

Market Failure and Government Failure

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Abstract

We distinguish two settings for market processes: 1. The "invisible hand" world of decreasing returns and full information where general equilibrium theory is well defined; and 2. The "pin factory" world of increasing returns and creative destruction arising from innovation, technological change, and entrepreneurship. Then we note the differences in the application of "market failure" in these two settings. Building on the well known "anatomy" of market failure in welfare economics, we develop an anatomy of government failure, confronting government with the more realistic and dynamic world of type 2 market processes. This anatomy distinguishes passive and active government failure, and it links market and government failure with problems of incentives and information, and with problems of agency, rent-seeking and time consistency..

The theory of market failure is standard and well understood in neoclassical economics. For a time, it was assumed that market failures could be corrected by government action that was benevolent and public-spirited, as well as omniscient. That is, economic agents were assumed to be selfish utility maximizers, but government officials were typically assumed to be different. Public choice and modern political economy have corrected this inconsistency in the assumptions about human motivations, and about the level and quality of the information that agents possess.

One result of this adjustment is widespread recognition of the possibility of government failure as a complement to market failure. It is progress to name and to be alert to a possibility. But any theory of government failure is a pale shadow of the venerable theory of market failure. This paper is designed to address that imbalance.

I. The classical theory of market failure

Market failure is classically defined relative to a very particular Archimedean Point: the Competitive Equilibrium that exists under the assumptions of perfect competition. For convenience, we will refer to this as the "Competitive Equilibrium Theory" (CET). CET concludes that if certain assumptions (private goods, no externalities, every agent a price taker, full information) are satisfied, then the outcomes of market processes are Pareto Optimal.

The importance of the "CET implies Pareto Optimality" as an Archimedean Point becomes obvious when one considers the implications of the violation of the each of the core assumptions of CET. Specifically, if we relax the assumptions one by one we get the classic (Bator, Ledyard, Besley, for example) "market failures." These market failures are precisely the failure to achieve Pareto Optimality, and the comparison to the benchmark CET result allows in principle for government action to improve the allocation of resources.

This is Adam Smith's world of the invisible hand and decreasing returns. It is intellectually satisfying, and has been used for generations as the basis for the "market failures" model of government action. Public goods, Pigouvian taxes and subsidies, antitrust policy, and regulation of information provision are all based on this core model of the economy.

The problem is that, by explicit assumptions, the CET is static, and allows for no growth, profits, or innovation. The CET allows no role for entrepreneurship or human agency. Like the Red Queen in Alice in Wonderland, each market participant is obliged to run as fast as she can just to stay in the same place.¹

¹ In fact, Oskar Lange famously said that Marxism was an economics of dynamics, because it was about capitalism. But, Lange said, classical microeconomics is actually the economics of socialism, because it assumes that all information is available and the only problem is a technical one of allocation (Lange, 19xx, yyy).

II. The possibility of government failure: From Pigou to Public Choice

Competitive Equilibrium Theory does provide an Archimedean point for analysis of market perfection and market failures. But there is no such point for government “correction” or “improvement” of market failures. Following Weimer and Vining (2004) we might distinguish "passive government failure," where government *inaction* results in Pareto inferior outcomes, from "active government failure," where government *action* results in outcomes worse than if government had done nothing.

But in neither case is there an Archimedean point or benchmark for comparing success and failure. Passive government failure *seems* straightforward: it is the failure of government to respond by correcting market failure when a feasible correction exists. For example, as Pigou (1920; 1932) argued, the correction for an externality is a tax or subsidy that internalizes the externality by adjusting price so that social costs and private costs coincide for all actors.

The problem is that the government may lack either the proper information, or the proper incentives, to know what this correction is, or to choose this correction if it can be identified. If one has read nothing but later critics one might think that Pigou was unaware of the problem of government failure. As Coase (1960, p.) put it:

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It is true enough that Pigou's position can be caricatured this way, a careful reading of Pigou himself shows that this is not so. In the most important passage for our purposes, Pigou (1920, p. 296) said:

It is not sufficient to contrast the imperfect adjustments of unfettered enterprise with the best adjustment that economists in their studies can imagine. For we cannot expect that any State authority will attain, or even wholeheartedly seek, that ideal. Such authorities are liable alike to ignorance, to sectional pressure, and to personal corruption by private interest. A loud-voiced part of their constituents, if organized for votes, may easily outweigh the whole.

It is interesting that Pigou was so careful to distinguish so clearly two of the core problems, incentives and information.

Incentives—When we say "government" we mean the combined activities of a disparate and not always unified collection of individuals, some elected and some appointed. Some of these may be motivated to seek reelection, some to expand their personal power and income, and some to serve what they perceive as the public interest. Pigou pointed out that economic agents in the marketplace might face perverse incentives, especially when social and private cost diverge. But then he clearly went on to note that the analogous incentive problems might face government agents. Which set of incentives is more likely to lead to an optimal outcome? Since the answer is "neither!" we are left with making comparisons rather than using the Pigouvian syllogism that Coase describes, but that Pigou himself casts doubt on.

Information—The problem of externalities is partly a problem of information. Prices do not reflect the full opportunity (cost?) of the resources being used in the activity where the externality is produced. Consequently, "too much" of the activity is undertaken in a private, unfettered market setting. Once the state acts to correct the incorrect price, all will be well, one hopes. But the very lack of information that made private action inefficient will dog state attempts at correction. How much damage is being done, and what is the cost of that damage? Without price information on how to value the damage, the state lacks good information.

There is a third potential for systemic failure in government action, one that again is often used (correctly) to accuse markets, yet which pertains with equal potential force to state action. The third source of failure is aggregation incoherence and arbitrariness.

Aggregation Incoherence and Arbitrariness—The welfare theorems of general equilibrium theory rest on a series of claims. First, equilibrium must exist, in the sense that price vectors adjust in ways that damp down, rather than explode, changes in other economic factors such as incomes, tastes, technologies, and the prices of substitutes and complements. It all has to "add up," in the sense that there exists a vector of prices that solves the system of n equations in n unknowns that Walras used to characterize the problem of general equilibrium. In equilibrium, then, we can evaluate whether the result of market processes reaches, or falls short of, Pareto Optimality. If no equilibrium exists, the problem is much more complex, and the welfare theorems of CET simply do not apply.

But state action likewise faces the problem of aggregation incoherence, though for different reasons. Lindahl (1919) came up with a decentralized solution for a single public good, based on some very optimistic assumptions about the honesty of preference revelation on valuing public goods. If multiple public goods are at stake, there is no general solution (Slutsky, 19xx; Denzau and Parks, 19xx, 19xx), especially if (as seems likely) preferences are non-separable.

Worse, the results of Condorcet (17xx), Arrow (1951), Black (1958), Plott (197x) and others demonstrate that the conditions under which we can expect an equilibrium are, if anything, even more restrictive than those required to assure equilibrium in market processes.

III. Classic market failures in the world of increasing returns

What would an alternative be to the world of competitive equilibrium theory? We must be cognizant of Shepsle's "First rule of wing-walking": "Don't let go of something solid until you have a firm grasp of something else" (1995). What alternative conception of competition, and markets, could be proposed? And in this alternative conception, what benchmarks or standards could be used to justify, or rule out, government action or market action?

Fortunately, Adam Smith himself also proposed this alternative, in the same *Wealth of Nations* that gave us the "Invisible Hand." Adam Smith described the source of wealth itself, the "wealth of nations," as arising from positive non-linearities in the production function of firms. In the "pin factory" example, Smith argues that the wealth of nations arises from the increasing returns to scale that occur because of division of labor. These increasing returns might be due to combination of improved dexterity, tool design and use, or increased mechanization of stages of the production process. The important thing, as Smith pointed out, is that "The division of labor is limited [only] by the extent of the market.

Thus, division of labor is the motor of the dynamic expansion of markets. Later scholars, most notably Joseph Schumpeter, pointed out the equally important role of the entrepreneur, the vigilant and constantly aware trader and producer constantly looking for new profit opportunities to exploit with the division of labor.

This dynamic world of constant change, with profits sometimes used to create new investments and new products, is the world of modern capitalism, a world with the possibility of once unimagined

innovation, productivity, rising incomes and wealth. Schumpeter called the process "creative destruction," with entrepreneurial activities constantly creating and destroying existing relations of production and exchange.

The problem we face in this far more verisimilous model of capitalism is the evaluation of when government action would be beneficial, even necessary, and when instead markets left to their own destructive and creative devices will serve society better. What do market failure and government failure look like in this more realistic world?

Fortunately, the classic market failures do not need competitive equilibrium theory to be valid. Public goods are still undersupplied (relative to some Lindahl-style preference revelation mechanism), and negative externalities like pollution still exist in a world of increasing returns. Information asymmetries still need to be corrected. The one classical market failure that changes is the desirability of economic agents being price-takers.

Just as the benefits of the economies of scale of the pin factory implied firms with market power, there are more benefits to size of firms. One is product differentiation. Another is research and development, which leads to more innovation. Competition is desirable, but there are compensating benefits to large firms that can choose their prices.

That these market failures still exist does not imply that government action will necessarily make them better. We must be careful to avoid the mistake of awarding the prize in a singing contest to the remaining singer after hearing only the first.

IV. Firms and governments are subject to the same problems: Government has incentive and information problems that are not disciplined as in CET and so do large firms.

Competitive markets that fulfill the assumptions of competitive equilibrium theory automatically discipline incentives to provide for the general welfare "as if guided by an invisible hand." Elections, distinct institutions, (whether separated powers or not), and rules are the main ways of disciplining government activity, and neither mechanism overcomes the incentive problems, the information problems, or the coherence and arbitrariness problems that we have identified for non-market institutions.

But the same goes for firms that violate the price-taker assumption of CET. Microsoft, Toyota, Exxon and Apple have the capacity to diminish the consumer surplus that exists at competitive equilibrium, and they have an incentive to do so as profit-maximizing organizations. They are also subject to rent-seeking activity on the part of their leaders, who may give themselves bonuses, stock options, luxurious offices and private airplanes that come out of the producer surplus of a firm with market power.

V. A guideline for deciding when market failure would be improved by public intervention in a world of increasing returns: Uncertainty and political decision.