

14 pieces on markets
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458. Markets: What to make of them

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In debates concerning markets, in the wake of the recent financial and economic crises, there is considerable confusion among policy makers and the general public, and even among economists, on what markets are, how they function, how they fail, what they contribute to society, and what the alternatives are. Related confusion arises in debates concerning deregulation and privatization of public or semi-public services, such as utilities (gas, water, electricity, telecommunication), transport (train, bus), infrastructure (road, rail, waterways), health services (care and cure), education and schooling, safety and security, prisons, etc. State bureaucracies are not attractive, but markets are taken to promise beneficial effects that are often not achieved or are overruled by negative effects. Here I start a series of items to contribute to insight in markets that may help people to form an opinion. I derive it from a book on markets that was published by Edward Elgar in 2014.. The title is the same as of this item.

In the widest sense, *Markets* are processes of *supply and demand* on the basis of private choice and initiative that yield selection of success by competition and institutions. *Market places* are places where supply and demand meet. A meeting of supply and demand is needed to enable division of labour, needed as a source of prosperity.

A narrow notion of markets is the economist's traditional, idealized model of *perfect competition*, where a mere mechanism of prices, without any government intervention, in *laissez faire*, yields an optimal allocation of scarce resources. It was an intellectual challenge to prove that analytically Adam Smith's idea of the *invisible hand* could work. However, it has little, if anything, to do with reality. It is a fairy tale. I call it the *mythmarket*.

When one criticizes market ideology, targeting the myth, the idealized fairy tale, the answer from economists is that in modern economics the market is seen more broadly, and with more nuance, in a wider notion of markets. In fact, surreptitiously they still pursue the fairy tale that has been lodged in their minds in economics classes. In other words, the narrow view is taken as a guide (*theory in use*) but the broad view is wielded as an excuse (*espoused theory*).

In valid criticism of market ideology, radical critics, on the other hand, make the mistake of also throwing away a wider notion of markets that I think we cannot do without. So I need a new terminology to denote a variety of wider notions of markets while making it clear that I reject the fairy tale.

Earlier, in item 86 of this blog, I already discussed several wider notions of markets, in which there is collaboration next to competition, and competition is imperfect, yielding room for ethical conduct, a certain amount of altruism next to egotism, and a wider

ethics, going beyond the *utilitarianism* of traditional economic theory, in a *virtue ethics* that also accords *intrinsic value* to economic activities and virtues.

The already existing notion of *regulated market* indicates that markets require institutions and government intervention to work and to redress perverse effects. That applies to all the markets indicated above, except the mythmarket. Competition is imperfect in many ways and requires a variety of government intervention. Markets do not satisfy all social goals and seriously damage a number of them. Most economists recognize this. Behind supply and demand there are social and psychological processes of choice and processes of production and innovation. Much of that requires collaboration, next to competition, and they limit each other. Many economists recognize this (e.g. in *transaction cost economics*).

Still crucial, also in the wider notions of markets, is the idea of maximum freedom, and hence variety, of choice and initiative. That is what makes it different from central planning. That element of ideology remains.

In the present series I will first specify in more detail the mythmarket of perfect competition, and criticism of it. Next, I will go more deeply into the philosophical roots of markets and market ideology, and I will consider alternative roots for alternative views. I will also go a little more deeply in to the question how markets work and fail. I will show that in practice there are mixes of markets and government regulation, and I will give some examples. Finally, I will look at newer developments, and at possible alternatives to markets, in communities.

459. Market ideology: freedom

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Many good economists grant that the model of the mythmarket, with perfect competition, is unrealistic. That applies even to the original makers of the model (Arrow and Debreu). Some say that it was never meant to approximate reality. Others say that it presents a benchmark against which real markets may be assessed. However, a line of highly vocal economists, from Hayek and Friedman through *rational expectations* economists, in *the new classical economics*, were convinced that this Utopia could and should be realized, and many policy makers followed their gospel. The illusory ideal of perfect competition still forms the basis for a market ideology, often hidden, sometimes made explicit, that sees ‘the market’, i.e. the mythmarket, as a universal panacea.

I quote Cassidy (2009: 345): ‘Even today, all too many economists see their primary role as defending the market system against possible encroachments. Privately, they are often willing to acknowledge that a particular industry is wracked by market failure and needs reforming. Somehow, though, these individual flaws don’t add up to an overall critique’.

‘The market’ came to be taken for granted, as a law of nature, inexorable and inevitable, and economic ‘crises’ were and still are made to sound like natural disasters, like

hurricanes, that happen to us, while in fact both markets and crises are of our own making.

Behind the model lie deeper, tacit, implicit views, mostly from the Enlightenment, concerning the rational, autonomous individual; freedom; an ethics of utility; the virtue of self-interest, universal principles and laws, and the rigours of mathematics. Here I discuss *freedom*, here freedom of choice for consumers and producers, which is arguably the most powerful driver of market ideology. That is why ‘the market’ is associated with ‘the free world’, and any compromise on the operation of markets is a compromise on freedom, and therefore unacceptable, or so the rhetoric goes.¹

In real economies, freedom of choice is often severely hampered by lack of alternatives to choose from (in monopoly), the difficulty to judge differences in quality between competing goods and services, and high costs of switching between them.

Nevertheless, the claim of freedom, though imperfect, for markets is valid, and indeed one of its strongest points, but it does depend on what notion of freedom one endorses (see item 49 in this blog). What applies here is so-called *negative freedom* or freedom from constraint or interference. But there is also a notion of *positive freedom* or freedom of access to resources, knowledge, abilities, networks and the like, and here markets perform much less well.

Few economists include this (Amartya Sen is an exception). To the extent that competition approaches what economists call ‘perfect’ indeed there is little room to make any compromise on maximum profit, but in fact that is seldom the case, due to market imperfections, arising from economies of scale, product differentiation, lack of information, transaction costs and other factors, to be discussed later in this blog. While ‘imperfect competition’ is a vice for economists it can be a virtue for the good life, and thereby I reverse the famous dictum that private vices (of cupidity) are public virtues (of economic

460. Market ideology: variety

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A second strong argument for markets, next to freedom but related to it, is that in contrast with central planning they give room for *variety* and *variability* of local, idiosyncratic tastes and ideas of consumers and producers, and tap into them. That is important especially for innovation. This idea goes back to the economist Friedrich Hayek, one of the godfathers of neo-liberalism, and on this point he was right. Centrally planned economies are unable to plan and innovate production and allocate resources in a manner that fully mobilizes variety and variability of choice and enterprise. Hayek went overboard, however, in assuming that markets incorporate all relevant information efficiently in prices, to automatically produce an optimal allocation of resources.

¹ A great impulse for this lay in Friedrich Hayeks *Road to serfdom* and Milton Friedmans *Capitalism and freedom*.

In item 57 of this blog I discussed variety of cognition, in *cognitive* distance, as both a problem for mutual understanding and an opportunity for innovation by *novel combinations*. To profit from the opportunity of innovation one must learn to cross cognitive distance. A central challenge for entrepreneurs and firms is to develop the ability to collaborate with others who think and perceive differently.

There are now three paradoxes of variety. The first is tension between variety and the efficiency that is claimed for markets. With variety in the form of product differentiation not all information relevant to the individual is included in the price. It increases transaction costs in the form of search costs. Consumers are not always able to fully perceive and assess differences in products. At the same time, product variety reduces the pressure of price competition that is supposed to yield allocative efficiency. Also, differences in composition and quality of goods and services entail that when one chooses one product as the most preferred one, then to switch to another, different product one incurs *switching costs* in making a compromise on what is most desired. That switching cost for consumers allows producers to raise price above production cost.

The second paradox is as follows. While perhaps the strongest argument for markets is that they tap into the variety of individual, local knowledge, ideas and preferences, in industrialization increase of scale and concentration of activities into fewer, bigger organizations have led to a reduction of variety, in mass production. The mythmarket is one of *homogeneous products*, and *optimal production technology* accessible to all. In facilitating markets there is talk of creating a *level playing field*. In fact, competition is mostly about being different, in differentiating products and technology, and creating new playing fields.

The third paradox is as follows. Without institutions markets cannot work. Institutions are not just laws and their enforcement. They are, much more widely, durable social (humanly devised) habits and rules that both enable and constrain behaviour. This includes ethics and morality. They form the basis for predictions and agreements about future actions. Institutions vary among countries. Now, the claim for efficient markets is that they are universal, to be applied everywhere, regardless of varieties of institutions, resulting from differences of culture, history, political conditions, stage of economic development, and available resources.

In sum, to profit from the variety of markets one must accept that competition is imperfect, operates not only on price but also on quality, and that markets vary with institutions.

461. Market ideology: Autonomy

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Another fundamental tenet of economic science, related to the tenets of freedom and variety, is *methodological individualism*: explanations must originate from the autonomous individual. The tenet of autonomy is also related to the tenet of self-interest, discussed in item 54 of this blog.

Economics deviated from autonomy when it started using *game theory*, where people interact strategically, choosing actions while taking into account actual or possible actions of others. An important example is the *prisoner's dilemma*, where individuals are locked into a joint position that is worse than they could have achieved when all committing to a different strategy. This arose in the financial crisis, for example, when every bank felt forced to incur too high risks because other banks were doing it as well, which ended up in the need for the government to save the banks.

However, the problem of non-autonomy, or *heteronomy*, is much more pervasive and deep, and here I turn to philosophy. In earlier items of this blog (23, 40, 55) I argued that that people are inherently social, cognitively and morally, developing ideas and norms from interaction between them.

Some of this is taken into account in the relatively new development of *behavioural economics*, which takes into account insights from social psychology. When making a choice and taking action, people employ cognitive shortcuts, heuristics, which are efficient but often irrational, and take into account the social situation, and how it is *framed*: how, from what perspective and in what context, questions are asked and options are presented. In item 34 I elaborated the notion of framing in terms of scripts.

However, that sits uneasily in the body of economic thought, as a bit of an anomaly, and is not well integrated in the fundamentals of economics. So let us again dig a bit deeper.

In his *Sources of the self* Charles Taylor traces the appearance in history, since around 1500, of what he called the 'disengaged self'. I discussed this in item 52. This developed into the notion of an autonomous, rational individual, and that became part of liberal ideology and economic science.

In his *Dilemmas and connections* Charles Taylor noted that in contemporary society there is an uneasy mix of ideas from Enlightenment and Romanticism. Both contribute to a culture of individualism. From the Enlightenment: ideas of rationality (rational design, rational choice, efficiency, ...). From Romanticism: diversity, individuality, feelings and emotions, realization of the authentic self, self-expression, ... The Enlightenment is found in science, management, and increasingly also in public administration (e.g. in health care, education, ...). Romanticism is found in the private sphere of self, family, friends, clubs,

Apart from social influence on individual thought and action, there are important phenomena of *herd behaviour* in economics, which destabilize the economy, in bubbles and their burst. Ordinarily, one would expect that when prices rise, demand falls, but in capital markets rising prices are taken as an indication of further rise in the future, so demand increases until prices far exceed real value, and after the *boom* a *bust* becomes inevitable. And in the bust the reverse happens: falling prices from sales of shares are taken as an indication of further fall so that sales multiply. Busts are

often more radical than booms because people are more averse to taking losses than they are eager to make gains.

462 Philosophy of economic science

published 14-2-2020

A famous defence of the unrealistic mythmarket of perfect competition is that theory requires abstraction and cannot and should not try to reproduce reality. The question is only whether the theory yields accurate predictions when we look at reality 'as if' the model applies. This is the famous *instrumentalist* argument of Milton Friedman. In fact most evidence has contradicted the theory.

Karl Popper proposed that a theory cannot be proven true but can only be falsified by evidence against it. A problem there is that in economics theory is hard to falsify because one can take shelter in the fact that there are so many other, uncontrollable conditions that can upset predictions, other than limitations of the theory.

Therefore, the argument for validity, or *warranted assertibility*, if not truth, on the basis of empirical validation may work for physical science, but for economics it does not fly, but flutters like a lame stork.

In fact, economists perform a sleight of hand here. While granting that assumptions are not realistic, and are made only 'as if', economists next give excuses why predictions cannot be rigorously tested, and then fall back on the theoretical assumptions anyway, no longer only 'as if' they apply, but also in deriving policy implications, claiming that markets should be left alone because they are efficient. But that remains to be demonstrated. The snake bites its tail. At first, markets are taken only 'as if' they are efficient, this is never convincingly corroborated, and then for policy implications they are taken to be efficient. It is admitted that the model is a Utopia but since it cannot be falsified it is taken to be real.

Traditionally, science aimed to 'save the phenomena': a theory should be able to explain accepted observations or facts. In economics the principle is 'save the theory'. If things claimed by the theory cannot be observed, occult, unobservable entities are posited by which they exist anyway.

There are several examples but I will discuss only one. In economic theory rational choice rests on the assumption that people have preferences that satisfy certain axioms (such as transitivity: if A is preferred to B and B to C, then A must also be preferred to C). These preferences cannot be observed, indeed in psychology they are found not to exist as postulated. In fact, much choice arises from unconscious impulse. And now comes the economists' sleight of hand again, the reversal of logic: since people do make choices, preferences must exist; they are *revealed* in the fact that choices are made. What is wrong with this is that it neglects the possibility that choices are made differently. Intransitive preferences have been shown to occur, when choices have to be made among

options with several dimensions of utility that are not *commensurable*, i.e. cannot be added and subtracted (see item 79 on incommensurability).

But then, if people are unable to arrive at a consistent, rational evaluation, how are choices made? If people are unable to consistently add and subtract different dimensions of utility, the choice may be determined by whim and impulse. Producers exploit this in advertising. Not knowing how to trade off different dimensions of utility consumers decide on something often small but salient, with simple, emotional appeal, such as the design of the dashboard As they also do in politics.

Also, preferences often are not given beforehand but develop when things are tried out, arising after rather than prior to choice and action.

463. Human nature

published 22-2-2020

Economists adopt a limited, highly stunted view of *human nature*, even while not actually believing in it. They are geared to think in terms of rational choice between alternatives, but people are very limited in their rational evaluation, for good cognitive reasons. Recent debates on the limits of free will, or even its absence, indicate how limited the rationality of our choices is. See also the previous item in this blog.

Economists further assume that people are driven only by self-interest. Many economists recognize that in markets there is collaboration next to competition, but here collaboration is still driven by self-interest, though this includes *enlightened self-interest* in which one makes sacrifices for others as long as in the end it yields net advantage for oneself. There is still no room, most economists think, for altruism, which may be detrimental to material self-interest. The argument is that competition is too harsh, too 'perfect', as economists would call it, to allow for any compromise on maximum profit or minimum cost. The firm would not survive if it did not grasp every opportunity for higher profit. I disagree.

As I argued in preceding items in this blog (e.g. 46), the human being has an instinct for both self-interest for the sake of survival, and altruism for the sake of social legitimacy and cohesion, with a corresponding 'moral' sense of normativity next to self-interest. Furthermore, competition is seldom so harsh that survival requires maximum possible profit. Product differentiation, segmentation of markets, innovation, and durable competitive advantage due to specialized, difficult to imitate knowledge and other assets, yield some slack to take other objectives into account.

The conduct of people is also determined, to a large degree, by behavioural phenomena of social interaction such as studied in social psychology. *Group cohesion* can have both beneficial and detrimental effects (see item 48 on immorality of the group). Time and time again economists, except Keynes, also neglect other sociological effects such as *herd conduct*, which leads to bubbles and their burst and indeed was a major factor in the current financial crisis.

I propose that for a proper understanding of markets we must include insights into the limits of rationality, psychology and sociology, processes that entail radical uncertainty, and the role of institutions. To some extent these can be found in *non-standard economics*, such as behavioural economics for limits of rationality, evolutionary economics for processes that are not based on rational foresight, and institutional economics. However, for sufficient depth and coherence of insight we must move beyond economics into the areas of cognitive science, social psychology, sociology, and philosophy rather than having heterodox economists re-inventing wheels in primitive ways, in those areas.

The partnering of economics and psychology is not new: it was there in the early economics of Adam Smith, who in his work on morality recognized an inability of people to focus on the long term, a concern for the well-being of others, in what he called sympathy, a tendency to overestimate one's own abilities, and an inclination to underestimate risks. Let us return to this wider view of human conduct.

464. Evolutionary economics

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Perhaps the most fundamental problem for rational choice arises when *uncertainty* is radical, i.e. when we do not know in advance what all the options for actions are and what their consequences may be. Often options arise in the light of the outcomes of actions rather than being given in advance. Also, the preferences that are supposed to form the basis for rational choice are often formed in action rather than being given before it. I will argue that an evolutionary perspective of innovation, which avoids 'intelligent design', yields a more useful perspective.

The basic principles of evolution are *variety generation*, *selection* and *transmission* (of what survives selection). In item 30 of this blog I discussed evolution in society. Here I focus more on the economy. Variety generation arises from innovation, selection is performed by markets and institutions, and transmission of success occurs in firm growth, imitation, education and training.

However, in item 30 I warned against going too far in adopting a biological analogue of evolution. In society, variety generation, selection and transmission take their own forms, which are quite different from biology. Innovation is not the same as mutation of genes and crossover of chromosomes. The selection environment of markets and institutions can be manipulated by political influence. Transmission entails communication, which entails interpretation, which entails transformation, so that it is at the same time not only transmission but also a source of variety.

Evolution provides an alternative to market logic including freedom and variety as well as selection. There is freedom in a variety of ideas put up for selection. Struggle for survival includes competition, but also symbiosis. Survival, in adaptiveness to the selection environment, is not necessarily rational or optimal. In innovation it is often not

the best product that wins, but the one that manages to conquer the market first. Most important, evolutionary theory recognizes radical uncertainty that limits intelligent design.

It is often adaptive, good for social survival, to go along with majority opinion, against one's own views and convictions. This is connected with *group think* in organizations, *herd conduct* in markets, and *immorality of groups* (see item 48). Policies are designed and adopted that are illogical, not optimal or even detrimental, for the sake of political expediency.

Paradoxically, this can lead to policies that satisfy old, erroneous intuitions of rational design, thwarting the dynamics of evolution. An example is innovation policy, as adopted in the Netherlands, in the form of planning innovation in committees for selected industries. It goes against the logic of evolution, and indeed the logic of markets, in reducing variety and selection. It yields an obstacle for the crossing of boundaries between industries and technologies that generates innovation. However, there is an erroneous, adaptive political rationale. Such policy avoids the risks of real innovation that parliament finds hard to stomach for its 'failures' to succeed, it gives vested interests in big business an opportunity to lobby for their interests to limit innovation to incremental innovation that does not upset existing investments and markets too much. This yields a powerful political force to adapt and conform to current standards that sweeps along even scientists who know better.

Is there no evolution or market mechanism to penalize this? Yes: it is manifested in new emerging countries less caught in habits and regulation that win out in innovation.

465. Market failures

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There is a range of market failures and here I can only review a few. Perhaps the most perverse failure is when the two core virtues of markets are destroyed: freedom and variety of choice and initiative, and selecting out failures. Destruction of freedom occurs in *monopolies* and in the *command economies* of large firms. Persistence of failures occurs, for example, with large banks that are 'too big to fail', and in large corporations where top managers are 'too megalomaniac to fail', impregnable and intolerant to criticism, keeping failures hidden or propped up with internal cross-subsidies.

A widely known failure lies in so-called *externalities*, such as environmental degradation and damage to health (*negative externalities*) and so-called *public goods*, such as parks and street lighting (*positive externalities*). One reason why they are difficult to include in markets is that they are *non-excludable*: it is difficult to exclude users who do not pay. An example is roads, but here, with toll roads one can restrict use to those who pay, at the cost of constructing tollbooths at limited entry and exit points.

There is a range of problems that violate the assumption in market theory of full information and rationality, and independence between autonomous agents and their choices and actions. In preceding items I discussed limits to rationality, as in *framing*, and problems of *herding*, which yield financial and other *bubbles* that burst, and in *prisoners' dilemmas* in which economic actors lock each other up in conduct that yields adverse effects (as in too risky investments).

In particular, there are problems of limited or *asymmetric information*. An important case is the phenomenon of *adverse selection*. This arises prominently in insurance, when risks are hard to judge by the insurer, such as a risk of skiing, say. The people most at risk have the highest need for insurance. Knowing this, the insurer could raise his premium, but then most seekers of insurance drop out, leaving only the worse risks. The result is that there is no price at which buyers and sellers can agree. Either the risk for a number of cases or the premium is too high.

A requirement for perfect competition is the absence of *economies of scale*, by which larger firms produce more cheaply than small ones. In fact, such effects are ubiquitous, in various forms, and they give an impulse to concentration of markets in a small number of large firms that can limit competition.

On a global scale, there are *exploitation* of labour and adverse economic and societal *structural effects* on developing countries. National policies for justice and human rights lack grip because multinationals are footloose, able to migrate to where conditions are least restrictive. Corporations far outrun the capability of governments to restrain them. Markets unleash forces that can become impossible to control.

Another adverse effect is that expectations on capital markets impose a *short term* perspective, and a focus on the interests of *shareholders*, whereby long term interests and public interests such as protecting the environment, are neglected. Investors and managers squeeze too much from the firm, reducing spending on innovation, to increase cash flow, which reduces innovative capability.

In the following item in this blog I will discuss the important problem of *transaction costs*.

M10 Transaction costs

published 14-3-2020

Transaction costs are the costs of markets: costs of *contact*, *contract* and *control*. Costs of contact lie in searching for buyers/suppliers, evaluation of the quality of their products, their reliability, etc. Costs of contract lie in coming to some form of *governance*, in reaching an agreement, negotiation, contracting, and costs of organization (division of labour, collaboration, and exchange). Costs of control lie in monitoring performance, adjustment of agreements, haggling, conflict resolution, litigation, if it comes to that, and costs of separation.

Governance needs to deal with relational risks. A central notion here is that of *relation-specific investments*: investments whose value is partly or wholly limited to the relation, and is largely worthless outside the relationship, and therefore entail *switching costs*: costs of switching to another buyer or supplier. The possible loss of such specific investment constitutes a risk, in that the partner can threaten to break up the relationship at the cost of that loss. As a result, such investments cause dependence that can be used as leverage in the distribution of jointly produced added value. A condition for making a specific investments is that one can expect that the relationship will last long enough, or will yield a sufficient volume of transactions, to recoup the investment.

Why incur such problems and not avoid specific investments? Often, most value is added, and most profit made, with specialized, differentiated products that distinguish themselves from the competition. That is mostly achieved by combining complementary resources from different firms (knowledge, technology, skills, market access, ...) into novel, unique combinations of features. However, that requires relation-specific investments. So, one incurs the problems of dependence to utilize an opportunity for profit. As a result, collaboration is as much part of markets as competition is.

There is a dominant rhetoric of maximum flexibility to ensure maximum efficiency, in hiring and firing workers, in buying and selling parts of firms, and in beginning and ending relationships of collaboration. The logic of specific investments goes against that. Instead of maximum flexibility one should go for optimal flexibility, with relationships that are durable enough to elicit specific investments but not so fixed that they yield rigidities in the inability to adjust to novel conditions or opportunities.

There are also implications for choosing between on the one hand markets and on the other hand integration within a large organization. When the costs of the market exceed a certain limit, its motivational advantages, in partners being independently responsible for their own survival, becomes less than the costs involved in exchange and governance, and it is more efficient to integrate.

The standard theory proposes that the greater the uncertainty the higher relational risks and hence the greater the preference for integration. However, that is not quite right. It is useful to distinguish between behavioural and technical/commercial uncertainty. The claim applies for behavioural uncertainty, as when motives and capabilities are difficult to judge or when there is a low general level of trust. Under the technological and commercial uncertainty of innovation, on the other hand, outside, independent partners contribute more to the necessary variety of knowledge and the flexibility and scope of a variety of relationships. So there the prediction is the reverse: more uncertainty pleads for less integration.

472. Markets for health care?

Published 26-4-2020

After an intermezzo on the Corona crisis, I resume a series of items on markets.

Health care used to be fully public, based on a budget system, but recently in the Netherlands attempts have been made to make it operate as a market. This is a complex case and I can only highlight some key points.

In health care there is separation between the user (the patient), the one who decides (the doctor) and the one who pays (in many cases the insurance company). The separation of use, decision and pay is an invitation of problems for the operation of a market.

The clever idea that emerged was to put the one who pays, the insurance company, in the position to judge quality of health providers, such as hospitals and clinics. The idea was that health providers would compete for the favour of the insurance companies, and insurance companies would compete for customers. The prime aim of the exercise was to cut the costs of health services, which were rising out of control due to ageing of the population and ever new possibilities generated by medical science and technology.

A problem then was that the insurance company cannot (yet) adequately judge the necessity of treatments. It is easily predictable that in a market regime, even if there arises competition on price, the providers of cure still decide the necessity of some treatment and can raise the volume of treatments to increase their income, which increases the cost of health care instead of decreasing it, as was the intention. One of the ironies of this case is that while under the old budget system there was undertreatment, resulting in waiting lists, now there is overtreatment. In laying a limit the old budget forced providers to make priorities in allocating limited capacity. Under the new system, insurers will have to develop some method of judging the need for treatments, taking into account the specific conditions of a given patient at a given time and place. The doctors know but they don't tell.

To make quality and cost judgement by insurance companies possible, health care was regimented in 30.000 *Diagnosis-Treatment-Combinations (DTCs)*. This contributes to costs of transaction and administration while the aim of the exercise was reduction of costs. A second problem is that often professional work cannot be adequately captured in such codified protocols, so that their imposition would reduce the scope for case-sensitive professional judgement.

Finally, here is the paradox. One of the two fundamental merits of markets is that they allow for freedom of choice and initiative, but here in the name of markets freedom of choice of patients and freedom of professional practice of doctors is reduced. This move was made to engineer competition between hospitals. The freedom of markets was constrained to create the selection in markets. Now either the DTCs serve their purpose of monitoring and control but then constrain medical practice and yield de-professionalization, or they leave sufficient room for professional judgement and variety, in which case they do not achieve their purpose of monitoring and control.

Market theory focuses on impersonal price competition between independent, anonymous, rival producers for the custom of independent, anonymous users. But in fact in markets much is going on in personal relations with a certain continuity. Producers try to build relations with their customers, and they collaborate among each other in more or less ongoing partly personal relations.

Users may collaborate among each other, as in buyer cooperatives. Producers may collaborate among each other, e.g. in setting standards, sharing resources (for example: distribution channels, knowledge), or, less positively, engaging in cartels (fixing price or dividing a market). And, most importantly, there may be collaboration between users and producers. In all or most of these many cases of collaboration the mechanism is not primarily, and sometimes not at all, a price mechanism, but a mechanism of utilizing complementary resources and capabilities, in mutual dependence. That dependence may not be symmetric, and rivalry and conflicts of interest arise. This yields risks that need to be managed in some adequate *governance mechanism*. The added value of collaboration is worth the efforts and costs involved.

Next to their role in creating economic value, relations also have intrinsic value. In early capitalism markets were largely local, with exchange being conducted in personal interchange. Consumers were acquainted with their butcher, baker and shoemaker. As economies of specialization and scale led to increasing concentration, distance between consumer and producer grew, both in space and socially. In economic expansion and industrialization, production became concentrated in large factories, business in large corporations, and public administration in large bureaucracies, and schooling in learning factories. There was an uncoupling in space between living, working, and schooling. There was a proliferation of highways and cars, disappearance of local shops, and concentration of people in large cities. This has led to a society where people do work they don't like to earn money to buy products they don't need to impress people they have no affinity with.

At several places in his blog I claimed that people are not autonomous but are socially constituted, develop their identity and cognition in interaction with others. Essential in that is interaction, action and reaction, expression and response, rejoinder, discussion, debate, give and take. In other words *voice*. That requires personality. If markets lack voice then they fail to offer an essential quality of the good life. But if markets can be transformed to function in communities again, perhaps they can still be saved. And if that is successful, traditional markets may shrink, losing business to local communities, and large, centralized firms will need to develop better ways to interact with their customers, with an eye for their differences.

I see a potential and a desire for a re-emergence of communities at least in some activities. The ICT revolution and other technological developments yield a host of instruments for enabling this. But not everything can be produced locally. Electricity can be, with windmills and solar cells, but oil refining for petrol cannot be. One can provide care locally but not specialized surgery. One can grow crops locally but not their processing into foods and derivatives. There are still economies of specialization and

scale that require a certain amount of concentration. However, The Corona crisis shows how vulnerable we can get in breaking up production in parts and spreading those parts across the world, where they are most cheaply produced. Less vulnerability to that, with more local production, will lead to higher costs.

475. Markets and industries

published 16-5-2020

Markets require a diversity of government intervention, and which measures are required depends on the industry. There is not one single industry policy that fits all. Previously, I discussed the market for hospital health care. Here I give a general survey of features of industries on which intervention depends. For a specific industry, one can pick up which features apply. As before in this blog, 'product' includes service: anything with 'added value'.

Concentration and economy of scale. Economies of scale (due to more of the same) and scope (due to combination of different things) yield lower costs and hence the possibility of lower prices. They also yield fewer and larger firms, concentration, which can yield collusion, in price fixing or division of the market in different sections, reducing price competition, which increases prices. The effects can be of different kinds and can be large or small, in production, distribution or marketing, and depend on the technologies used. I will indicate what the various economies are in a following item in this blog.

The degree of vertical integration of production, sourcing, distribution, servicing, and recycling eliminating rivalry between buyers and suppliers.

The degree and kind of 'external' costs of damage to the environment that are not included in the price of the product, such as pollution, safety and health hazards, and messing up public space.

Transaction costs of different kinds:

- Costs and limitations for users to judge the nature and quality of the product (service of a repair shop, of a tax consultant, of a doctor, an insurance policy, medicine).
- Difficulty to craft a contract, in specifying punishments and rewards and their conditions.
- Ability to monitor performance, in a cooperative relationship, or other obstacles to enforcing a contract.
- 'Specific investments' that are worthless in different relationships than the one they are designed for. These can be investments in buildings (near the partner), training, machinery or installations, knowledge, familiarity as a basis for trust, agreements or contracts. When one-sided, they can yield dependence that can be used to wield power to impose limitations or sacrifices. The relation also needs to last sufficiently long to recoup the investment, which reduces competition.

Transaction costs as costs of the market can also lead to more integration in big firms, limiting competition.

I may well have neglected some features, and in that case I invite the reader to notify me.

Mutual dependence between products and services (such as hardware and software) that can be used to package them and gain a monopoly.

The surreptitious use of price discrimination, with different prices according to what people are willing to pay, with artificial differences in the quality of a product (as with a paperback and hardcover version of a book).

Dominance by shareholders with a short term orientation towards profits, to the detriment of long term development such as innovation, and the duration that development takes (such as in the development of new medicines).

The power of firms to lobby and impose advantages for themselves. That depends on the degree of globalisation, moving employment elsewhere.

Opportunities for tax evasion, and the degree to which they are used.

The quality and justice of labour, wage and employment conditions

From these features one can cobble industrial policy.

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476. Economies of scale

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There are different kinds of economy of scale (producing more of the same) and economy of scope (producing different things).

A well known economy of scale is offered by specialisation, adduced already by Adam Smith, with his example of a pin factory, with some people drawing out the pin, others sharpening its point, others polishing it.

Another is in services where someone needs to be present to serve, during opening time, no matter how few customers visit. This yields an incentive for automated service or self-service. This applies to retailing, but also many other services, including that of an office where people report or call in, or where the service provider needs to be present when the service is offered, as with a fire brigade, or 911, or a municipal desk. This effect also makes it relatively expensive to employ specialist staff, because they would not be sufficiently occupied.

A customer also takes up space, no matter how little he buys. Now, in the poly against Corona, with the requirement to keep a minimum distance, this is intensified.

Similarly, many machines and installations, say a refrigerator, have a minimal size, no matter how intensively it is used. In a series of machines it is the maximum minimum size that decides the issue.

In process industries, such as the chemical industry, and transport and accommodation (say of a hospital) there is the mathematical law that the surface of the space involved, say something globular, with a radius r , is proportional to the square of the radius, while its productive capacity that determines maximum output is proportional to its third power. Now, the surface determines the material costs and the effort of constructing the space, the costs of cleaning it, and the degree of temperature loss or gain in radiation, while the content determines maximum capacity for production, so that the ratio between output and costs is proportional to the radius. This also yields the phenomenon that polar animals are large and rotund, such as polar bears, walruses and whales. Because then the ratio between the internal production of body temperature and radiation loss through the skin is most efficient. A trick question then is why there are also large bulbous animals along the equator, such as hippos, rhinos, and elephants. The answer is that it is the difference between temperatures of the body and the outside that matters, and here with larger size the heating of the body is less. Why then the lean and thin panthers and antelopes? Because during the rush of pursuit of the one by the other body temperature is temporarily higher than that of the environments and radiation to the outside is needed.

The principle also applies to buildings and vehicles, say a jumbo jet. There, four effects of scale combine: more passengers per pilot, less air resistance in ratio to the body, less material cost per seat, and less propulsion energy per passenger. That is why ever larger airplanes are built.

In economy of scope efficiency is increased by the combination of different things, such as selling and repairing cars. In small shops, it is efficient to have productive activity in the absence of customers, such as a shoe seller also engaging in repairs. In the past, small shops survived with the owner living above it and engaging in household activities during quiet times, or children pitching in when a customer arrives.

Another example of scope is the grazing of sheep in between trees that must stand apart sufficiently for light and air.

There is also scope in time, as when an icecream seller in winter sells fuel, or a hotel outside the holiday season facilitates conferences.

One can sell different products under a shared brand name and advertising. One can transport different products in a lorry.

With many products or a product in many markets one can spread risks.

Serving many markets in many countries, for tax purposes one has more options to report revenues where taxes are lowest.

As a 'platform' company such as Facebook or Google one can offer more profiles and more extended ones, to the extent that sources them from more users. That is how they have grown so big.

Selling more products one can better source for suppliers, of inputs or new product variants. .

Being bigger, with more employment, one can exercise more lobbying power.

Often neglected, there are also disadvantages of scale. One is that with n people one can have $n(n-1)/2$ direct contacts, increasing quadratically with n . Such talking of everyone with everyone can crowd out work, and hence there was the invention of a pyramidal hierarchy, where one talks only with the next layer up or down. Another solution is a hub and spoke structure, where people do not talk directly but only through the centre.