

How Markets Get Started: Mainstream approaches, Critical Realist alternatives

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Mainstream (neoclassical) economics continues to theorise - and pronounce as the best attainable - the 'welfare' gains from competitive trade through free markets. Its 'transaction cost' branch admits a small subset of transactions for which market exchange is inefficient, and which maximising individuals will conduct instead through institutionally-mediated negotiation or organisationally-internalised transfer. An initially wide range of sources of transaction costs has gradually been brought beneath two broad headings, "transaction-specific investment" for which market exchange fails to guarantee a payback, and "impacted information" which prevents free agents from communicating the details (and instilling the trust) required for others to conduct mutually profitable trades with them.

But the biggest transaction costs occur right at the start of the market exchange process - when individuals give up their family- or group-based self-sufficiency and enter into a detailed division of labour with people to whom they lack deep ties and reciprocal obligations. Few investments could be more transaction-specific than that in setting up as a full-time blacksmith, depending entirely on the willingness and ability of local horse-using farmers to exchange iron shoes for food. Little information is more impacted than the quality and reliability of supply of materials promised in exchange by two individuals who, for the first time, are so specialised in one that they no longer remember - or never knew - how to gauge a worthwhile quantity of the other. As observed in a recent popular macro-history of the world observes, about the delay in adopting agriculture until hunter-gathering was down to its last semi-edible tree-stump (Diamond 1998 Ch 6).

Specialisation means immediate exposure to investment risk (the tools you knock together won't make anything useful), operating risk (strikes or supply curbs will stop you making them) and market risk (preference changes and price collapses will stop you selling them once made). Entry to division of labour affords a productivity gain over self-sufficiency, arising from the specialisation efficiencies classically evoked by Adam Smith's pin factory. However, this gain must be set against clear drawbacks and dangers of dealing through the market for essential supplies: notably transaction costs (checking the quantity and quality of other products offered in exchange, determining fair prices, exacting payment etc) and transaction risks (that others will not have produced the necessary surplus of other products to be exchanged for one's own surplus product, or will not be willing to offer it at a realistic price).

As well as being exposed to post-production hazards in the goods market, people entering a detailed division of labour also come up against the hazards of the credit market, as soon as they have to find cash for inputs and capital equipment in advance of raising cash through final-output sale. It may be possible to maintain a 'relational' supply of credit (eg borrowing from family and friends) after switching to market transaction of inputs, outputs and capital goods, but the lengthening of the supply chain as division-of-labour becomes more detailed works against this.

If choosing a specialisation (relying on exchange to fill the gaps) is such a hazardous all-or-nothing decision, how does market exchange get started? Economic literature to date has tended to tackle the question by three routes, each leading to broadly the same conclusions.

1 Main approaches

1.1 Historically informed speculation

This is the approach influentially adopted by Adam Smith in the first widely-read and well-remembered assessment of the market economy. Smith (1979 [1776]: 119), having famously pronounced the extent of the market as the limiting factor on division of labour, speculates that such division arose through individual tribe members discovering they could fashion one product "with more readiness and dexterity than any other", and that time spent exclusively on this, bartering the surplus for other goods, could procure more of those goods than if the equivalent labour-time had been used to produce them directly.

The potential for productivity-raising division of labour thus results from natural variation, and the material advantage to each participant ensures its adoption without any “human wisdom” (Smith 1979:117) to design and oversee the process. In assuming that all members of a community will find some task that they can profitably specialise in, and that surplus products will always find a buyer because of the natural human “propensity to truck, barter and exchange”, Smith minimises the risks people run by choosing to rely on the market for all but one of their material needs.

However, a hint at acknowledgement of the principal risk - not knowing how much the surplus can be sold or bartered for - is betrayed in Smith’s adoption of a labour theory of value. Unable (through their different specialism) to judge the quality and inherent value of what they are offered, traders monitor the amount of work their counterpart has put into producing it. On neoclassical assumptions, no-one would rationally spend more time than necessary working on its production. So provided their productivity is not seriously constrained by factors beyond their control, one unit of X will exchange for two of Y if it takes twice the amount of labour-time to make. Two centuries of struggle to operationalise this theory, conventionally taken as a defeat for Ricardian and Marxian economics, are equally subversive of the neoclassical belief in emergence of labour division as ‘spontaneous order’ - since the variation of the relation between market price and labour-time, across space with the relative proportions of capital and labour and across time with shifts in their relative reward rates, confronts any entrant into market trade with a highly uncertain calculation over where to price their wares, and how much to expect in exchange for them.

1.2 Historical study.

Examining actual historical records might seem a more satisfactory source of answers than speculating on ‘stylised fact’. But since most scholarship on the origin of market trading systems is much more recent than mainstream economic theorising on markets, all must be treated as to an extent theory-laden. So, for example, the story of California merchants’ and ranchers’ successful establishment of coastal trade in 1830-46 without an effective government or judiciary is documented historically by Clay (1997), but couched in the language and logic of game theory. The merchants’ problem is framed as one of achieving credible commitment to honesty (when acting as agents for other merchants in distant markets), and shown as being solved by the formation of coalitions which could label the trustworthy agents, identify and punish (by exclusion) those who breached trust, and hence supply the ‘public good’ of reliable information on who was safe to lend to or trade with. By credibly threatening permanent damage to a cheating merchant-agent’s trust- and credit-worthiness, the coalition ensures the minimum wage an agent must be paid to keep them honest stays below the profit gained by employing them. So long as the merchant community was stable and information flowed freely round it, merchants were safe in arranging trades and making sunk transaction-specific investments (in this case, employing an agent to cut their own travel and negotiation costs).

Mutual recognition is easiest when potential cooperators have obvious distinguishing features, and when cheats who disguise themselves as cooperators can be reliably punished when their mendacity becomes known. The ability to share information and coordinate deterrence to (or punishment of) opportunistic defection has long been recognised, outside economics, as a significant strength of well-defined social groups in maintaining collectively or strategically beneficial behaviour (eg Douglas 1978, Landa 1981).

1.3 Game-theory simulation

As computer programming becomes easier and cheaper than archival research, the game approach has tended to reverse into one of theorising first and seeking out historical evidence later. The economy is characterised as an n-person noncooperative game in which traders try out various strategies for trading and/or trading-partner selection - market trade (with the implicit specialisation and transaction-specific investment) being mutually beneficial if both sides indulge in it, but worse than autarky for anyone whose counterparty cheats on the deal. As market trade entails a unilateral cost (investment in producing a surplus of one good and dependence on buying all others) which is richly rewarded if other agents also incur it but wholly unrecompensed if they stick to old autarkic ways, the prisoners’ dilemma (PD) appears an appropriate characterisation of the decision on whether to start producing for the market. This conveniently opens up the question of routes to ‘self-generated’ market transaction to the extensive literature on ways to sustainable cooperation through repeated PD play.

Since the discovery (in principle by Taylor 1987 and in experimental practice by Axelrod 1984) that a 'tit for tat' strategy will sustain mutual cooperation in an infinite repeated game with sufficiently low discount rates, variations on the simulation game have confirmed the basic intuition that pairs of agents who conditionally cooperate - with a credible threat to stop doing so if cheated - can enter a self-sustaining market process. For example, Macy & Skvoretz (1998) show how a small group of 'cooperators' can rise to dominate the economy if able to recognise, and target their dealings at, other cooperators. Harrington (1998) shows that agents constrained to (trans)act in a certain 'fixed' way - eg because committed to offering a particular product due to sunk-cost specialisation - can succeed and spread at the expense of 'flexible' agents not so committed: to do so from an initial minority position requires that 'fixed' agents come off better in an exchange with 'flexible' agents more than half the time, but from a high-enough initial proportion they can prevail even with a success rate below 50%.

1.4 Functionalism. Probably the commonest approach is to explain the continuation of market trade (and supporting practices and institutions) by their wealth and welfare enhancing effects, and ignore the question of how they came into existence. Physical and chemical 'laws' governing the universe can be identified without explaining how the universe came into being, with the 'weak anthropic principle' serving to justify the suggestion that processes had to develop this way in order to generate life forms sufficiently advanced to discover the laws (Barrow & Tipler 1986). Similar principles governing market trade (eg the 'law' of demand and the fundamental theorems of welfare economics) might be identifiable without the origin of markets being explained - with a parallel argument (the weak economic principle?) supporting the idea that things had to develop this way in order for a group of specialist (political) economists to have the numbers, resources and prestige to spell out the principles in the abstract algebra to which they have now been translated.

The counter-case is that social arrangements may have taken their present form by chance, and that a number of different chance arrangements might have comparable survival power. 'Genetic drift' to biologists, 'multiple equilibrium' to those economists who venture to admit the possibility.

1.5 Evolutionary selection. The functionalist explanation can be deepened by hypothesising that a variety of different transaction methods were originally adopted within or between societies, and that market trade (in a virtuous circle with division of labour) won out - squeezing out other types in the societies where it got foothold, and enabling those societies to outgrow and outcompete others which failed to try it. Even if agents initially choose trading methods at random, and never notice the advantages of the market or understand how to adopt it, any chance 'mutation' favouring market trade (eg some agents accidentally alighting on and locking into the cooperative PD game solution) will eventually spread to all trade-linked communities. Diffusion will be faster if agents learn to imitate the early marketeers' trading style, imitating the 'formula for success' whether or not they understand why it works.

2 Main inferences

These different approaches tend to agree on their central conclusions:

2.1 Gradual changeover. The important shift is not a dramatic one from complete individual generalisation to clearcut specialisation. It is an incremental, experimental one from loose division of labour within a small group, whose members exchange the products of specialisation through relational transaction, to detailed division of labour within a larger group, exchanging products through market transaction. People can give up their specialisation, and recover any investments made in it, if the market proves an unreliable or unrewarding way to swap their surplus for the other goods they stopped producing. The possibility of low-cost exit from failed market experiment is assisted by the comparatively small 'transaction-specific investment' involved in early specialisation, reflecting the absent or minimal requirement for non-transferable capital equipment and skills. Early market traders could keep one precautionary foot in the within-group-trading, 'relational' camp.

Conditional entry into the market, using surplus product that the trader can afford to lose, is more likely to generate the means and incentive for a continued move into market-mediated specialisation than unconditional, all-or-nothing entry. China's first ten years of market transition, based on letting rural households trade the surplus after fulfilling their obligations to the state food procurement system, was notably more successful than Russia's first ten years, in which households were forced to choose

between staying wholly within the public sector or moving wholly into market-mediated private activity.

2.2 Voluntary specialisation. People focus on the task they do best, and whose product they judge most likely to be saleable on the market to obtain things they need and no longer produce. Assuming that preference follows productivity, this maximises the social productivity gains from division of labour.

2.3 Success, imitation, diffusion. Once it took hold within a small group, market exchange and the detailed labour-division it supported (plus by the growth of credit and production/exchange-specific investment allowed by nascent capita markets) had a demonstrable effect in raising group productivity and income. This led members of the wider community to imitate the success of market transaction, or to shrink in numerical and wealth terms as the market transactors moved ahead. After diffusing through the communities that first nurtured it, market trade then crossed into other communities, via the 'weak ties' (merchants, bankers, soldiers) who traded on its edge. Gains from international specialisation and trade being, in general, even more substantial than those within groups and nations, it is argued that the market method would have globalised through its imitation by relational-trading communities (or their underperformance relative to market traders, if they stayed with the old non-market ways). Pro-market proponents acknowledge that the new trading style was often imposed by 'gunboat diplomacy' or outright war rather than voluntarily adopted; but this is often presented as a benign use of force to offset feudal and mercantilist regulation, two forms of undemocratic administrative regulation which blocked an early adoption of markets which could have (eventually) promoted prosperity and social mobility when allowed to get under way.

3 Unanswered questions: the within-group to between-group leap

A common assumption behind the explanations cited in section 1, clearest in those invoking game theory, is that agents have enough information to spot those with a track record of fulfilling their side of a market bargain, and to detect and punish any cheating. The theoretical conclusions are thus easy to support with historical records of close-knit communities with strong information-sharing and coordinating mechanisms, but much less useful in explaining how market trading practices could spread outside such communities. They account for the emergence of early-industrial 'relational' transaction much more readily than the generalised, genuinely 'market' transaction characteristic of more recent economic history (and perhaps culminating in the latest 'globalisation' phase). Thus Clay (1997) recounts how the California merchant coalitions broke down when the 1847 gold rush brought a flood of none-too-trustworthy strangers into their midst. Macy & Skvoretz (1998) show that a community of market traders could be wiped out if they extend the same accustomed cooperativeness to another community not so wedded to reciprocal obligation.

Unless the marketeers have a reliable means of checking that strangers understand the rules of exchange, before trading with them, their only hope for expanding the market into new social territory is to set up a demonstration effect which will eventually win over some outsiders to the market way of (trans)acting - the effect then slowly extending as those outsiders are drawn beneficially into trade. "The ability to avoid exchange with strangers protects emergent cooperators from predation and allows them to spread by evolutionary drift until they are sufficiently prevalent that 'xenophobes' cannot compete with discriminating 'universalists'... trust conventions congeal in locally embedded social ties and then diffuse from neighbours to strangers" (Macy & Skvoretz 1998:657). Diechman (1999), specifying trade as a coordination rather than a PD type game, shows that agents converge on the repeated-game cooperative solution more quickly when allowed to observe the strategies played (or payoffs obtained) in games played around them, and use this to inform their next choice of trading partner. But this demonstration that "mobility promotes efficient play in coordination games" (Diechman 1999:109) still relies on strategy or payoff observations characteristic of small, information-sharing groups familiarised by repeat play. The mobility it depicts is limited to incremental ventures into trade with unfamiliar agents at the boundaries of the existing game, with few analogies to the substantial, irreversible leap into trade relations with strangers on which the rise of industrial labour-division is based.

Greif (1994), examining (like Clay) the hiring of agents to extend trade into (by plugging into the local information networks of) distant markets, shows how low-trust 'individualists' could be more successful at exporting their trading system than high-trust 'collectivists', and cites historical support in the greater internationalising success of 17th century Genoese over Maghribi traders. Members of both

communities are assumed to have formed their expectations of potential counterparties' trading strategies on the basis of their closeness to the group they knew, and likelihood of sharing its 'cultural beliefs'. The Genoese merchants, who refuse to share information about which agents they can trust, have to pay those agents more to stop them cheating. But this additional cost of within-group trade is offset by the saving from not having to join (and invest in) the information network; and individualists' greater willingness to hire unknown agents at a premium over known (and trustworthy) agents gives them a greater incentive to reap the extra trade gains made available by voyages of discovery. "Individualist cultural beliefs lead to an 'integrated' society in which inter-economy agency relations are established because they are efficient. Collectivist cultural beliefs create a wedge between efficient and profitable agency relations, leading to a 'segregated' society in which efficient inter-economy agency relations are not established" (Greif 1994:931). Collectivists will have troubled reaping available trade gains even with another group of collectivists, because of the costs of gathering information about them, which individualists don't need.

[The studied value-neutrality of Greif's assessment frays slightly when he also observes that individualism, as well as promoting entry to new inter-economy markets, also incentivises innovation to create new intra-economy markets, the employment of specialist agents (with the benign unintended consequence of upward mobility as these capture their share of trade rents) and formation of firms to improve agents' employment security by spreading risks (with the benign unintended consequence of efficient corporate structures when large-scale manufacturing takes off)].

However, despite the interweaving of model deductions with historical confirmations, Greif's conclusions are only as strong as his model's assumptions: that gains from inter-economy trade are mutual and large; that those with strong relational ties within their community are constrained (by cultural beliefs) to take the same transaction strategy into new, unknown communities; that the long-term payback of collectivists' investment in information about a new community will never make up for the loss of trade (and pre-emptive strike by the individualists) while they await that information; and that individualism has no unforeseen negative consequences (such as the refusal to share scientific knowledge and diffuse new technologies, a danger in the west European system which David (1998) argues was only overcome by a social overriding of pre-Renaissance economic incentives).

A concurrent development of Greif's game theory/history approach to explain the rise of European merchant guilds (Greif et al 1994) risks a similar charge of shaping its deductions through its choice of assumptions. The model 'explains' that rulers allowed merchants to set up exclusive trading groups (guilds), even when under no economic pressure to do so, because self-regulation could provide the honesty-enforcing and information-sharing mechanisms identified by Clay without the threat of property confiscation and opportunistic taxation carried by state regulation. But the model is explicitly specified to rule out reputation-building as a way for the state to impose regulation with a credible commitment not to abuse its power; and to ensure that the state cannot make such abuse pay, by inducing a minority of merchants to break the embargo imposed when it initially cheats them through surprise taxation or confiscation. Harrington (1998), avoiding appeals to history, considers a wider range of game scenarios, but the success of 'rigid' agents in randomised trade - whose behaviour corresponds to those committed to market transaction - depends importantly on an environment stable enough for the chosen 'fixed' action to be and remain best suited to it, and on the winner in the event of a 'fixed' and flexible' agents both making the right move on the current game being the one who made it more often in the past.

In one of the most recent published treatments, Takahashi (2000) acknowledges the restrictions placed on previous game-theory explanations of cooperative exchange. A PD game must go on forever, and take place between agents who play one another often enough to make withdrawal of cooperation an effective punishment for defection (or observe other agents' behavioural history), if cooperation is to be sustained and generalised. Takahashi suggests that 'generalised exchange', stretching outside the familiarised group, can be achieved if agents adopt a 'downward tit-for-tat strategy', playing cooperatively with any agent who was seen to play cooperatively with another agent on the last round. But this again works only incrementally, at the margins of the existing community, so that "for generalised exchange to emerge, a particular fixed network structure must last for a long time" (Takahashi 2000:1112). Willingness to cooperate on first encounter with agents viewed as having been 'fair' in past dealings with others can speed the self-reinforcing adoption of cooperation, but only if everyone uses the same criterion of fairness - a condition that still seems to rely on small-group

socialisation and information-sharing. Transition to generalised exchange without the requirement of shared expectation or perfect information, or a central coordinating authority, requires (as with previous models) the diffusion of cooperation across 'weak links' between close-knit social networks, a process which Takahashi's simulations show to be possible but very slow. "The new model can explain generalised exchange only in a group in which everybody knows everybody else. It cannot really explain other types of generalised exchange, such as helping a stranded driver on a mountain road" (Takahashi 2000: 1116). Or, to take another long-troubling example, bothering to pay after filling up with fuel at a self-service station ones does not anticipate ever using again, an action essential to the maintenance of a market economy but privately irrational in many plausible conditions. Unsurprisingly, Takahashi is left urging "future research on the origin of the sense of fairness" (2000: 1131) which appears vital to the functioning of the generalised market but not something that can be generated inside it.

In summary, recent economic approaches to the origin of market trade are significantly more successful at accounting for the rise of pre-market 'relational' transaction than at explaining how trade relations could extend from community to wider society, ie beyond the social bounds within which information and coordination problems are easily solved without externally-imposed help. Algebraic 'proof' turns to more discursive reasoning, and historical exampling, when it comes to explaining how 'economic man' (and woman) took the first stride into the unknown marketplace. Far from revealing - even axiomatically - a mechanism by which cooperative (including market-trading) behaviour can spread beyond the relational sphere into the 'free' marketplace, recent economic analyses have confirmed the dependence of such cooperation on the rule-making and behaviour-modifying power of social groups. Group membership "both confers benefits and exacts sanctions. This is far more than the mutual extraction of economic surplus by an inherently unstable cartel of the type depicted in the economics of textbooks" (Choi & Hilton 1999:1568).

4 Sociological alternatives

Before the market-based, detailed division of labour, people divided their efforts less intensively within the protection of family or closely-knit social groups. Initially, the transactions required to trade a surplus of the specialist product for required supplies of all non-produced products were small-group (relational) rather than large-group (market). The risk of being stuck with a surplus from specialised activity which could not be exchanged for comparable worth of other products was defrayed by (1) close relations and repeated dealing with other participants in the division of labour, who were thus under economic and social/moral pressures to cooperate through fair exchange; and (2) retained ability to abandon the specialisation and do everything oneself, if such sanctions still failed to induce cooperation.

It is only with entry into a more detailed division of labour, entailing heavy (sunk) investment in physical and human capital for the chosen task and loss of ability to resume abandoned tasks, that the 'extent of the market' required for trading the surplus to regain all the outsourced goods moves beyond the scale in which transaction can be relational. Small-group moral pressures and economic sanctions then cease to be effective. In this light, the decision to enter a detailed division of labour and trade surplus product through markets is still imperfectly covered by game-theoretic models, and difficult to represent plausibly as one of (neoclassical) rational choice. Outside the fairly narrow model specifications, and equally selective historical readings presented in their support, more plausible accounts might well be found from three historical/sociological explanations of the rise of generalised market trade:

4.1 Unintended consequence of self-interested action. People generate a surplus which they try to sell on open markets for profit, not realising that they are thereby entering a division of labour from which the whole society can potentially gain. The process begins with chance overproduction in one activity of an agent still engaged in several, and develops as they discover the extra profit to be made by giving up areas whose productivity/profitability are lower so as to enlarge the surpluses in those where they are highest.

4.2 Intended consequence of altruistic action. Having realised the collective gains that division of labour and market exchange of surpluses could produce, people enter into such arrangements, hoping that others have reached the same realisation and settled on the same course of action. While this might

seem like choosing to cooperate in a one-shot, n-person PD game, and inviting exploitation, there are other ways than naive altruism to rationalise such unconditional cooperation. Returning to the one of the broader-minded of the game models cited above, “The results of these simulations show that we can explain the emergence of pure-generalised exchange even if we do not assume pre-existing altruistic motivation or norm of reciprocity provided that each individual has a sense of fairness” (Takahashi 2000:1127-8).

4.3 Coercion. People don't jump into market transaction, but are pushed. Deprived of the physical capital needed to oversee the division of labour as an industrial owner, or the human capital to retain a 'multi-skilled' portfolio of occupations, most agents have no choice but to take a narrowly specialised job and hope that it yields enough income (and social acceptability) to permit them to buy all the basic-needs goods they no longer produce. Such coercion, by landlords and factory owners, appears to have been a principal cause of the rapid entry into detailed division of labour by former peasants, cottage labourers and urban craftspeople during the rapid migration and mechanisation that became the European (and later American) 'industrial revolutions' (eg Matthias 1983, Hobsbawm 1962).

4.4 Central coordination. The state can be equally coercive in pursuit of rapid productivity-raising division of labour, as subjects of Soviet central planning were later to discover. But this approach to fast industrialisation has generally dispensed with the market. An alternative, non-coercive role for the state is to entice individuals into division of labour, by underwriting the risks - guaranteeing a market in which to sell their specialised products, or a safety-net into which to fall if they prove unsaleable. This, arguably, is what the Japanese government did during its post-1868 and post-1950 (re)industrialisation drives, and could also characterise the attempts by west European 'indicative planners' to speed the adoption of new product technologies in the 1950s and 60s.

In game theory terms, governments tried to change the payoff matrix from that of PD to the less demanding 'assurance game', in which cooperation is best for everyone provided everyone adopts it, there being no gains from cheating while others cooperate. A sufficiently benign central ruler can coordinate the move to cooperation, or at least allow individuals to cooperate experimentally without risk, by underwriting any sunk investments involved in so doing. In one of the few detailed studies of the emergence of a free market, Sologne strawberry growers launched into competitive trade using warehousing, administration, information technology and auction procedures provided by the Regional Chamber of Agriculture (Garcia 1986). [In one of the clearest demonstrations of how mainstream theory can fulfil its own expectations, Garcia presents this market as the deliberate creation of a Chamber official fresh from a college course in neoclassical economics].

5 An evolutionary corrective: unruly parts can unsettle the whole

Of the many paradoxes raised by recent 'mainstream' market-economy analysis, one is especially relevant to the question of how markets began. This is the near-inevitability of market-mediated exchange when modelled at the micro level, and its near-impossibility when viewed from the macro level.

When analysing the assumed triumph of Anglo-American 'market' over German/Japanese 'relational' capitalism, neoclassical economics points to efficiency and private-profit advantages of the market-based version which make its generalisation inevitable once governments dismantle the regulations and protections that sheltered the relation-based version. Thus shareholder-dominated, profit-maximising firms are held to have systematically outperformed alternative corporate types (managerial, stakeholder, cooperative etc firms) within deregulated economies, and those economies are held to have outperformed regulated economies in which the other corporate forms have somehow survived. But when assessing (after the event) the difficulties of Eastern Europe's former centrally-planned economies in moving (back) to market transaction, the same analysis points to markets' reliance on institutional, legal and social features whose underdevelopment in the 'transition' region makes generalised market trade extremely difficult to initiate and sustain. Private profit maximisation emerges as economically and socially harmful when unleashed on an economy which lacks long-established institutional features such as (respect for) private property, stable currency and credit instruments, effective contract-enforcement and bankruptcy laws, and transparent financial markets.

The market's efficiency advantages are seen as arising from appropriate financial incentives: to employ labour and resources in their best uses, to compete away monopoly profit, to reduce costs through process innovation and create new markets through product innovation. These actions make use of localised information and insight whose assembly by any central decisionmaker would be infeasibly costly in terms of money and time, and would lead to misallocation because such central decisionmakers would maximise their own welfare instead of that of society (the 'Austrian' critique of central planning). Coordination by non-state institutions is dismissed as similarly inefficient, in all but a small number of cases where joint action by private profit-maximisers cannot internalise externalities or surmount collective-action problems (such as the optimum provision of public goods).

The main barriers to efficient, self-sustaining market transaction are seen as arising from absence of the trust that engenders respect for 'reciprocal obligation' without formal rules and regulations, and absence of neutral institutional structures which can enforce such rules and regulations formally. If people live in fear of having their debts dishonoured, their property seized by others or the state, their profits siphoned off by protection rackets and their ideas stolen without respect for intellectual property rights; and if there is no judicial system which can efficiently and reliably correct (hence deter) these abuses of commercial freedom, then market trade will not take hold however privately and socially desirable the theory declares it. The extent of the market, and hence division of labour, will be confined to the subset of transactions which can be contained within networks of family, friends, and others whom the transactor personally knows and trusts.

Why should 'market' transaction prevail over 'relational' or 'administered' transaction so readily in the deregulated capitalist world, but be so easily overpowered by them in the ex-communist world? This is not simply a real world recurrence of the contrasting within-group/ between-group diffusion speeds highlighted by game models, since the substantial between-group differences within the capitalist world (eg Albert 1993) and the ex-communist world have been well documented. The paradox can, however, be resolved if evolutionary selection in the economy is assumed, like that in biology, to be confined to the individual level, even if group-level selection could bring better outcomes for society as a whole.

In biology, a favourite illustration is of altruistic behaviour. A group's survival chances would improve if individual members were willing to sacrifice themselves on its behalf. But if there are any non-altruists in the group, these will share the benefits of such self-sacrifice without sharing any of its number-reducing costs. A trait that would be good for the group is thus eliminated by individual selection - except in the special case of social insects, whose sterility prevents "genetic competition among the cooperators" (Campbell 1994:24). For all other animals, the absence of any mechanism to share (and process) information revealing certain self-sacrifices to be collectively beneficial, or to coordinate a move to such group-advancing behaviour, keeps selection myopic across space and time. This appears to include the human animal, when the 'sacrifice' is the unilateral investment in specialisation for market trade, and when there are no pre-established social mechanisms for spreading information and promoting/coercing coordination.

However, biological and economic evolution can be equated in this way only if the construction of such social mechanisms is ruled out. Although sociobiology tries to muddy the distinction, biological gives way social (cultural) selection as soon as people become able to view their situation, and coordinate their action, from the group level. Behaviour which improves the collective situation (and thus, with suitable (re)distribution, each individual situation) can be achieved through convention or institutional intervention - across space by persuading or forcing people to adopt group-promoting actions (the greater good), and across time by preserving and reviving actions which failed at time of invention but could work for the best in subsequent states of the social environment (the later good). By imposing action for the greater or later good, or inducing it through appropriate modification of individual choice sets (aims/available actions/anticipated results of actions/evaluation of those results), groups can effect a move to reciprocal cooperation which does not depend on the restrictive conditions needed for win-win resolution of a repeated PD game.

When groups come together, however, they become individual members of a larger group. In the absence of overarching information-sharing and action-coordinating mechanisms, individual-level selection returns, and weeds out those groups whose rules dispose them to 'reciprocal altruism' towards other groups. A company which produces for the market in a land without reliable contract law is likely to be robbed; one which invests in the absence of private property protection risks expropriation.

Within the 'world' community, a country which trades off low private wages against high social wages (eg via generous state subsidy to education and healthcare) in the absence of international income-redistribution mechanisms invites exploitation by foreign multinationals; one which runs down defence spending to promote physical and social capital accumulation in the absence of international détente risks expropriation by foreign invaders.

The same mechanisms which promote rapid spread of cooperative behaviour (including investment in market transaction) within a group will, if absent at higher level, block its spread between groups - and, conversely, risks its destruction within the group by exposing it to external overthrow of its informing and coordinating rules and institutions. The past fifty years of 'globalisation' have brought repeated examples of advances achieved by group-level selection under a benign administrative framework being thrown into reverse by individual-level selection imposed on the group when it becomes one 'player' in a wider administrative community. East Asia's 1997-9 crises over external debt, whose forced swapping for equity undermined its once-admired corporate governance arrangements, is perhaps the most spectacular recent example. Contemporary with it, and perhaps even more significant in the long run, is the disintegration (under OECD deregulation) of large company structures permitting redistribution or rewards across space and time, in favour of value-maximising profit-centre networks under constant shareholder pressure to reward individual achievement and push up profits without any pausing for strategic reorientation (or re-engineering rest).

6 Conclusion: Are the criticisms realist?

If correct, the case presented here against 'mainstream' explanations of market emergence, and the suggested resolution of the market inevitability/market fragility paradox, are arguments in favour of critical realism. Game theory, despite its impressive annexation of older historical perspectives on the rise of markets, cannot account for the transition from intra-group to between-group trade without invoking some mechanism (such as shared sense of fairness) to impose common expectations or information across groups, or some much vaguer analogue to 'genetic diffusion' between them. In contrast, social rule-setting and institution-building - rarely reducible to repeated-game outcomes - provide an explanation for the emergence of labour division and market trade - as coordinated and/or imposed by legal and corporate structures - which both explains the shift from intra-group 'relational' to inter-group 'market' trade and accords with historical records. The general absence of such rules at international level - except in the case of painstakingly-constructed blocs such as the USA, EU and (perhaps) OECD, can also help to explain why market mechanisms sustained within a group have so often proved impossible to extend to wider groups, especially once these cross over national boundaries - and why some attempts to widen the 'game' have resulted in reversion to mutually-destructive behaviour even by those who were previously successfully playing it.

The interventions that shift individual behaviour away from immediate self-interest towards the greater and later good - and that thereby permit group-level (social/cultural) selection to transcend the limits of individual-level (biological) selection, form an important part of the underlying 'structures, powers, mechanisms and tendencies' (Lawson 1997:20) to which critical realism draws attention and which mainstream (neoclassical) economics has studiously ignored. Neoclassical partial-equilibrium (Marshallian) analysis concerns itself with the surface phenomena of prices, quantities and adaptive expectations. Neoclassical general-equilibrium (neo-Walrasian) analysis does implicitly acknowledge underlying structures (rational expectations, 'centres of gravity', but keeps them in the theorising mind of the economist (and ascribes them to representative agents, or an auctioneer) as a substitute for rooting them in (and below the surface of) the real economy under study (Shipman 2000).

For once, a much-reinterpreted keyword is revealing. The structures brought back into play by critical realism reconnect economics with the deep structures of Braudel, the epistemes of Foucault, the generative grammar of Chomsky, and other older or wider, social or psychological forces which inform or enforce departures from individual 'rational' choice. Giddens' structuration theory and Bhaskar's transformational model have a similar role in providing explanations for the emergence of structures that cannot be reasonably reduced to repeated game-play (as Lawson (1985) signalled at the outset of his crusade).

But this effort to bring the more 'socialised' social sciences (back) into economics runs against a more powerful counter-current, as neoclassical economics exports its individual-maximising view of equilibrium and bio-evolutionary explanations for adjustment towards it (or development along the equilibrium growth path). Already Foucault has been acclaimed as an ally of pragmatism (eg Rorty 1999: 47,128), and Chomsky (bizarrely in view of his well-publicised political views) accused as an ally of genetic determinism (eg Lieberman 1998:10-11). Reality and the underlying structures that condition it, lacking immediate empirical accessibility, are at constant risk of being (inductively) overlooked by superficial observation or (deductively) supplanted by deep thought. Mainstream accounts of the emergence of markets illustrate both tendencies, as well as showing how skilfully neoclassical analysis has learnt to theorise its observations of the surface as a substitute for probing underneath.

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