

ARTICLE

Future Markets and the Social Discount Rate: A New Approach to Dynamic Competition Policy

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1. Competition policy in economic theory

Modern competition (or antitrust) policy originated in the US in the late 1920s as a response to the emergence of large combinations of firms exploiting economies of scale against small businesses (e.g., farmers) and consumers. Fueled by technological change, the new problem of large firm size, scale, and capital concentration required a tightening of the common law. This was achieved through the adoption of legal rules that deterred the growth process in its incipient stages through a series of legal sanctions against contracts in restraint of trade and monopolization.

The theory is simple: monopoly power in markets harms consumers by transferring consumer surplus to producers through various means, including higher prices. This transfer is not simply a reallocation of rents, but results in an overall loss of social welfare. Economic theory predicts that policy interventions to prevent these monopolies from forming in the first place, or to break up those that have grown large enough to be of concern, should be welfare enhancing. Industrial concentration harms consumers. Inhibiting that concentration will, in the logic of competition theory, benefit consumers.

In this paper we ask: which consumers? More specifically, *which consumers in which markets?* Modern competition is concerned with current consumers in existing markets. Following Parfit (1982) and Cowen and Parfit (1992), we propose that the relevant set should be all consumers in all *future markets*.

A future market can be defined as a new market in which products and services have no current substitutes. These markets are created as a result of the dynamic capabilities that enable innovation (Teece et al. 1997). Note that “future markets”

does not mean “existing markets in the future” or “futures markets” (i.e. derivatives of financial assets), but is a new construct referring to a new market created by innovation.

The moral argument for protecting future markets is that they are the locus of future competition. Without market creation through innovation, there can be no creation of competition. Put another way, we tend to think of innovation as an outcome of competition. The future markets approach thinks of innovation as an input to competition. The proper welfare goal for dynamic competition policy, we argue, is to protect future markets in this particular sense.

2. Dynamic competition policy

With this concept of future markets, we propose a new approach to competition policy. Our approach combines the theory of dynamic competition (Teece 2012, 2018) with a new welfare criterion of “future markets,” based on Derek Parfit’s (1982) concept of “future persons”.

Dynamic competition

A major source of innovation that builds future markets is the dynamic capabilities that are assembled in modern business ecosystems (Jorde and Teece 1990, Teece 2012, Teece 2018, Petit and Teece 2021, Petit and Schrepel 2023). In our theory, a “future market” has the same ontological status as a “future person” (and the associated “non-identity problem”) in Parfit’s moral philosophy. On this new welfare-theoretic foundation, with a much wider scope of moral calculus, we reconstruct competition policy as an ongoing dispute – to be resolved by judges and competition authorities – centered on the appropriate social discount rate with respect to future markets. In this cost-benefit formulation, the costs are in the present and the benefits are in the future. But the key idea to understand is that this economic calculus is conditional on harm being done at this moment to present people who, if they do not risk (or absorb) these costs, are likely to harm future people by closing off future markets that they will never know existed.

This is a curious kind of harm. No future person will experience harm because there is nothing to experience, it is simply a path without the beneficial consequences of the sacrifice of present people. Nevertheless, the claim here is that there is a moral justification for present people to incur costs in order to benefit future people. We therefore need a logical formulation of what these are and how they might be conceptualized. We do this by constructing a future market as a consequence of innovation capabilities.

While obviously abstract, the surprising implication of this formulation is that the policy choice that dynamic competition policy should seek to target – through the various instruments available to competition authorities, judges, courts, and legislatures – the “social discount rate” between, on the one hand, the costs of developing dynamic capabilities in the present and, on the other hand, the benefits of innovation in the future.

This surprising result is relevant because once one focuses on “future markets” as the relevant utility criteria and the conditions under which they exist, it quickly becomes apparent that under most reasonable circumstances the sum of these utility criteria is many orders of magnitude larger than the monopoly costs of developing (dynamic) innovation capabilities. In this case, the only relevant policy parameter is the social discount rate, which should then be the proper and justified target of (dynamic) competition policy. In other words, we do not actually need to directly quantify and estimate the location or size of future markets or their net present value. Rather, the main parameter we need is a consensus judgment about the discount rate.

Future markets

The future market is a missing construct in welfare economics that is necessary to operationalize dynamic competition policy. Obviously, the welfare calculus runs through “future persons” in “future markets.” But it is not as a simple utility calculus over a hypothetical future population, as if one were solving an overlapping generations model, calculating net present value discounting, or pricing a futures contract. Rather, the argument is the inverse of Parfit’s (1982) “depletion case,” but for investments that have not been made (i.e., investments in dynamic capabilities that give rise to particular future markets).

Traditional political theory and competition policy have few obligations to future generations because their overwhelmingly dominant incentive structure focuses on current voters. Their primary focus is on the welfare of “the same people” in “the same markets” and does not extend to the welfare of “different markets.” This is the “non-identity problem” for competition policy, in the sense of harm that occurs but is not perceived by anyone, because the benefit denied (the harm) was that of a market that was never created because the conditions to create it – dynamic capabilities – were excluded in the present.

Parfit argued that it is morally indefensible to ignore future persons when reasoning about present actions. The strong form of this argument is that the social discount rate is well below the discount rate commonly used by economists (Cowen and Parfit 1994). If we accept this argument, and if competition policy falls within its scope, then this argues for a dynamic approach. In this case, the goal of competition

policy is to choose a social discount rate r wisely, where r is on the interval $[0, \infty]$ as a boundary condition, with infinity (in practice, a high social discount rate) corresponding to the standard static efficiency setting, which places very little value on innovation and the future, and zero (in practice, a low social discount rate) corresponding to the purely dynamic competition setting, in which most value is experienced in the future.

With a high social discount rate, dynamic competition policy effectively lapses into modern competition policy welfare criteria of singular concern to current consumers with negligible future weight. While politically expedient, this position is morally unjustified. Competition policy should aim higher. At the other limit of a zero social discount rate, where all future markets are given the same weight as present markets, thus assuming a much larger set of future markets, the overwhelming moral imperative will be to follow the economic calculus of making large sacrifices in the present-allowing mergers and large investments to build capacity for dynamic innovation to create future markets. Note that current voters and consumers do not benefit from this action. Nevertheless, it is a morally justified action.

3. Competition policy should be long-term

A powerful implication of Parfit’s moral philosophy, and the concept of future persons as instrumental to the moral calculus, is a long-term perspective on economic policy. Parfit’s perspective has indirectly but profoundly shaped modern public policy on phenomena such as climate change, biodiversity and conservation, nuclear safety, and other existential threats (Edmonds 2023). As with our modern global consensus on issues such as climate policy, biodiversity, nuclear containment, and so on, few believe that we should completely disregard the welfare of future human beings, even if it requires formulating costly policies in the present. The same philosophical perspective should carry over to competition policy, in how we weigh the benefits of innovation against the costs we are morally obliged to bear to avoid harming future generations.

Dynamic competition policy seeks to balance the present risks of concentration in order to create the dynamic capabilities that in turn drive innovation that will create future markets for future people. This situation, we note, is no different from policies to address global warming, which require action by those in the present to benefit those in the future. This involves dealing with fundamental uncertainty (guided in part by expert modeling), but also with the social discount rate. Dynamic competition policy thus represents a fundamental shift in the welfare focus of competition policy: from its current state of total concern with minimizing present

harm to existing (and voting) consumer to a much broader scope of concern that extends to the welfare of all future consumers.

This implies two crucial differences. First, it requires dealing with much greater uncertainty in calculations, because almost all relevant variables are in the future and depend on current investments. This would be an insurmountable estimation problem if it were not possible to simplify the calculation by observing that the future is much, much larger than the present. The second difference is that by giving more weight to the future, we can turn the problem into a consensus decision about a single parameter that links the present and the future: the social discount rate. This shifts the focus of welfare attention to a new construct: future markets, produced by innovation, which in turn is produced by dynamic capabilities that trade off against static efficiencies of market concentration. The social discount rate then conditions the level of present harm that we should be morally obliged to accept.

This approach still allows competition policy to focus on a consumer welfare standard, with a theory of harm that recognizes the effects of market power. But it fundamentally re-scales where those consumers are, allowing that some, many, or even most of them may be in the future and not able or willing to compensate those consumers in the present. Notice clearly that this moral standard is not at all exotic or unreasonable. In fact, it is precisely the standard we apply in many other areas of policy, including, most notably, environmental, ecological, and climate policy (Nordhaus 1991).

4. Conclusion

Modern competition policy is largely focused on scale and concerned with monopoly power from a consumer welfare perspective defined in terms of present harms, especially and increasingly in the context of platform mergers (Munger 2022). What is striking about the operational agenda of modern antitrust is its almost complete absence of concern for innovation. This is troubling, not least in technology-based industries where innovation is an important form of competition. If innovation is a form of competition, then factors that increase the ability to innovate should also increase competition (Teece 2018, Petit and Teece 2021, Petit and Schrepel 2023). Dynamic competition policy seeks to appropriately value a society's ability to build innovation capabilities and then balance this with the trade-offs with respect to the current social welfare efficiency losses that must be made. The basic calculus of dynamic competition policy is the dynamic trade-off between the costs incurred in the present (as a concentration to build innovation capabilities) and the benefits of innovation in the future via "future markets."

This short note has argued that the trade-off that should be at the heart of competition policy is not one between producers and consumers (both in the present)

for the allocation of a surplus, but rather one between present consumers and future consumers (realized through the newly proposed welfare-theoretic construct of “future markets”), and is therefore essentially a judgment about the social discount rate. Once the social discount rate has been determined, by whatever means, the objectives of a morally justified competition policy will follow.

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