

Flexible Pricing and the Market Process

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Abstract

Static models and models which depend on aggregates of output are often used in economics to simplify calculations and processes. Competition and a return to equilibrium are generally assumed. But, the process by which equilibrium is reached is often overlooked. The debate between socialists and Austrian economists regarding the possibility of central planning highlights this problem. A closer look at the function of flexible pricing in this process reveals the importance of dynamic and disaggregated modeling.

Introduction

In the 1920s and 30s, Austrian-school economists argued that calculation would be impossible in an economic system in which productive resources are socially owned and hence no markets or prices exist. Critics of the Austrian response replied¹ that calculation would be possible if surplus and shortage could be used at the end of the production period to determine which goods were over-produced, and which under-produced, so that adjustments could be made. In this way, the need for prices determined in a free market might be overcome.

What those critics of the Austrian theory missed is the dynamic nature of the market. The continuous price response to supply and demand accomplishes much more than the production of a single aggregated sum representing a disequilibrium. The aggregate surplus and shortage, seen at a static point in time once all transactions have taken place (or not taken place) with rigid prices, hides much of the information available in a free market.

In a free market, a price which does not correspond to the marginal valuation of suppliers and consumers will act as a signal², and drive firms to alter pricing or encourage entrepreneurs to enter the

¹ Lange and Taylor (1938), Lerner (1934)

² This is true even with imperfect information; for a discussion of market correction under conditions of imperfect information and

market. In a market with rigid prices, other actions will take place at this time instead which will confuse the aggregate. The longer the period the more of these actions will take place³.

Seed Theory

A single inaccurate price will destroy a non-responsive economy as it inevitably infects everything it touches. David Ramsay Steele describes the blindness of planners and the infection of a bad price this way: “If we start a car in Chicago and make purely random movements with the steering wheel, we can be morally certain that the car won't arrive in St. Louis.⁴” If one turn is wrong, and it isn't corrected right away, this will make the later turns incorrect until the final destination is as rational and predictable as pure chance.

If we postulate one incorrect price, the whole system unravels. One bad price will affect other prices around it and, without the freedom of suppliers to respond with price adjustments continually, it will cascade through the economy leaving no way to trace back to the origin. The surplus and shortage at the end of the period cannot reflect the actual difference from equilibrium of that product or the others affected. And planners' attempt to adjust to it will only make it worse.

Planners must determine a “plan period” for the economy. Production takes different lengths of time in different industries. Some production periods take weeks, some months and some years. While shortage and surplus can be seen on a daily basis for some retail outlets, others take months to see. Firms need to try out different inputs and subject the final good to the consumer market for approval at the price that covers costs. This producer integrating the new input has a production period as well; hence the production periods of different parts of the economy are inter-related, and planners have to wait the longer period in order to allow inaccurate prices to produce the shortage or surplus required to

error, see Leeson, Boettke and Coyne (2006)

3 As Hayek said in response to Oskar Lange's suggestion of this mechanism, “whether and how far anything approaching the desirable equilibrium is ever reached depends entirely on the speed with which adjustments can be made.” Hayek concludes that the period could not be short enough to approximate the market mechanism. Hayek (1940)

4 Steele (1985).

determine equilibrium prices.

During this period, response to the inaccurate price creates distortions. Leijonhufvud's⁵ description of the corridor is useful. While a free market can self-correct and “home in on the ideal path,” a market with severe rigidities will respond as if outside of this corridor, the system's homeostatic mechanisms unable to function, and in fact “multiplier tendencies” will kick in, enhancing the effects of each distortion, as one bad price infects those around it. Lipsey and Lancaster⁶ discuss the second best solution under such circumstances. However, their static analysis fails to consider that the solution will compound the problem in the next period.

Imagine that the price that planners have for a certain input is wrong, it is too high. Firms which purchase this input have two choices: (1) they can set their own output prices high to match the high input price, or (2) they can use a different combination of inputs than they otherwise would.

Even if only one price is wrong many products will be affected along the way: if producers have several high-cost inputs they might substitute for any one of them, not knowing which one is to blame for high costs; if firms pass the higher price along to consumers, consumers will make substitutions, leading to shortages in other areas. Rather than producing a single surplus at the end of the period, the substitutions will trickle through the economy and produce a cornucopia of shortages and surpluses.

The time taken between the inaccurate price setting and the measurement of the aggregate is necessarily filled with responses that affect the final tallies of many goods including substitutable goods, complementary goods, and their inputs, and those inputs' substitutes and complements. This makes the calculation based on the aggregates at the end of the period impossible.

There are also intermediate goods and goods required for transport. A higher chemical price will lead some firms to buy fewer plastics; this affects real production, not just prices⁷. Fewer plastics

5 Leijonhufvud (1973)

6 Lipsey and Lancaster (1956)

7 This insight is similar to that of the Austrian economists studying the trade cycle (see for example Mises, Haberler, Rothbard and Hayek (1978)), that inflation caused by increases in the money supply does not only affect nominal prices, but actually changes the structure of capital and investment across industries. Lange seems to recognize this. He says “The use of the right accounting prices is vital to avoid disturbances in the *physical* course of production and those prices are far from being arbitrary.” (italics in original)

leads to reduced demand for machinery for creating plastic goods, this reduces demand for steel used to make that machinery; plastic or steel may also affect shipping, and so on. The longer the period, the more of these ripple effects occur. These are the “multiplier-effects” seen outside the corridor.

The planner, from his central perch, is unable to see all of the individual reactions that occur throughout the market. All he sees is the static state at the end of the period. All he knows is that at the end of the accounting period there are long lines (shortage) for n different consumer goods and a surplus of some other n goods. What is *causing* the surpluses and shortages is totally unknown. It is impossible for the planner to start at the end of the production process and work his way back up⁸.

But this isn't the end of the story. The next step occurs in the next period when the planners makes adjustments based on the *wrong* surplus or shortage, and inaccurate prices carry over and infect additional prices and production⁹. This is how the seed grows into a tangled and gnarled tree.

The Market Solution

Much of this is true in a market economy too. However, in a market economy, the market will self-correct because the information is decentralized and actors are able to respond continuously. In a free market, firms selling inputs will adjust prices when they see their profits dropping, inventories piling up, or when competitors make adjustments. If there is a supply shock, firms also respond lest they miss out on potential new profit. If a firm has a high price and yet can continue to make a profit (because elasticity is low), an entrepreneur will enter the market¹⁰. Even if entry takes time, the price signal is recognized immediately and some action is taken. *Information is not lost.*

Retailers may make substitutions even in a free market, of course. But in this case, the price of

8 Again, the Austrian trade cycle theorists pointed this out. See, for example, Haberler in Mises, Haberler, Rothbard and Hayek (1978).

9 If planners don't care about consumer demand at all, this would reduce some of the fluctuation (hence this tactic was used in the Soviet Union), but it cannot solve this dilemma completely. See, for example, Nove (1986)

10 New firm entry is possible under planning too, except that the new firm will have to set its price as determined by the planners, so that no correction can occur at that time. The new supplier can't compete down the price. There is no way for the planner or the “entrepreneurs” to see that the monopoly price isn't the perfectly competitive price anyway, since there won't be profits to signal to the planner if the price of raw materials isn't set in a market.

the substitute will rise and allow firms to make a reasonable comparison of the two inputs and determine which input is in fact the more efficient. In the planned economy, the price cannot adjust right away, and downstream effects will obscure the initial substitution: the information is lost.

In a free market economy, if the price of a chemical is too high suppliers who use that chemical will buy less, and the high price will entice entrants into the market who will underbid existing firms. The chain of logic for the free market case is very short and simple, it requires little speculation.

Because prices are responsive in a market economy, they reflect the most recent valuation of goods. This does not depend on “perfect competition¹¹”, it only depends on the drive for profit. In fact, it would not be possible if the market truly resembled a perfectly competitive equilibrium¹². While in a market economy Steele's car is held to its path by the self-correction mechanism of price response, in a planned economy with rigid prices, the planner is attempting to drive the car but is swayed to and fro by inaccurate estimations of price produced by misleading aggregates of past periods.

Conclusion

Static models introduce an imaginary equilibrium state which apparently allows for intervention to produce a second best solution, or even a preferable solution. But markets self-correct because they are *out of* equilibrium. Firms and consumers respond to the most recent estimation of shifting supply and demand, steering the market toward efficient allocation. It is not possible for government to take over for the market and steer, as evidenced by the way a single inaccurate price ripples through a rigid market distorting all other prices. The same rippling must occur in any subsection of a market economy where prices are unable to adjust due to intervention. Rigid prices redirect incentives toward a *less* optimal solution. This insight sheds light on the mechanisms which direct the market economy, and the dangers of price setting within an economic system.

11 See Makowski and Ostroy (2001). Scale barriers to entry and other “imperfections” found in a free market also prevent a market from attaining anything like perfect competition, but this does not mean that prices don't reflect the current conditions on the market. The current conditions simply contain factors such as large fixed capital requirements.

12 Profit, the driving force, does not exist in a perfectly competitive market. For further insight see Mises (1949)

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