond market debt outstanding) (Table 3).[26]

[26] The composition of issuers of MBS also changed significantly over the same period, the growth of MBS debt being in great part due to private-label issuances (see Office of Federal Housing Enterprise Oversight, 2008, p. 2).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

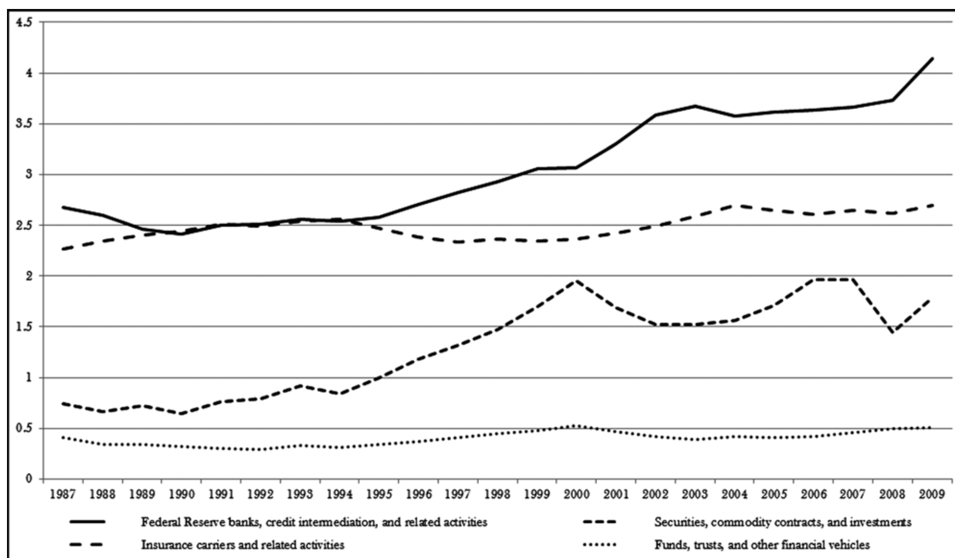

Fig. 3. *USA: gross output of main subsectors of finance and insurance as a percentage of total gross output. Source:* BEA.

It is not easy to ascertain the totals of all the earnings of private financial firms generated along the whole chain of intermediation from the originator of the MBS to the final user. As a rough approximation we can consider the net income from securitisation of US commercial banks. In the period from 2001 to 2007, on average this line of business was able to generate revenues of more than $20 billion per year. It is now completely dead.[27]

To appreciate the nature of revenues accruing from this kind of intermediation, it is important to remember that the service produced by banks is not the lending

Table 3. *USA: outstanding bonds as a percentage of total*

	Municipal	Treasury	Mortgage related	Corporate debt	Federal agency securities	Money markets	Asset backed	Total
1980	15.7	24.6	4.4	18.1	6.5	30.8	0.0	100
1985	18.8	31.4	8.7	17.0	5.7	18.5	0.0	100
1990	15.4	28.7	16.7	17.6	5.5	15.1	1.0	100
1995	11.3	29.4	20.9	17.4	8.2	10.5	2.3	100
2000	8.7	17.4	21.1	19.8	10.9	15.7	6.2	100
2005	8.6	16.1	24.9	19.1	10.1	13.2	8.0	100
2006	8.3	14.9	26.5	18.4	9.1	13.8	9.2	100
2007	8.3	14.4	26.5	19.0	9.3	13.3	9.3	100
2008	8.2	17.6	26.0	19.0	9.8	11.6	7.8	100
2009	8.3	21.5	25.7	20.4	8.1	9.2	6.8	100
2010	8.3	25.2	24.1	21.4	7.2	8.1	5.7	100

Source: Securities Industry and Financial Markets Association (SIFMA).

[27] See the data at www.fdic.com. It might be useful to note that of the top 25 non-agency MBS sponsors in 2007, 11 have subsequently declared bankruptcy or have been acquired (see FCIC, 2010A, p. 13).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

itself. The *business of lending* is in the act of providing finance to borrowers by transforming the funds with respect to maturity and scale, providing screening and monitoring services, and facilitating the management of risk.[28] The intermediaries' capability of adding 'social value' by originating and selling MBS mainly rests on the function of risk mitigation that the securitisation process would be able to accomplish. In reality, there was a reversal of this function. It is now clear that most of the mortgages issued from 2001 to 2007 were originated regardless of the borrowers' ability to repay their loans from their household's income. Borrowers were often able to service their loans only by refinancing their exposition. Financial intermediaries profited from loan origination activities, without performing any activity towards mitigating the insolvency risk. Overextending their origination activity they instead ended up increasing risk; thus, hardly performing the *business of lending*: in the third quarter of 2010 the US homeownership rate fell back to its 1999 level from the peak of 2004–05 (see US Census Bureau, 2010, p. 4, Table 4). Banks were only offering the service of channelling funds from lenders to anyone who was disposed—often induced—to borrow. Even without entering a discussion on the causes of the MBS market crash, it is clear that the reward of the intermediary cannot be justified on the basis of a function that, as a matter of fact, it has not performed.[29] This service cannot be deemed to have added value from any reasonable point of view. That the intermediating sector is 'producing' something is an optical illusion. It simply offers a chance of realising a capital gain by 'passing the parcel' to someone else.[30] Everybody would agree that some financial intermediation may perform a valuable function (e.g. reducing a solvent borrower's need of self-finance), but those revenues for financial firms arose from activities unable to create any 'social value' or from activities whose result has to be properly understood as the enjoyment from betting, a production that can hardly pass the test of being 'productive of the means of production'.

4.2 Derivatives as lottery tickets

A second example that may help illustrate how misleading it would be to regard the whole of the earnings of the financial sector as a reward for a productive activity is connected with derivatives. It is well known that over the last decade the size of the

[28] '[L]ending is not itself a process of production in a System of National Accounts (SNA) sense. If one institutional unit lends to another the transaction is recorded in the financial accounts of both parties, and no entry is needed in the lender's production account. The newly created financial asset in the form of a loan is certainly not output. For example, when a household makes a deposit with, i.e., lends to, a financial institution, it is not producing anything. Nor does the household have to engage in production to make a deposit. It seems to follow from this that when a financial institution simply lends its own funds it cannot be engaged in production either. This is a fallacy, however, which results from failing to distinguish the lending from the productive activity in which an institutional unit is obliged to engage when it makes a *business of lending* to many customers' (Hill, 1996, pp. 4–5).

[29] This point is rather prominent in newspaper articles and is partly coming to the surface in academic debates in the rather aseptic form of a discussion on the opportunity of stripping the compensation of bearing risk from the Financial Intermediation Services Indirectly Measured (FISIM) (see Basu *et al.*, 2008; Colangelo and Inklaar, 2010; Haldane, 2010; see also Fixler and Zieschang, 2010, for a contrasting opinion).

[30] This would be an extreme case of what Sir J. Steuart (1767, vol. I, p. 181) called 'profit upon alienation'. As Marx writes, this kind of profit does not come from 'a creation of new wealth', but it is 'important in considering the distribution of surplus-value among different classes and among different categories such as profit, interest and rent' (Marx, 1861–63, vol. I, pp. 41–2).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

notional value of derivatives held by US banks recorded a tremendous growth; it is not so well known that derivative activities in the US banking system are dominated by a few financial institutions: five large commercial banks represent 96% of the total banking industry notional amount (Table 4).

In spite of the financial turmoil, the commercial bank trading revenues on these derivative contracts set a record in 2009, at $22.6 billion (exceeding the previous peak of $18.8 billion in 2006); in 2010 they were at virtually the same record level ($22.5 billion).[31] Also, these revenues mostly accrue to the top five banks: in 2010 (first quarter), while the trading revenues from cash and derivative positions as a percentage of the total gross revenues were 5% for all banks, their weight for the top five banks was double this figure, and in the case of one of them (Goldman Sachs) it was 70%.

National accounts record part of the fees charged on derivative contracts as intermediate consumption of the users of these services. These fees reward the service of arranging risk shifting. The 'social value' here would derive from helping 'to promote market efficiencies by enabling individuals or entities to shift the risk they are unwilling or unable to assume to those who are able or willing to do so' (FCIC, 2010B, p. 4). It is, in fact, a widespread belief that a great part of modern finance is akin to (if not the same as) insurance, and the status of the insurance cover provided by these derivatives as 'useful' to production (i.e. in a sense productive) had not been disputed until the eruption of the current crisis. In principle, thanks to a derivative contract, a hedger finds a speculator willing to offer insurance, thus rendering risk shifting possible. In reality, in the vast majority of cases, there are speculators on both sides, who buy derivatives with no underlying reference item. Many derivative contracts act as a hedge for no counterparty. Consider, for example, credit derivative contracts. They constitute a market of $14 trillion of notional value in the sole commercial bank segment. Although credit derivative contracts constitute only about 6% of total derivatives, the share of trading revenues they are able to generate is much higher, totalling 25% in 2010. Credit default swaps (CDS) represent the dominant product in this business (98% of credit derivatives). 'Naked' CDS and similar derivatives are owned by somebody who does not have

Table 4. *USA: concentration of derivative contracts ($ billions)—fourth quarter, 2010*

	Top five banks	% of total derivatives	Other banks	% of total derivatives	All banks	% of total derivatives
Futures and forwards	32,934	14.2	2,775	1.2	35,709	15.4
Swaps	145,440	62.9	3,807	1.6	149,247	64.6
Options	31,136	13.5	939	0.4	32,075	13.9
Credit derivatives	13,407	5.8	743	0.3	14,150	6.1
Total	222,917	96.4	8,264	3.6	231,181	100.0

Source: Office of the Comptroller of the Currency.

[31] This is the figure reported by the Office of the Comptroller of the Currency (OCC) as commercial banks trading revenues from cash and derivative positions (OCC, fourth quarter 2010, pp. 3–4).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

a 'vested interest', i.e. who has no underlying obligation that vests him with an interest in the actual repayment of the original loan. Naked CDS are apparently about 80% of total CDS negotiations. Although a naked CDS can be seen as an insurance contract, there is no counterparty that is hedging his exposition to some risk. Its peculiarity is that it is equivalent to taking fire insurance on one's neighbour's house. It is a pure gambling activity, which has nothing to do with production. There seems to be little to be said in its favour (in fact it was not allowed until some 10 or 15 years ago): a respected writer in the *Financial Times* has recently written of naked CDS that 'the case for banning them is about as strong as that for banning bank robberies' (Münchau, 2010).[32] It is sometimes argued that they give depth to the market and help reach the 'right' price, but this argument seems rather weak if one takes into account that the market is dominated by five agents and is therefore very open to manipulation, a point that seriously undermines the idea that a vast market for CDS helps give the right signals on the probability of default of a borrower. On the contrary, taking a fire insurance on my neighbour's house provides an incentive for me to increase the probability that it actually catches fire, or an incentive to make it appear that this probability has increased (in this case, in fact, I should be able to sell my insurance on his house at a profit). It could be argued that something of the sort is going on in the present scare about the possibility of default for Greece and other European countries.

If a substantial part of derivative transactions are properly understood as being a mere gambling activity, the fees charged to set up these contracts cannot be regarded as intermediate consumption. This service is, in effect, addressed to final users and, as with the selling of lottery tickets, it has to be considered at most as a service productive of just a 'transitory source of enjoyment'.

It could be interesting here to recall the evidence Keynes gave to the 1932 Royal Commission on Lotteries and Betting. Keynes's position was basically that betting—in which he included 'betting on Wall Street', which he regarded even more unfavourably than betting on horses, or lotteries—was a wasteful occupation that he suggested ought to be restricted as much as possible if not prohibited outright. Betting was, for him, 'certainly not a form of production' and, correspondingly, the profits of the bookmaker 'a mere transfer' (1932, p. 400).

Keynes's main points were the following:

(i) Betting facilities offered to the public must be fair, not subject to a ruinous percentage deduction for expenses or profits, and on a scale and with a frequency that minimise the temptation for people to ruin themselves.
(ii) Abstracting from the question of fraud, it is in the public interest that in the betting facilities offered there be no pretence of skill. Where there is pretence of skill, it is likely that unfairness will creep in. The pretence of an element of skill would enable some people to be sharp at the expense of their neighbours.
(iii) The expenses should be kept to a minimum; the profits should accrue to the state. For this and other reasons, if it is deemed unfeasible to prohibit betting altogether then the public's betting appetite should be satisfied by state lotteries. To cut out the private profit-making interest in the gambling industry would be all to the good.[33]

[32] On similar lines, see Portes (2010). At the height of the crisis, even members of the Board of the European Central Bank, the beacon of orthodoxy, have bluntly stated that 'naked default swaps' ought to be prohibited.
[33] See Keynes (1932, p. 398 ff).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

It goes without saying that the developments we have seen in the financial deregulation decades have gone in the direction opposite to that advocated by Keynes.

5. Financial services as 'false expenses' of production

The generally accepted explanation of the recorded positive relationship between finance and growth over the last decades revolves around the notion that the contribution of the financial sector is to be found in its action of mitigation of information and transaction costs. The productivity of labour in the finance sector would therefore directly follow from the increased overall productivity thus achieved. From this perspective there is no possibility of linking the role of finance to the problem of realisation of the product—this problem is completely absent from mainstream analyses of longer-term trends. Finance as a 'false expense' offers an alternative to this explanation. The role played by an expanding financial sector could be seen as mainly that of easing problems on the demand side. It would be through this effect—not directly through its direct impact on the supply side—that finance could have helped sustain long-term growth. The quantitative result that financial development helps long-term growth, preventing sharp and prolonged contractions rather than directly causing expansion[34]—an awkward result from a conventional viewpoint—seems to allow for a very plain explanation when looked at from our perspective. Moreover, in this perspective there is no need to basically confine its relevance to the short term.

The amount of financial services employed in connection with a given amount of production could be on a rising trend, but this could have nothing to do with the technique employed in production or with temporary deviations from the economy's long-term trend. For example, from 1980 onwards, US households needed more credit in order to sustain consumption levels, thus preserving their standard of living in spite of a more unequal income distribution (see Barba and Pivetti, 2009). This is a long-term phenomenon that in fact covers the last three decades. A more sustained wage growth might have led the economy to require less services from the financial sector, as had indeed happened in the decades from World War II to the 1970s, when a wage growth in line with the growth of productivity had allowed an economic growth that did not require pathological levels of household debt—as instead happened in the last three decades. The point is that the value added that the financial sector is able to capture cannot be the reward of a contribution to the increased efficiency of the system. As we have argued, these expenses are needed in the given distributional situation, and under different circumstances they could have been dispensed with.

6. Conclusions

In the present paper we have argued that the earnings of the financial sector can to some extent be seen as an absorption of resources that the sector has not contributed to produce, even when it is not enjoying some form of monopoly rent. In this sense, an efficient market can be not 'socially efficient'. The point is developed considering the

[34] See Coricelli and Roland (2008).

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

concepts of productive and unproductive labour. We discuss two dimensions of these concepts.

The first links the 'social efficiency' of a sector to its role in the reproduction process. Although both basic and non-basic sectors generate value added, and are in this sense 'productive', it is only the production of basics (including workers' subsistence) that is *re*productive. Applying this reasoning to the financial sector, we discuss whether the services produced by it are to be considered as basic commodities. We argue that contrary to what could at first sight appear, many financial services really consist of the provision of gambling facilities and have to be regarded as the final consumption of luxury goods. From the conventional point of view, the distinction between production goods and luxury goods is irrelevant. Consistently with this, many concede that finance could to a greater or lesser extent be seen as an activity that is very similar to gambling, but, starting from a utility notion of value, it is argued that as long as 'the people engaging in the gambling do so deliberately, and are reasonably well informed … suppos[ing] that the gambling services are provided under competitive conditions … [t]he proprietors of the gambling house are … producing services to satisfy the wants of consumers', and this generates an 'economic gain' (Friedman, 1960, pp. 288–9). From what we have called the 'reproduction view', the distinction between production goods and luxury goods is instead relevant, and the service of arranging a gambling house for the rich does not produce 'social value'. It is rather a destruction of productive capacity.

A second sense in which the discussion of productive and unproductive labour may cast light on the nature of the financial services is that connected to the conception of pure circulation costs, as different from costs of production proper. Our discussion of the nature of incomes deriving from financial intermediation is now centred not on the superfluity of their *final* uses, but on that of their use as means of production. We argue that taking into account that there exists a realisation problem—a problem of aggregate demand—the same amount of production may require different amounts of finance to be realised; they are not 'technically' necessary for production and in this sense represent a 'false cost'. If the problem of aggregate demand were solved differently, these earnings would not be required. Part of the sector could disappear and, with this, its claims on the product.

Bibliography

Barba, A. and Pivetti, M. 2009. Rising household debt: its causes and macroeconomic implications—a long-period analysis, *Cambridge Journal of Economics*, vol. 33, 113–37

Basu, S., Inklaar, R. and Wang, C. 2008. 'The Value of Risk: Measuring the Service Output of US Commercial Banks', Working Paper no. 08-4, Federal Reserve Bank of Boston

Bhagwati, J. 2010. *The Manufacturing Fallacy*, http://www.project-syndicate.org/commentary/bhagwati3/English (date last accessed 13 July 2011)

Blankenburg, S. and Palma, J.G. 2009. Introduction: the global financial crisis, *Cambridge Journal of Economics*, vol. 33, 531–8

Buchanan, D. 1814 [1966]. On productive and unproductive labour, pp. 131–6 in *Observations on the Subjects Treated of in Dr Smith's Inquiry into the Nature and Causes of the Wealth of Nations*, Reprints of Economic Classics, New York, Kelley

Buiter, W. 2009. *Useless Finance, Harmful Finance and Useful Finance*, http://blogs.ft.com/maverecon/2009/04/useless-finance-harmful-finance-and-useful-finance (date last accessed 13 July 2011)

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

Colangelo, A. and Inklaar, R. 2010. 'Banking Sector Output Measurement in the Euro Area: A Modified Approach', ECB Working Paper Series no. 1204

Coricelli, F. and Roland, I. 2008. 'Finance and Growth: When does Credit Really Matter?', CEPR Discussion Paper no. 6885

De Vivo, G. 2003. Sraffa's path to *Production of Commodities by Means of Commodities*. An interpretation, *Contributions to Political Economy*, vol. 22, 1–25

Financial Crisis Inquiry Commission. 2010A. 'Securitization and the Mortgage Crisis', Preliminary Staff Report, 7 April http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/2010-0630-psr-derivative-overview.pdf (date last accessed 13 July 2011)

Financial Crisis Inquiry Commission. 2010B. 'Overview on Derivatives', Preliminary Staff Report, 29 June, http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/2010-0407-Preliminary_Staff_Report_-_Securitization_and_the_Mortgage_Crisis.pdf (date last accessed 13 July 2011)

Fixler, D. and Zieschang, K. 2010. Deconstructing Financial Intermediation Services Indirectly Measured (FISIM): Should Financial Risk Affect GDP? 31st General Conference of The International Association for Research in Income and Wealth, St Gallen, 22–28 August

Friedman, M. 1960 [1969]. In defence of destabilizing speculation, reprinted pp. 285–91 in *The Optimum Quantity of Money and Other Essays*, Hawthorn, NY, Aldine

Gramsci, A. 1975. *Quaderni del carcere*, edizione critica dell'Istituto Gramsci, ed. by V. Gerratana, Turin, Einaudi

Gramsci, A. 1995. *Further Selections from the Prison Notebooks*, ed. by D. Boothman, London, Lawrence and Wishart

Haldane, A. 2010. The Contribution of the Financial Sector—Miracle or Mirage? Speech delivered at the 'Future of Finance' conference, London, 14 July 2010, *BIS Review* 95

Hill, P. 1996. The Services of Financial Intermediaries or Financial Intermediation Services Indirectly Measured (FISIM) Revisited, Joint UNECE/Eurostat/OECD Meeting on National Accounts, Geneva, 30 April–3 May

Keynes, J. M. 1932 [1982]. Evidence to the Royal Commission on Lotteries and Betting, reprinted in *The Collected Writings of John Maynard Keynes*, vol. XXVIII, London, Macmillan

Keynes, J. M. 1938 [1983]. 'Post mortem on investment policy', Memorandum for the Estates Committee, King's College, Cambridge, 8 May, reprinted in *The Collected Writings of John Maynard Keynes*, vol. XII, London, Macmillan

Lampman, R. J. 1987. Transfer payments, in Eatwell, J., Milgate, M. and Newman, P. (eds), *The New Palgrave: A Dictionary of Economics*, vol. 4, London, Macmillan

Levine, R. 1997. Financial development and economic growth: views and agenda, *Journal of Economic Literature*, vol. XXXV, pp. 688–726

Malthus, T. R. 1827 [1986]. *Definitions in Political Economy*, Reprints of Economic Classics, Fairfield, NJ, Kelley

Marginson, S. 1998. Value creation in the production of services: a note on Marx, *Cambridge Journal of Economics*, vol. 22, 573–86

Marshall, A. 1920. *Principles of Economics*, 8th edn, London, Macmillan

Marx, K. 1861–63 [1969–72]. *Theories of Surplus Value*, 3 vols, London, Lawrence and Wishart

Marx, K. 1893 [1907]. *Capital. A Critique of Political Economy*, vol. II, *The Process of Circulation of Capital*, ed. by F. Engels, transl. from 2nd German edn by E. Untermann, Chicago, C. H. Kerr and Swan Sonnenschein

Marx, K. 1894 [1909]. *Capital. A Critique of Political Economy*, vol. III, *The Process of Capitalist Production as a Whole*, ed. by F. Engels, transl. from 1st German edn by E. Untermann, Chicago, C. H. Kerr

Mill, J. S. 1844 [1967]. On the words productive and unproductive, *Essays on Some Unsettled Questions of Political Economy*, reprinted in *Collected Works of John Stuart Mill*, vol. IV, Toronto, University of Toronto Press

Münchau, W. 2010. Time to outlaw naked credit default swaps, *Financial Times*, 28 February

Office of the Comptroller of the Currency. Various years. *OCC's Quarterly Report on Bank Trading and Derivatives Activities*, Washington DC, OCC

Office of Federal Housing Enterprise Oversight. 2008. 'A Primer on the Secondary Mortgage Market', Mortgage Market Note no. 08-3

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012

Parrinello, S. 2004. The service economy revisited, *Structural Change and Economic Dynamics*, vol. 15, 381–400

Pasinetti, L. 1981. *Structural Change and Economic Growth*, Cambridge, UK, Cambridge University Press

Portes, R. 2010. *Ban Naked CDS*, http://www.eurointelligence.com/eurointelligence-news/archive/single-view/article/ban-naked-cds.html (date last accessed 13 September 2012)

Schumpeter, J. A. 1954. *History of Economic Analysis*, London, Allen & Unwin

Smith, A. 1789 [1904]. *An Inquiry into the Nature and Causes of the Wealth of Nations*, 5th edn, ed. by E. Cannan, London, Methuen

Sraffa, P. (ed.) 1951–73. *The Works and Correspondence of David Ricardo*, with collaboration of M. H. Dobb, 11 vols, Cambridge, UK, Cambridge University Press

Sraffa, P. 1960. *Production of Commodities by Means of Commodities*, Cambridge, UK, Cambridge University Press

Steedman, I. 1977. *Marx after Sraffa*, London, New Left Books

Steuart, J. 1767. *An Inquiry into the Principles of Political Economy*, 2 vols, London, Millar and Cadell

Tobin, J. 1984 [1987]. On the efficiency of the financial system, reprinted in *Policies for Prosperity: Essays in a Keynesian Mode*, ed. by P. M. Jackson, Brighton, Wheatsheaf Books

Torrens, R. 1815 [2000]. An Essay on the External Corn Trade, 1st edn, reprinted in *Collected Works of Robert Torrens*, vol. 1, ed. by G. de Vivo, Bristol, Thoemmes Press

Turgot, A. R. J. 1770 [1960]. *Réflexions sur la formation et la distribution des richesses*, English translation by W. J. Ashley, *Reflections on the Formation and Distribution of Riches*, Reprints of Economic Classics, New York, Kelley

US Census Bureau. 2010. *US Census Bureau News on Housing Vacancies and Homeownership*, Washington DC http://www.census.gov/hhes/www/housing/hvs/qtr110/files/q110press.pdf (date last accessed 13 July 2011)

Wolff, E. N. 1987. *Growth, Accumulation, and Unproductive Activity. An Analysis of the Postwar US Economy*, Cambridge, UK, Cambridge University Press

Downloaded from http://cje.oxfordjournals.org/ at Universita di Napoli on October 8, 2012