

Is the **CORE e-Book** a possible solution to our problems?

Mouvement des étudiants pour la réforme de l'enseignement en économie (MEPREE) France

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“Students in economics all over the world were asking, just as I had asked a few years previously: why has the subject of economics become detached from our experience of real life?” (Camila Cea, Member of the CORE project, University of Chile.)

Abstract

The CORE project is a response to students’ protests against teaching in economics. It wants “to make economics accessible and relevant to today’s problems”. Sadly, it doesn’t distinguish itself from usual (mainstream) “projects” as regards to ideology and basic theory. As a consequence, the *CORE* project *e-Book* doesn’t escape textbooks’ absurdities. We pinpoint five of them and we wonder if the book would still be viable if all these absurdities were eliminated.

The point of departure of the so-called “French students movement” against teaching in economics was their desire to “[escape from imaginary worlds](#)”, especially in microeconomics. The “[post-autistic economics movement](#)” emerged on the same ideas all over the world. Since then, student protests in economics [surge regularly](#) ([Pepséconomie](#), [Harvard](#), [Manchester](#)...). They were boosted by the 2008 crisis, but also by the rise of inequality and of precarious jobs, especially for young people.

The [CORE project](#), which began in 2013, presents itself as an answer to students’ recurrent protests. It is:

“empirically motivated and illustrated: students learn models motivated by facts from history, experiments and data”, and formed by

“a community of learners and teachers collaborating to make economics accessible and relevant to today’s problems. It is a question motivated way to learn the tools of economics”.

The “community” includes universities all around the world – Europe, Asia, America (north and south), Australia – which participate interactively to a common project, the [CORE e-Book](#). Its “[steering group](#)” is composed of Samuel Bowles, one of the founders of the *Review of Radical Political Economics*, and 3 economists specialized in public or labor economics. Among its 150 “contributors”, there are three “Nobel Prizes” (Heckman, Solow, Stiglitz) and prestigious economists – e.g. Olivier Blanchard, Tony Atkinson, Nicolas Stern, Adair Turner, Peter Temin, David Hendry, Barry Eichengreen, Dani Rodrik, Alan Kirman, Philippe Aghion, Philippe van Parijs – and... George Soros.

What is distinctive about CORE?

CORE project author's answer to this question is:

“CORE is based on recent developments in economics and other social sciences, with a focus on Economic actors as both self-interested and ethical... not only on equilibria... [it highlights] the importance of economic rents... [shows] how institutions differ among economies... CORE is a collaborative project using insights on the economy from a wide range of historical, geographical, disciplinary and methodological perspectives.”

These “distinctive” aspects of *CORE e-Book* are in line with student movements' claims. No mathematics – only a few curves – a lot of “stories” that take place in different countries, and periods of history, some “psychology” (behavioral experiments), concern with growth, environment and development problems, inequalities, etc., with plenty of dates, charts and figures.

Sadly, the *CORE e-Book* doesn't distinguish itself from other textbooks regarding basic theory. Just like the other textbooks, its main reference is the competitive equilibrium – the result in a “frictionless world” of supply and demand – and its “efficient way” (Pareto optimal) to allocate resources.¹ Almost all “stories” and examples depart from it, but it serves as a benchmark – the theoreticians' work consists in determining what the obstacles are that prevent “efficiency” (competitive equilibrium) from prevailing.

As a consequence, the *CORE e-Book* doesn't escape textbooks' absurdities. In what follows we pinpoint five of these – which anybody can understand, even without knowing anything about economics. Only ideology can explain that people so highly qualified can write, and disseminate, such absurdities – which cast doubts on the whole CORE project.

The basic background ideology: free individuals, free markets and “invisible hand”

The *e-Book* overtly proclaims that it adheres to “methodological individualism”. That is, individuals are society's point of departure. They are “free to choose”, between consumption and leisure for “Angela the farmer” and “Mary the employee”, *e-Book's* typical consumer, and between leisure and school-grades for “student Alexei”, *e-Book's* typical producer.

They are selfish, at least as a first approximation, but happily there is the “invisible hand”. The *e-Book*, as almost all textbooks do, quotes Adam Smith:

“It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest,” he wrote, *adding that each would be “led by an invisible hand to promote an end which was no part of his intention”* (Unit 1² page 7, our italics).

¹ We skip the last chapters relative to money, finance and macroeconomics, which are less litigious.

² By the word “unit”, *CORE e-Book* authors mean “chapter”.

and, like other textbooks, forgets to tell the readers that several hundred pages separate the first phrase from the second – the first is in chapter 2 book I, the second in chapter 2 book IV.³ Only ideology – or ignorance? – can explain the fact that Smith’s two phrases are artificially linked by the expression “adding that”.

Like other textbooks, the *e-Book* expresses its admiration for the way prices, “governed by supply and demand”, coordinate the choices of “millions of people”:

“The *amazing thing about prices* determined by markets is that individuals do not send the messages; *they result from the anonymous interaction of sometimes millions of people*, governed by supply and demand. And when conditions change — a cheaper way of producing bread, for example — nobody *has to change the message* (“put bread instead of potatoes on the table tonight”). A price change results from a change in firms’ costs. The reduced *price of bread says it all*” (Unit 8.0, our italics).

The “invisible hand” again...

Last but not least, *e-Book*’s authors know that students have protested on a continuing basis against the models’ “unrealism” – especially in microeconomics. Yet, they invoke – in Unit 3.8, (“This is a good model”, p. 34) – Friedman’s [Essay on positive economics](#) and its “as if” argument to justify the model: only its predictions are important – their assumptions can be false but we act “as if” they were right (or true). No sensible person can accept such a fanciful “epistemology”. Except (some) economists that cling desperately, for ideological reasons, to their models, especially the “competitive markets” one.

And there is no “epistemology” that can justify an absurdity.

ABSURDITY N°1 Marginal productivity is different from zero

Often, in textbooks, problems start with production. Contrary to consumption (which depends on “psychology” – i.e. subjectivity), production is “concrete”, “objective”. It is relatively easy to attribute “preferences” to a person, but it is impossible to find an example of a firm with a production function – especially if the function is “smooth”. There are in the *e-Book* a lot of examples of production (with imaginary data, obviously): “cloth” produced with “work and coal” (Unit 2), “bread” (Units 4 and 8), “beautiful cars” (Unit 7), “choccos”, “Cheerios”... But *the only explicit definition of the production function* is “student Alexei”’s one:

“...it shows how the number of hours per day that Alexei spent studying (his input of labor) translates into a percentage grade (his output)” (in Unit 3.1 about *Labor and production*).

We see only one reason for favoring such a ridiculous (and totally imaginary) example: it has only one input (“work”)⁴, so that the Alexei marginal product can be defined as:

³ The first is about what *I expect* from my butcher, the second is [about](#) “an individual” who “endeavors to employ his capital ... in such a manner that it produce may be of the greatest value”.

⁴ If we abstract from the food, the electricity, etc. needed to “work more”.

“...the effect on his grade of studying one more hour”.

The general definition of marginal productivity is given besides the “Alexei” example:

“At each point on the production function, the *marginal product* is the additional amount of output that could be produced if the input was increased by one unit, holding other inputs constant” (point 3.1).

This is the first absurdity: how can output be increased by *increasing only one input* – *ceteris paribus*? If a bakery wants to produce more bread with more work, it needs more flour (more yeast, more electricity or wood, etc.). More cloth needs more work *and* more “coal” (*and* more linen, or more cotton, or whatever you need). More “beautiful cars” needs more steel, more plastic, gum, etc.). More “choccos” needs more work, chocolate, sugar, energy, etc. That is, in *all* “examples” of production given in the *e-Book* – except in the fanciful Alexei case – *the marginal productivity of each (separate) input is zero* (or nonsense, if you prefer).

The marginal productivity concept is empty (or nonsense) for an obvious reason: objects are the combination of fixed proportions of inputs. If you change the quantity of an input (e.g. cotton/linen/nylon), you necessarily change the object (product). Objects produced (efficiently) are obtained by a combination of fixed proportions of work and equipment (machines, firms’ premises).⁵ In summary, inputs are (strictly) complimentary.

ABSURDITY N°2 Increasing marginal cost

Complementary inputs imply that when the production increases, inputs increase proportionally. Then, if input prices are given, marginal cost is constant. Yet, the *e-Book* assumes, like all textbooks, that it increases. In the “beautiful car” example, increasing marginal costs are justified as follows:

“This might happen because the firm has to increase the number of shifts per day on the assembly line. Perhaps it has to pay overtime rates, and equipment breaks down more frequently when the production line is working for longer”⁶.

Yet, increasing “the number of shifts per day on the assembly lines” means that assembly line was not used efficiently in the first place. When the assembly line is used efficiently, in order to increase your output, a new assembly line must be installed, and then, the marginal cost is (almost) infinite! Consequently, the average cost curve is not given by the standard textbook U curve, but by curves as those given in the Figures 1 and 2.

⁵ In a survey of hundred of US firms “for 88% of the respondents, marginal cost is constant or decreasing” (*Asking about prices*, Blinder, Canetti and Lebow, 1998, p. 101). For more details, see: Alan Blinder <http://www.nber.org/chapters/c8331.pdf> (especially pp. 141-145).

⁶ In the case of a (imaginary) “bakery”, “marginal costs begin to rise gradually because you have to employ extra staff (sic) and use equipment more intensively” (Unit 8.3).

Figure 1 New machines (or production lines) are added successively when production increases

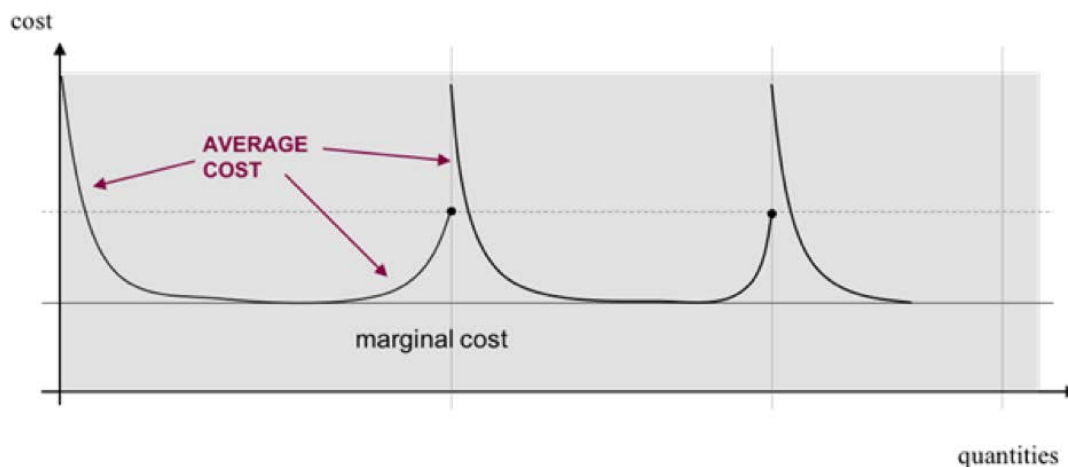
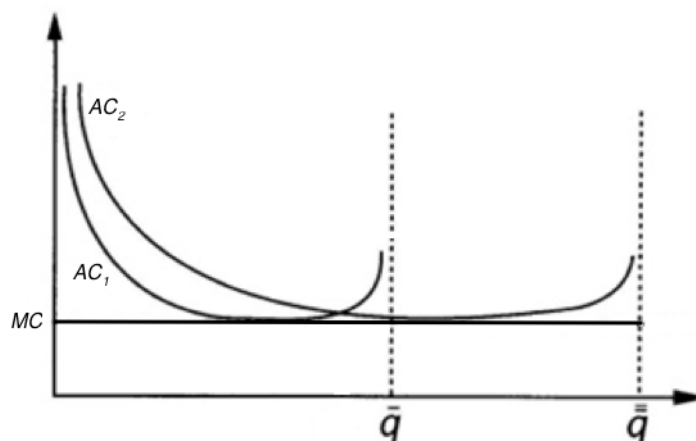


Figure 2 Marginal and average cost with one or two machines since the beginning



In both cases, *average cost is always above marginal cost*: firms that equalize (constant) marginal cost with (given) price, loose money – because of fixed costs. Then:

If marginal cost is constant, there is no supply function and, thus, no competitive (price taking) equilibrium.

That is why the *e-Book*, and all textbooks, assume an increasing marginal cost – even if it does not make sense.

ABURDITY N°3 “For a price-taking firm, the demand curve for its own output is a horizontal line at the market price” (Unit 8.3)

This is **false**: the demand curve of a price-taking firm *is not*, and cannot be, horizontal: a firm supply, even if it is “tiny”, affects the price and then the demand of the good it produces.

The correct assumption should be that the firm *believes* that the demand curve is horizontal – an erroneous belief, but that is another story⁷.

In their seminal article, [Existence of an Equilibrium for a Competitive Economy](#), Kenneth Arrow and Gérard Debreu don't mention agents' beliefs but they,

"...instruct each production and consumption unit to behave as if the announcement of price p were the equilibrium value" (point 1.4.1, our italics).

ABSURDITY N°4 All agents are price-takers (competitive equilibrium)

Unit 8, *Supply and demand: price-taking and competitive markets*, is about:

"...how markets operate when all buyers and sellers are price-takers".

Now, any reasonable person will immediately ask: if *all agents* are price-takers, who set prices? The *e-Book* answers (implicitly) this question with a circular reasoning:

"The interaction of supply and demand determines a market equilibrium where both buyers and sellers are price-takers" (Unit 8, p 1).

Supply and demand "determines" (equilibrium) prices but at the same time they are "determined" by prices, which are "taken" by suppliers and demanders. This is the typical circular reasoning one can find in almost all other textbooks ([Varian included](#)).

In Unit 8.9 about "The Model of Perfect Competition", the absurdity takes a slightly different form. After enunciating the traditional (and [erroneous](#)...) "large numbers" and "homogeneity" assumptions, the *e-Book* proposes a third (and last) assumption:

"Buyers and sellers can readily know the prices at which other buyers and sellers are exchanging the good" (Unit 8, p 41).

Everyone looks at everyone else: this is, once more, total nonsense. Not to mention the "large number" of sellers and buyers... It reminds us of the example given in another textbook of an "orange market" – in Florida, of course – where every seller looks at his neighbor's price. Let's suppose that sellers form a circle...

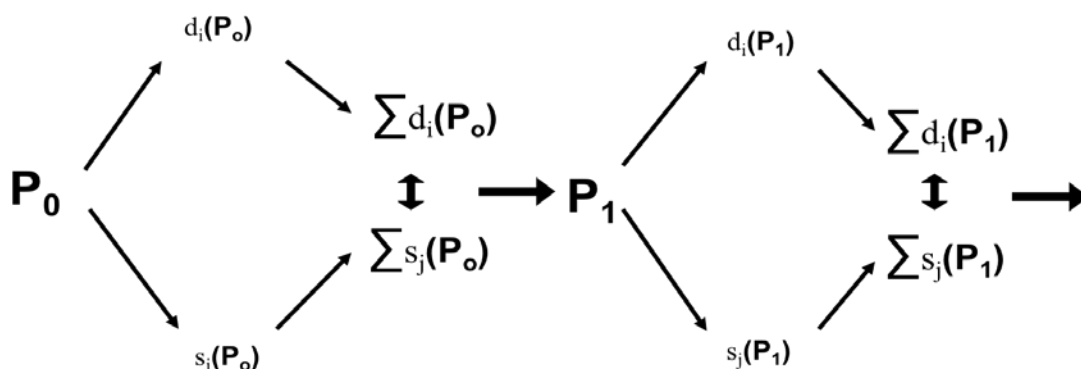
Indeed, the only logical reason for maintaining the "price-taking" assumption is to suppose that there is "somebody" or "something" that sets prices, collects and adds individuals' demands and supplies, confronts the sums, and changes prices by applying "the law of demand and supply". You can call this person (or "thing") "the market"⁸, but you cannot say that it represents a "decentralized" economy.

⁷ At an equilibrium, agents can have erroneous conjecture about others reactions (here, the horizontal curve), even if they predict correctly their "punctual" choice (their chosen strategy, in game theory vocabulary).

⁸ Arrow and Debreu call it "the market participant" ([point 3.1.0](#)), Walras "le secrétaire de marché" and modern academic papers "the auctioneer".

Figure 3 gives a possible representation of the price formation in a “competitive economy” – in the *e-Book*, and other textbooks, fashion.

Figure 3 A “perfect competitive” (centralized) market



Conclusion: “A competitive market”, as defined in the *CORE e-Book*, is not “an approximation” of any existing market. It is not:

“...hard to find evidence of perfect competition” (Unit 8.3).

It is impossible.

The so-called “competitive economy” model doesn’t “describe an idealised market structure” (Unit 8, p 44). It is not “unrealistic” – any model is, by definition – *it is irrelevant*. In fact, it has *nothing to do* with capitalism. It can be considered, at most, as a variant of [market-socialism](#) models, with a benevolent planner setting prices, adding supplies and demands, etc.

ABSURDITY N°5 In the long run, the profit is zero (Unit 8.7)

Textbook authors feel obliged – for ideological reasons? – to prove that, if there is “free entry”, profits must disappear, at least “in the long run”.⁹ The *CORE e-Book* is not an exception. In unit 8.4 it imagines a “bread market” in “a town” where there are 50 “bakeries”, each producing 100 “loaves” at equilibrium. Each makes a profit, which is suddenly called “rent” in Unit 8.7, where “entry” of new bakeries, attracted by this “rent”, provokes a fall in the price, until it is equal to the average cost. Then, the profit (“rent”) is zero and,

“we can deduce that at this price [equal to average cost] the quantity of bread sold will be 6,500 loaves. So the number of bakeries in the market must be $6,500/66 = 98$ ”.

Sorry, but the ratio is not 98 but ... 98.48!

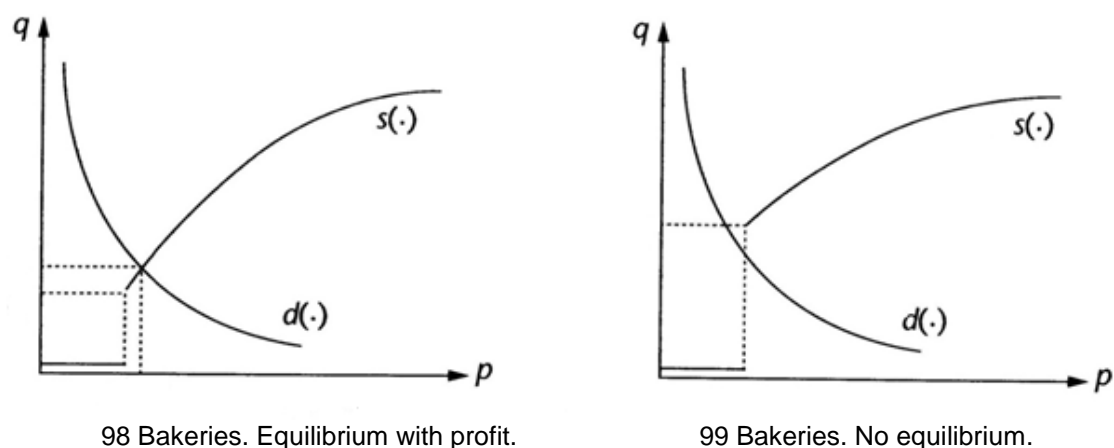
⁹ In the Arrow-Debreu model, household i receives the θ_{ij} part of enterprise j profit, where θ_{ij} is a given parameter included in the i 's “initial endowment”. Profits can be positive, even in “the long run”, whatever it means.

Why should we insist on such a tiny difference? Well, because of these 0.48 units, the *long run equilibrium doesn't exist*. The consequence of “free entry” is (eternal) instability: when there are 98 bakeries, there is still the possibility of making a tiny “rent”. So, at least one new bakery will “enter”, provoking a fall of the price under the average cost: everybody's profits are then negative! Some bakeries, or maybe all of them, will “exit”. The price will then rise, with a new possibility of “rent”, until the number of bakeries is equal to 98 or more, provoking new exits, and so on, indefinitely.

Mas-Colell, Whinston and Green call it “the integer problem”: the “long run” equilibrium exists only when the ratio between demand and price is an integer – that is, never (the probability is zero).

“Free entry” => instability (firms “enter” and “exit” indefinitely).

Figure 4



A final remark

There are a lot of interesting things in the *CORE e-Book* – those which concern the real world, not the imaginary world of the theory (i.e. “farmer Angela”, “producer Alexei”, fanciful “bakeries”, cars factories, “choccos”, etc.). We wonder if the book would still be viable if all these absurdities are eliminated, the marginal approach being replaced by some kind of mark-up price theory, for example – without intending to desperately “prove” that markets are “efficient” (Pareto optimal), at least in the “ideal”, or “perfect”, case.

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