Machinery Question

Meacci, Ferdinando

University of Padova

2008

THE MACHINERY QUESTION

by

FERDINANDO MEACCI*
Università di Padova
Dipartimento di Scienze Economiche
ferdinando.meacci@unipd.it

The "machinery question" was developed by the economist David Ricardo (1772–1823) in the chapter "On Machinery" added to the third edition of his *Principles of Political Economy and Taxation* (1821). This question related, in his words, to the "influence of machinery on the interests of the different classes of society" and particularly to the "opinion entertained by the labouring class, that the employment of machinery is frequently detrimental to their interests". Ricardo's argument was presented as a recantation of his "previous opinion" on this question and marks the beginning of a debate that is still going on. The purpose of this entry is to simplify this debate by highlighting some weaknesses and strengths in Ricardo's argument and in subsequent interpretations.

Ricardo's argument cannot be understood without a number of qualifications.

First, his "capitalist" is understood to be the only capitalist within a closed economy (a self-sufficient farmer or an industrial dictator) who cannot buy, but must produce, the new machinery. Ricardo's special assumption is that this production is realized without increasing the total capital employed—that is, without extra saving out of the capitalist's profit (which is unproductively consumed).

In addition, it should be noted that the "introduction of machinery" has two meanings. One refers to machinery *still to be built*, the other to machinery *already built*. While the former is the meaning adopted in chapter 31, the latter is adopted in other chapters of the *Principles* as well as in Ricardo's "previous opinion". This implies that Ricardo's diverging conclusions in different phases of his life (as well as in different chapters of his *Principles*) need not be contradictory and make his latest argument to look like an unnecessary recantation. Ricardo's argument also requires that a distinction be made between national revenue (consumption goods) and national product (consumption goods plus instrumental goods), as well as between the consumption goods exchanged for productive labor (circulating capital in Ricardo's sense, or free capital in Jevons' sense) and the instrumental goods that assist labor in production (fixed capital in Ricardo's sense, or invested capital in Jevons' sense).

According the most widespread interpretation of Ricardo's chapter, what this is about, and what it warns us against, is technological unemployment. This interpretation misunderstands the impact of a change in technical coefficients of new machines for the change in the composition of national product and of total capital resulting from their (sudden) introduction. Ricardo's argument holds even if the new machines were identical to those already in use provided they be produced without additional saving.

Another interpretation regards the "Ricardo effect" by which "machinery and labor are in constant competition, and the former can frequently not be employed until labor rises" as the core of Ricardo's argument. But the "Ricardo effect" deals with the causes, not the effects, of the introduction of machinery, and it is put forward, along with other qualifications, at the close of the machinery chapter in order to deny the "inference that machinery should not be encouraged."

Searching for episodes in economic history to confirm Ricardo's argument, the Nobel laureate John R. Hicks has alluded to the declining conditions of the working classes during the early phase of Britain's industrialization. More properly, perhaps, Ricardo's argument could be used to explain the dramatic conditions of the working classes in the early phase of the Soviet Union's industrialization.

References

Barkai, Haim. 1986. "Ricardo's Volte-Face on Machinery". *Journal of Political Economy*, 94 (June): 595–613

Berg, Maxine. 1980. *The Machinery Question and the Making of Political Economy, 1815–1848*. Cambridge, UK: Cambridge University Press

Hayek, Friedrich A. 1969. "Three Elucidations of the Ricardo Effect", *Journal of Political Economy*, 77 (2): 274–285

Hicks, John R. 1969. *A Theory of Economic History*. Oxford: Clarendon

Hollander, Samuel. 1971. "The Development of Ricardo's Position on Machinery." *History of Political Economy*, 3 (1): 105–135

Maital, Shlomo, and Patricia Haswell. 1977. "Why Did Ricardo (Not) Change His Mind! On Money and Machinery." *Economica*, 44 (176): 359–368

Meacci, Ferdinando. 1998. “Further Reflections on the Machinery Question.” *Contributions to Political Economy*. 17 (1): 21–37

Ricardo, David. 1821. *On the Principles of Political Economy and Taxation*. Cambridge, UK: Cambridge University Press, 1951

Samuelson, Paul A. 1988. “Mathematical Vindication of Ricardo on Machinery". *Journal of Political Economy*, 96 (2): 274–282

Samuelson, Paul A. 1989. “Ricardo Was Right!”, *Scandinavian Journal of Economics*, 91 (1): 47–62

Samuelson, Paul A. 1994. “The Classical Classical Fallacy”, *Journal of Economic Literature*,32 (2): 620–639

Schumpeter, J. A. 1954. *History of Economic Analysis*. London: Routledge 1994

* More on this in Meacci, F. “Machinery Question, The”, in William A. Darity Jr (ed.), 2008, *International Encyclopedia of the Social Sciences*, Detroit: Macmillan Reference USA, Vol.4, 2nd edition, pp.536-538; and in Meacci, F., 1998, “Further Reflections on the Machinery Question”, *Contributions to Political Economy*, 17 (1): 21–37