Poverty Traps: a Perspective from Development Economics

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Abstract

The concepts of coordination and cooperation are widely used in economics, and particularly in game theory. They were also at the foundation of development economics at the time of WWII, with Paul Rosentein-Rodan highlighting the existence of intersectoral spillovers effects, multiple equilibria and underdevelopment traps. These concepts returned to the forefront of development theory in the 1970s with the notions of coordination failure and poverty traps, as well as the research on social norms. One example was Samuel Bowles' seminal concept of 'institutional poverty traps', of highly inegalitarian institutions that persist even though they are inefficient. Membership institutions are of particular relevance in development economics. Firstly, it is argued that institutions and norms are key causes of the formation and persistence of poverty traps. Institutions and norms are complex cognitive devices, some beliefs and norms appear to be particularly resilient and difficult to revise. Secondly, it is shown that no particular institution is ex ante a cause of traps: the same institutional forms can be efficient or inefficient. It is the combination of multiple elements – economic and political environment, and social norms - that create thresholds effects and entrap groups into low equilibria. Thirdly, it is argued that the norms that organise group membership, because they involve beliefs that are difficult to revise, are typical factors of poverty traps. The paper firstly examines the literature on poverty traps and then explores the cognitive dimension of coordination failures and institutional traps. It reveals that local institutions in developing countries may be efficient and examines the conditions in which norms create poverty traps, particularly in the case of membership norms.

Introduction

The concepts of coordination and cooperation are widely used in economics, and especially in game theory. They were also at the foundation of development economics at the time of WWII, thanks to Paul Rosenstein-Rodan, Gunnar Myrdal, and Albert Hirschman. Paul Rosentein-Rodan explained underdevelopment through the concept of intersectoral spillover effects and Hirschman through that of linkages, the absence of these underpinning the formation of underdevelopment traps. Spillover effects could account for the existence of multiple equilibria with some being inefficient ('under-development equilibria'). For development economics after WWII, markets alone could not achieve the coordination mechanisms that are necessary for development.

After a period of eclipse the concepts of coordination and cooperation came back to the forefront in development theory thanks to concepts from different theoretical origins, such as coordination failure, poverty traps, lock-in, interaction of externalities and cumulative causation. Since the 1970s, development economics has also increasingly adopted concepts from institutional economics and the research focused on social norms, and explored the endogeneity of the formation, persistence and stabilisation of institutions, norms and beliefs. Samuel Bowles has built the seminal concept of 'institutional poverty traps', which emphasizes that coordination failures and poverty traps are induced by the presence of specific institutions. Bowles defines these as institutions that generate "highly unequal divisions of the social product" (Bowles 2006). There are many examples of such institutions whatever the country and the level of development, but those that institute membership via kinship or exclusionary political institutions based on oligarchies, patronage or dictatorships are of particular relevance in development economics. These highly inegalitarian institutions do not seem to exhibit particular advantages, for example in terms of efficiency. The understanding of their resilience in terms of evolution therefore remains a difficult issue.

Firstly, it is argued that poverty traps exist and account for the continued existence of poverty in low-income income countries, and that institutions and norms are key causes of their formation and persistence. Institutions and norms are complex cognitive devices, which simultaneously result from specific contexts and include a series of intrinsic properties. Some beliefs and norms appear to be particularly resilient and difficult to revise.

Secondly, it is shown that no particular institution is ex ante a systematic cause of traps: the same institutional form may be efficient or inefficient. As revealed by examples from low-income countries (such as most sub-Saharan African countries), it is the combination of multiple elements that may create thresholds effects and entrap groups into low equilibria – economic elements (such as an environment of widespread poverty, commodity dependence), political (predatory regimes) and local social norms. Thirdly, it is argued that the norms that organise group membership, because they involve types of beliefs that are particularly difficult to revise whatever the empirical observations, are typical examples of negative effects of norms and processes leading to poverty traps.

The paper is organised as follows. Section 1 presents some key analyses from the literature in development economics regarding coordination failures, the emergence of institutions and poverty traps. Section 2 shows that the understanding of coordination failures and institutional traps, as well as of their stabilisation, is refined by cognitivist approaches, and which explain how institutions and norms contribute to the formation of traps. Section 3 reveals that local institutions and norms in developing countries do not necessarily lead to coordination failures and traps, and are adaptive and efficient responses to the environment. Section 4 examines the conditions for norms to create poverty traps, which is developed in section 5 on the particular case of membership norms and their combination with adverse economic environments.

1. Coordination failures, poverty traps, institutional poverty traps: what development economics says

Multiple equilibria, increasing returns and poverty traps

The concepts of multiple equilibria or ‘traps’ have been explored by Arthur (1989, 1994a), though, as argued by Paul Krugman (1998), he cannot be viewed as the first theorist of increasing returns – Avinash Dixit or Joseph Stiglitz having developed in the

1970s theoretical models of ‘monopolistic competition’, i.e. competition under conditions of increasing returns. Brian Arthur, however, contributed to its popularity, as he modelled a series of concepts that are now commonly used in economics, e.g. the concepts of increasing returns and positive feedbacks, path dependence, “lock-in by historical small events”, self-reinforcing mechanisms, multiple equilibria, and cumulative causation, with the possibility that some equilibria lock in economies in processes that are detrimental for growth.

As underscored by Kenneth Arrow in his preface to Arthur (1994a), others before him had emphasized the importance of increasing returns in economic growth, such as Allyn Young in the 1930s and Nicholas Kaldor in the 1950s. For Arrow, it is Arthur, however, who insisted on the dynamic nature of increasing returns and positive feedback processes, as well as their stochastic character, i.e. the existence of random deviations from long-run tendencies: hence the possibility of a multiplicity of long-run states depending on initial conditions and random fluctuations, and of ‘specialised’ outcomes (e.g. in geographical terms). A key implication is that for Arthur individual learning, experience, and the perception of success may lead to the reinforcement of some processes, such as the transmission of some information at the expense of others: this locks individuals in inefficient behaviour. Another implication is that even with suitable initial conditions the same mechanisms can lead to either optimal or inefficient equilibria.

As is well-known, the notions of lock-in (e.g. by technological choices) and positive feedback were used by Paul David for the elaboration of the concept of path dependence. David acknowledges his debt towards Arthur. In David (2000) he takes stock of the concept of path dependence, in defining it as phenomena that have the dynamic property of non-ergodicity in stochastic processes (i.e. not having the “ability eventually to shake free from the influence of their past states”), and which, beyond the observation of market failures and inefficiencies, imply the existence of winners and losers. Referring to Arthur (1989), David (2000, p. 10) defines the ‘lock-in’ as the “entry of a system into a trapping region” - the basin of attraction that surrounds a locally (or globally) stable and self-sustaining equilibrium. A dynamic system that enters into such regions needs in order to escape from it external forces that alter its structure (a notion that will be used in early development economics for justifying state intervention). Locked-in equilibria may be optimal or detrimental, but David emphasizes the key point that whatever the equilibrium, individuals are happy doing something, "even though they would be happier doing something else if everybody would also do that other thing too", because of incomplete information prevent them to coordinate and "move elsewhere collectively". Alternatives paths are possible, however, and path dependence does not mean determinism.

This allowed for the emergence of the concept of 'poverty traps' as a product of bad policies, such as insufficient trade openness, or of bad initial economic conditions (e.g., savings rates depending on the level of per-capita income, or credit market imperfection and borrowing constraints, as in the model by Banerjee and Newman 1994). Azariadis and Drazen (1990) highlighted the possibility of 'low growth traps' or 'underdevelopment traps', i.e. of multiple and stable equilibria for economies exhibiting similar initial conditions, which they explained by the existence of 'threshold externalities' created by increasing returns in the accumulation of human capital. Azariadis (1996) examined the reasons why similar countries do not converge to the same steady state. He identified many possible causes of poverty traps, such as having a subsistence consumption, limited human capital, demographic transitions when fertility is endogenous[1] and political economy problems such as coordination failures among voters. Exploring later non-ergodic growth theory, Azariadis (2006) put more emphasis on 'misbehaving governments' and incomplete markets, the determinants of poverty traps among others.

The concept of trap has been enriched by Steven Durlauf with a spatial dimension, which as also suggested by Benabou regarding the reproduction of inequality[2], itself strengthened by self-reinforcing processes of low level of education, poor schooling infrastructure, low levels of taxes and limited supply of public goods. The decision for an individual to acquire an education strongly depends on the prior existence of other educated members in a group. This interdependence of behaviour induces 'neighbourhood effects', which generate different types of groups that have different steady states (with/without educated members). This interdependence and social

[1] The lack of demographic transition in Sub-Saharan Africa, in contrast with other parts of the world, is indeed a key dimension of the poverty trap of this region: e.g., in Uganda in 2006 is still seven children per woman.

[2] E.g., Benabou (2000) on the difference between the US and Europe.

interaction may be intertemporal, i.e. it affects future social interactions. The dynamics of these combinations explain persistent income inequality: in Durlauf's (1996) model they create incentives for wealthier families to segregate themselves into economically homogeneous neighbourhoods. Economic stratification combines with neighbourhood effects: their reciprocal feedback transmit different types of economic status across generations. These processes also explain the persistence of poverty in particular areas (such as American inner cities) (Durlauf 2003). It is this concept of neighbourhood that for Durlauf allows for the understanding of why poverty traps exist and persist. Poverty traps are here defined as a community that if composed initially by poor members, will remain poor over generations. Persistent racial inequality had been explained with similar concepts[3]. Durlauf indeed views ethnicity as "a sort of neighbourhood in social space" (Durlauf 2003, p. 5).

Coordination, institutions, markets and growth

Mechanisms of coordination, as is well-known, are core concepts of game theoretic approaches. Co-operation can be sustained as an equilibrium in indefinitely repeated games. Reciprocity explains coordination: for example, a concept such as the 'social contract' is enforced by nothing else than the 'enlightened self-interest' of the individuals who consider themselves as part of it, hence working by consent and agreement to coordinate on an equilibrium. These agreements are self-enforcing and do not require other enforcement mechanisms (Binmore 2001, p. 214). Prisoner's dilemma games with repeated interactions show that effectiveness and enforceability of norms of cooperation result from the repetition of interactions.

The well-known studies by Axelrod (1984) have also revealed that cooperative behaviour is advantageous if two people are repeatedly in a prisoner's dilemma situation, as they learn to know each other after a few interactions and can coordinate their behaviour. The repeated prisoner's dilemma is a formal representation of a collective action problem that occurs when individual interests take preeminence over the collective welfare of a group. Axelrod identifies the conditions of the emergence of cooperative behaviour in the absence of central enforcement, i.e. of a 'spontaneous'

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[3] For example by several studies by Loury, a review is in Loury (1999).

order. For Axelrod, cooperation is possible in equilibrium when players do not take account of the game's end and cooperation is only one of other possible outcomes of the evolution of the game, and which generates threshold effects. If groups are not closed and densely linked – if the time to the next interaction with an individual is expected to be far into the future (as in large groups, urban settings, markets, etc) – there is less payoff in cooperative behaviour (Axelrod 1984). Moreover, if boundaries and closure of groups are loose – if there is discounting of the future payoffs – a defect strategy will escape sanctions and dominate all others[4]. Below a certain threshold (that depends on multiple variables, small number of defectors, repeated interactions), norms can be enforced; above this threshold they cannot and societies disaggregate or polarise in social fragmentation.

Institutions and their interdependence have been analysed as an equilibrium outcome of a game by Aoki (2001): the rules of a game can be endogeneously generated and be self-enforcing through the interactions between individuals. Game-theoretic models show that solutions and equilibria are multiple, with institutional change being the selection of one equilibrium from many possible ones and which may be sub-optimal. For Aoki, the question of enforcement leads to analysing the design of institutions that can implement given social goals in a manner that is compatible with the incentives of the players – according to a self-enforceable or an enforcement mechanism (Aoki 2001, p. 6).

Cooperation is difficult to predict and fluctuates, and despite a vast literature there is no guarantee that cooperative behaviour would increase with evolution. Simulation games, for example, suggest that individual rationality alone is not enough for consolidating cooperation and preventing instability (Muller 2000). In the small hunter-gatherer or agrarian societies that preceded industrial societies, sets of institutions and norms ensured cooperation: this is the case of kinship norms that are inherently economic institutions (regulating exchange of individuals and goods) and political institutions that ensure cooperation in establish statuses and hierarchies among members (e.g., gender, age) and allocating rights (of property, access, among others) on individuals and goods. Rights have evolved with changing environments, e.g. the rights in individuals shifted

[4] Muller (2000).

towards rights in goods, such as land (Feeny 1989): state norms and the enforcement of cooperation by states emerged as particular historical trajectories[5].

Game theoretic approaches of institutions, however, have limitations, in particular regarding the issues of contexts, functions and contents. Institutional economics has analysed economic performance in terms of coordination, the approach of Douglass North being canonical with concepts such as transaction costs, and with institutions defined by their function in reducing these. For North, institutions enable one to understand the determinants of growth and the divergence between societies. From the perspective of development, small societies in developing countries are viewed here as characterised by low transaction costs. Growth results from the tradeoffs between low transaction costs in small-scale peasant societies but with limited division of labour and high production costs, and economies of scale provided by market, which stem from specialisation but generate high transaction costs and opportunities for free-riding (North 1990, 1991).

Rules of human behaviour evolve without conscious intentionality, they persist without explicit devices for enforcing them and may evolve according to a ‘spontaneous order’ (Sugden 1989). Norms emerge as endogenous outcomes of repeated social interactions; they are self-enforcing devices of cooperation in order to prevent opportunistic behaviour, for example, as demonstrated by the well-known studies by Avner Greif of individuals who operated in separate spaces, such as the medieval Maghribi and Genoese traders (Greif 1989, 1992, 1993). A third party such as the state is unnecessary here. In repeated exchange, norms are enforced by reputation, as shown by Greif, North, Weingast, and Milgrom, North and Weingast (1990) in their study of ‘law merchants’ in medieval France: the latter had the two functions of providing information and enforcing contracts through sanctions, including reputation. Private intermediaries may be recognised as able to provide information and inflict punishment via reputational effects.

In the ‘real life’ of developing countries, trust emerges from repeated exchanges and is a rational strategy, as underscored by Geertz (1978): in the ‘bazaar economies’ that

[5] Tilly (1990) on war as the determinant of state formation in Europe; this has been a key debate in anthropology, for example exemplified by the theses of Marshall Sahlins.

adequately describe many developing countries, with high search cost regarding information, and in the absence of a state, reputation and trust are key devices for building coordination. At the cognitive level, there is a memory and a recognition of a past interaction that assigns a feature to an individual, which eases the transaction ('trustful' or not). Trust here is a complex concept as it is both a cause and an effect of repeated exchanges; it is based on reputation and reputation also stems from the repetition of observation of someone's behaviour over time. As emphasized by Dasgupta (1988), reputation is an asset. There may thus be investment in it, which may bring future gains including acting as an insurance in the case of an income shock. Institutions may also invest in reputation. It may be argued that in developing countries reputational effects may be stronger, due to larger information problems, compounded by lower levels of literacy and lesser use of writing.

The issue of enforcement (self-enforcement or external party) in cooperative behaviour is especially pertinent in contexts of 'lawlessness', i.e. where no state or official legal system exists to enforce contracts, a situation which characterises many developing countries. A model built by Dixit (2001), which uses a repeated prisoner's dilemma game and with information about cheating not being adequate to sustain cooperation, shows that it would not be socially optimal to replace the state by a private agency based on profit-maximising and which would supply the information and enforcement. Enforcement in developing countries may be achieved by many types of agencies and for any social interaction (and not only by mafia-like groups of enforcers and for only commercial transactions). This may be achieved by specific beliefs, considering that unobservable entities may be agents of sanctions against the breach of social norms (religious entities, 'witchcraft'), which typically act as coordinating and exchange facilitating devices and contracts enforcers in peasant societies.

Coordination failures and poverty traps as the factors of underdevelopment

The concepts of coordination and cooperation returned to the forefront in development theory thanks to economic concepts of varying theoretical origins, such as coordination failure, contracts (labour contracts), interaction of externalities and cumulative causation. So-called 'heterodox' economists used the concepts of cumulative causation and path dependency in order to explain economic stagnation and answer the question as to why some economies seem unable to trigger the virtuous process of catching-up[6].

Coordination is of particular necessity in the early stages of development – in agricultural contexts, in situations where capital is lacking, and poverty, as it reduces costly competition. This was highlighted by the first development theorists after WWII – e.g., Gunnar Myrdal, Albert Hirschman and Paul Rosenstein-Rodan (1943) – with the notion of spillover effects, linkages and complementarities. For Rosenstein-Rodan, spillovers induce increasing returns to an activity proportional to the number of others who undertake the same activity or complementary ones. Their absence explains multiple equilibria and the formation of underdevelopment traps. This was the justification of the role of the state at the early stages of development, as the entity most able to reallocate factors and resources across markets. Coordination failure implies that markets alone cannot achieve the coordination that is necessary for triggering the process of development (Adelman 2000, 2001). As emphasized by Karla Hoff (2000) in her re-examination of Rosenstein-Rodan, market forces do not necessarily lead from the lowest equilibrium to the best one. All studies emphasized the endogeneity of low equilibria, coordination failure and poverty traps self-enforcing themselves.

These views are criticised by neoclassical economics, as exemplified, e.g., by international financial institutions and theories of rent-seeking in public institutions that view market forces as more efficient mechanisms for growth, as well as institutional economics and positive political economy, for which the state may make confiscatory demands (the ‘grabbing hand’) and fail to credibly commit (which has often been the case in developing countries). As underscored by Bardhan and Udry (1999), there is a consensus that the state has a necessary role in developing countries because it is better able to provide macroeconomic stability and a credible legal structure and secure property rights; state capacity, however, may be endogenous to the level of economic development. In the context of imperfect information and incomplete markets that characterise early stages of development, coordination failures are likely, especially in decision-making regarding investment: the state therefore plays a crucial role as a coordinator.

[6] As in, e.g., Kaldor; a complete review is in Toner (1999).

The existence of poverty or underdevelopment traps and their determinants – economic, political, institutional - is therefore a recurrent question in development economics. Different patterns of growth and convergence clubs have been highlighted in the literature on global inequality (for example Pritchett 1997, 2000 who found patterns of growth similar to 'hills', 'plateaux', and so on). Cross-country econometric exercises have also highlighted multiple equilibria that would explain the income gap between rich and poor nations and the existence of low output equilibrium[7].

In many developing countries the implementation of decades of reforms, such as trade openness, appears unable to tip countries out of the trap. The effects of the bad reputation of governments and the low trust in their commitments are a possible explanation, both at the domestic level – signalled by high capital flight – and the international level – signalled by low levels of FDI and perceptions of high-risk, as in Sub-Saharan Africa (Collier and Patillo 2000). International financial institutions (IMF and the World Bank) and international agreements therefore claim to act as substitutes for the deficit in the reputations of low-income country governments and provide an external lock-in device with positive effects, i.e. credible commitments that enhance the policy credibility of failing governments (as may do multinational firms' FDI) (Rodrik 1995).

Recent papers have argued that the concept of the poverty trap, as it refers to countries or groups of countries, is mostly a fad that is promoted by heterodox economists and agencies such as UNCTAD. Kraay and Raddatz (2005) thus tried to show the weakness of the argument of unfavourable initial conditions (e.g., savings) and argue that poverty depends on policies (in coherence with the line of an institution financing in exchange for policies such as the World Bank). Easterly (2005) similarly denies the pertinence of the concept of poverty trap for explaining the situation of the least developing countries, and consequently the necessity of 'big push' policies (such as massive aid inflows). These countries may grow, even slowly.

The concept of poverty traps, however, may be understood as a relative concept. Even if the poorest countries, as in sub-Saharan Africa, do grow this does not refute the fact that they are caught in traps. Specific market structures create traps relative to other

[7] For a quarter of the world's economies, Graham and Temple (2006).

countries and in a global context. Commodity producing countries, which most often rely on one or two exported primary products, may grow because there may be a demand for their product (oil, copper). They remain, however, caught in a trap, as global demand is boosted by technology intensity[8]. The price of the products is structurally volatile and determined by external demand over which domestic government policies have little control, which prevents diversification, risk-pooling and sustainable long term growth strategy.

2. Cognitive dimensions

Multiple equilibria generated by norms and beliefs

The concept of multiple equilibria can be better understood when conceived as processes that also include cognitive dimensions, and in particular the cognitive dimensions of institutions and norms. These cognitive dimensions of institutions are multiple because they involve mental representations, rules and behaviour, which themselves involve multiple cognitive levels that moreover have indirect relationships among themselves: beliefs, language, action, perception, emotions, and so on. Institutions result from composite sets of beliefs, which themselves exhibit multiple forms and contents, and which 'compose' with others forms and contents because of intrinsic properties and in response to change in the environment (Sindzingre 2006a). Aggregated causalities involving broad concepts – e.g., the institution or the norm X causes the economic phenomenon Y, such as growth – grossly simplify the processes at stake.

The reflections of North indeed evolved towards an understanding of institutions that include cognitive constraints and the possibility of punctuated equilibria, with multiple equilibria being able to be generated by norms and beliefs (North 2005). Evolution through individual learning from the observation of the physical environment does not explain the whole of belief formation. The mind is equipped to use unobservable causes in order to make inferences on personal events (e.g. personal misfortunes) that will be

[8] This is argued in most studies by UNCTAD or UNIDO.

relevant for a given individual (North relies on, for example, Boyer 2001). Traps may therefore also be ‘cognitive traps’, as coined by Egidi and Narduzzo (1997). Norms on the one hand and psychological states, representations and routines on the other are mutually reinforcing and may generate poverty traps: norms perpetuate themselves as they are mental representations and cognitive routines, and because learning processes are costly for individuals, and become ever more costly as beliefs stabilise. For Denzau and North (1994) these processes are a key factor of path-dependency and persistent differentiation in mental models and behavioural rules.

In his theory of social interactions, Durlauf argues that the crucial point is that individuals are influenced by choices of others, according to feedback loops from past choices of some people to future choices by others. Behaviour has to be understood at the level of a population rather of a single individual, and therefore in considering the impact of externalities on interactions among this population. The interdependence of social interactions between individuals induces non-linearities and multiple equilibria – because individual choices have a random component – or when they respond to a shock (Durlauf and Young 2001, Blume and Durlauf 2001). Multiple equilibria may result, for example, from the beliefs that individuals have about what others will do within given membership groups, and depend on the incentives to behave similarly to others, which may create discontinuities - Brock and Durlauf (2005) use the metaphor of ‘phase transitions’. This approach is close to what Hoff (2000), in her assessment of Rosenstein-Rodan’s theses, coins as an ‘ecological’ perspective of development, which views that the influences from others are critical determinants of outcomes. In addition, the fact that “many interaction effects are not mediated by markets” is a characteristic of many developing countries.

The importance of cognitive processes is strengthened by Durlauf’s ‘membership theory’. Durlauf (2002) argues that group membership means the attribution of characteristics to an individual by other members of a society. These attributes may be internalised by the recipient. If these attributes are negative – for example, prejudices – beliefs of outsiders constitute a given group and become beliefs held by that group. Endogeneising beliefs emphasises how beliefs may so often perpetuate poverty. This is shown by the well-known example of the normative construction of race that induces an internalised stigma with inhibiting effects on individuals (on African-Americans, Loury 2001).

At the aggregate level, interdependent beliefs may impact on growth. Caplan (2003), for example, explores the intuition of an idea trap that would explain growth divergence, even if governments pursue ‘sound economic policies’. His model highlights positive feedback from growth to ideas, which gives rise to multiple equilibria. In the equilibrium of the ‘idea trap’, bad growth, bad policy, and bad ideas mutually support each other; better policies would work, but are endogenously unlikely to be tried.

Expectations greatly contribute to the reinforcing of traps. Mental representations may be fed by perceptions of having no rights, of having lower status. In particular, prospects for social mobility create differences in assessments by individuals of their situation: if individuals perceive their society as enjoying high social mobility, the fact that they are poor does not imply for them that they will be poor in the future. This had been shown by Alesina and La Ferrara (2001) in the case of the US and Alesina et al. (2001) as an explanation of the differences in perceptions of happiness and inequality between American and Europe (beliefs in mobility, deserving wealth, fairness vs. aversion for inequality). Individuals perceive their situation depending on beliefs about the nature of the worlds in which they evolve, e.g. whether it is ‘just’ and that individual effort is rewarded (as opposed to, e.g., assets provided by birth, kinship, and the like) (Benabou and Tirole 2004a, Alesina and Angeletos 2003).

Why would some norms and beliefs stabilise?

Norms emerge from repeated behaviour, while norms endogenously channel and shape the types of behaviour that may be repeated. Norms coordinate behaviour via various payoffs (including conformity, minimising the costs of deviant behaviour) and sanctions. If the outcomes of these stabilised rules are the expected ones, the equilibrium with trust in rules persists. It may happen that trust is broken, not only in individuals but also in rules, which allows for the experimentation in different behaviour; the latter may stabilise (or not) and allow for a change in norms. For an institutionalist economist such as Greif, institutions and rules of behaviour differentiate themselves, evolve and stabilise as response to specific contexts and histories. This is what he emphasised in his distinction between 'collectivist' and 'individualist' societies with the examples of the medieval Maghribi and Genoese traders and their different institutional trajectories (Greif 1994, 2006).

The concept of self-reinforcement, however, mobilises cognitive mechanisms that need to be explained. The concept of lock-in likewise entails cognitive processes. A key one is the asymmetry between the formation and the revision of beliefs, and the psychological expressions of bounded rationality that have been examined by the various theories of mental models in cognitive psychology or economics[9]. Thus, in contrast with institutionalist views *à la* Greif that emphasize the influence of contexts in the formation of incentives, beliefs and behaviour, other approaches focus on the cognitive processes that influence the formation of institutions and norms.

Norms include sets of beliefs but are not just beliefs: they are meta-beliefs or meta-representations. They are representations with a deontic form, instructions on representations and specific behaviour (Sperber 2000). Searle (2005) thus views the 'status functions' of institutions and their deontic dimension as constitutive of human societies; this deontic dimension stems from the power that institutions allow (rights, obligations, permissions and so on).

Furthermore, certain categories of beliefs appear difficult to revise. Cognitive mechanisms make it so that individuals tend to deny that these beliefs may be biased, as in the case of social discrimination. The asymmetry between the formation and revision of beliefs has complex explanations in philosophy or cognitive psychology. It has been explained by 'cognitive inaccessibility' (Camerer et al. 2005 on 'neuroeconomics'). The fact that beliefs are difficult to revise and hence stabilise certain categories of behaviour is crucial: indeed it is one of the causes of the 'institutional poverty traps' elaborated by Bowles, defined as the institutions that generate 'highly unequal divisions of the social product'. For Bowles, the key question is how these institutions are able to persist in time despite their inefficiency.

Certain sets of beliefs are particularly resistant to revision whatever empirical observations may be, a key example being the beliefs that organise group membership and affiliations (kinship, territory, religion, etc). Any empirical observation, because it

[9] Among a vast literature, the pioneering studies by Johnson-Laird (1983), Kahneman et al. (1982).

is filtered by belief, may reinforce this belief. This is the essence of unfalsifiable belief, as is well-known since Karl Popper's writings[10]. As revealed by numerous studies in anthropology that confirm the difficulty in explaining beliefs and rules of behaviour by evolution (e.g., teleology towards the fittest), some norms appear to be disconnected from the environment and may even be difficult to apply in the empirical world (as some complex kinship rules). Their evolutionary advantage is not immediately clear, though functionalist views may always detect functions in a particular rule (well-known example being religious food prohibitions).

Beliefs may receive their validation solely from within the domain of beliefs. Beliefs may be disconnected from empirical observation, which has obvious negative effects in terms of evolution and adaptation. The repeated observation that a particular belief or behaviour is associated with, say, low income or a particular harmful event does not lead to a revision of the belief, as many analyses of traditional beliefs and systems of interpretation of events have shown. For example, the observation of repeated events (say, repeated deaths) does not challenge given sets of beliefs (say, the belief that a vaccine is harmful, or a plot[11]). If one is sick, for example, it is because of a curse, or if someone does sink in a river, it is because he is guilty—what Fudenberg and Levine (2006) coin as the 'Hammurabi game'. The 'true' (physical) causal chain may even be acknowledged, but is disconnected from other sets of beliefs—what evolutionary psychology has explained by the existence of different cognitive 'modules' applying to different domains of interaction with the environment. Traditional beliefs persist, because causalities involve unobservable entities and are therefore non-falsifiable.

Beliefs related to affiliation (e.g., ethnic and religious) or politics (e.g., maintained by populist leaders, or the 'voluntary servitude' coined by La Boetie) are good candidates for weakly revisable beliefs. They indeed have an edge in the context of extreme poverty that is so recurrent in developing countries. They provide individuals with psychological gains and advantages for survival: for example, they provide life with a meaning; they enhance cooperation as they are collective beliefs and thus facilitate collective action, which is an important asset for the extreme poor who otherwise would

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[10] A case in point being 'magical thought'; on the classic debate on scientific vs. traditional thought, Horton (1967).

[11] As it has been the case for meningitis in Nigeria or polio in Uttar Pradesh in the mid-2000.

not have this capacity. As Bowles has shown (2006), a definitional trait of the poor is that they are less able to achieve collective action than the rich. Moreover, norms that generate group affiliations have an edge because they typically mobilise emotions, which are efficient mechanisms for fixing particular beliefs in an individual's mind (Elster 1998, Damasio 1999). An important point is that whatever their function or 'truth', there is coalescence between the fact that a number of individuals adopt common beliefs and group membership: common norms create groups and groups create common norms.

Such beliefs may be viewed as shaped by bounded rationality and inductive reasoning. Social interactions involve subjective beliefs; which are moreover about other subjective beliefs —an issue that has long been investigated by the philosophy of mind and cognitive philosophy. Individuals linger within their beliefs according to a hysteresis pattern: beliefs are held not because they are 'correct' or true (this is too difficult to prove) but because they are not challenged. As emphasized by Arthur (1994), a belief may be held if it has worked in the past, and it is changed only if there is a sufficient number of 'failures' in the explanatory capacity of the model. For Arthur these beliefs build a system of 'temporarily fulfilled expectations': individuals form beliefs, and in turn these beliefs determine facts, hence generating a regularity (a 'rule', and systems of rules form an 'ecology')[12]: belief-models "adapt to the aggregate environment they jointly create". The time horizon, however, can be very long, as these failures are endogenously determined by the same beliefs. This is why beliefs strongly contribute to the stabilisation of coordination, or on the contrary of coordination failure, because of the endogeneity between income at the micro level or growth at the macro level and particular sets of beliefs. Low income and beliefs are endogenously related and over time may form a 'tradition': well-known examples are beliefs related to the position of women (e.g., their 'honour' meaning their exclusion from labour markets, education, and so on).

Beliefs reinforce each other according to threshold effects. As suggested by Granovetter (1978), threshold effects characterise collective behaviour according to the benefits or costs of imitating the others: similar preferences and norms may therefore generate

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[12] As demonstrated in the 'bar problem'.

different outcomes. Beliefs trigger public behaviour (mental representations becoming ‘public’) that may be identical across individuals, i.e. collective action: if the number of similar perceptions of a public belief is below a certain threshold, the belief does not disseminate, while above a certain threshold it spreads and there is a gain to behave as others do. Glaeser (2004) explained in the same way the stabilisation of hatred and prejudice against certain groups when there is a cost and therefore no incentive in not conforming to the behaviour of others[13].

The way beliefs spread and self-reinforce, however, remains the matter of debate. For some theorists norms stabilise as a result of evolution, natural selection and repeated interaction within given populations[14]. For others certain norms and beliefs spread and stabilise because they display certain characteristics, and because they are more salient, relevant, easy to remember. For evolutionary psychology the resilience of beliefs is explained by individual learning and domain-specificity: beliefs and rules of behaviour may work separately according to specific domains. The resilience of beliefs and norms of behaviour results from the evolution of psychological decision-making processes in the face of common environmental challenges (Tooby and Cosmides 1992). For others the causal process may be imitation, as argued by Dawkins (1976) with the concept of ‘memes’ and cultural replicators. In contrast, the communication of beliefs may be viewed as caused by inferences that individuals draw from the observation of someone’s public behaviour (Sperber 2001). As Ludvig Wittgenstein and Saul Kripke revealed, the fact that people behave identically does not imply that they believe identically: it is a presumption, an inference individuals draw from public behaviour. Regularity in behaviour moreover does not imply that an individual follows a rule, a belief that she holds permanently and which ‘causes’ this regularity in behaviour. Individuals are heterogeneous; they may behave in similar ways and achieve collective action, while holding different beliefs and responding to different incentives and expecting different returns. This allows for change in the equilibrium spreading of beliefs and norms, and the emergence of a new one.

The stabilisation of beliefs and asymmetry between formation and revision of beliefs (and thus the emergence of lock-in processes) may stem from their intrinsic properties:

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[13] What philosophers know for long, as shown by Elias Canetti in his great book ‘Mass und Macht’.
[14] A collection of papers is in Boyd and Richerson (2005).

some beliefs or ‘representations’ have a better capacity to disseminate because they are more relevant, as highlighted by Sperber and Wilson (1986) or Grice (1975). Paul Grice demonstrated the existence of a ‘cooperation principle’ in conversation and other interactions, i.e. the obtaining of the greatest informative content at the lesser interpretative cost. In game-theoretical terms understanding is an equilibrium outcome of a game between speakers (Rubinstein 2000, chap. 3). This may be the case of beliefs and norms that have a vague and flexible informative content (as many abstract, and especially moral, concepts, e.g. god, destiny, evil, paradise, etc). Because of this characteristic they have a capacity for larger dissemination, to adapt and be ‘filled’ by a wide range of contexts, and hence to be relevant and more easily enter into causal processes and normative assumptions (Sindzingre 1995): e.g. if Q, it is because of P, ‘if you are poor, it is because of ancestors, god, the curse of an enemy (here an abstract entity, the neighbour, the other group, and so on).

3. Efficient devices for coordination in developing countries: social norms

Norms in agrarian societies of developing countries are difficult to gather into a single concept – ‘non-state’, ‘non-market’, ‘traditional’, ‘village’, unwritten, ‘informal’ and so on. As underscored by Sindzingre (2006c) these words are often misleading, and ‘unwritten’ appears to be the most appropriate word. These norms organise rural economies at the territorial, village, lineage, household, individual, levels. Causalities are as complex as elsewhere, and as noticed by Udry about these rural societies the directions of causalities remain unclear between norms and behaviour. Development economics has a taste for functionalism, but the variety of social norms and the room for manoeuvre of individual beliefs and behaviour vis-à-vis these norms in small societies make it difficult to explain them only in functionalist ways and with game-theoretic concepts, e.g., as outcomes of repeated interaction, strategic behaviour and incentives.

Institutions and social norms in developing countries may be efficient and prevent coordination failure (Nissanke and Sindzingre 2005). In village economies, small territories, small groups, norms are devised in order to cope with uncertainty.

Uncertainty is a notion that is particularly important in developing countries, because of poverty and political and economic instability. In the poorest developing countries the weakness of the state – its absence or ‘capture’ by private interest groups – hinders one of its core functions, the provision of macro stability for transactions. As shown by Sara Berry (1993), the environment is characterised by uncertainty, e.g., on prices of goods, on which institutions prevail because several sets of norms may overlap that stem from ethnic affiliations, the modern state, and so on. Uncertainty may exist on the very existence of markets, which is an ex ante uncertainty as to which norms will prevail, market or non market (for example nepotism).

Kinship and agrarian rules of organisation can be viewed as long-term contracts and are efficient devices for coordination in social interactions. Being a member of a group provides trust in in-group interactions and lowers transaction costs. Kinship and village rules enhance coordination in all domains of social interaction, for example politics or production. Rules allocate positions of power and allocate rights, especially tenure rights, as well as efficient rules of organisation and cooperation of the agricultural labour that are adapted to specific environments (e.g., pooling scarce resources, land, labour and capital), as well as rules of sharing the output. Sharecropping and tenancy rules have been extensively studied examples of this efficiency (Otsuka et al. 1992, Hayami and Otsuka 1993).

Traditional rules of rights and obligations among members are efficient mutual insurance devices in agrarian contexts in the event of shocks (income, employment, illness, etc.) (Sindzingre 2003). They allow for the pooling of risk[15], help to smooth consumption[16], and organise efficient circuits of reciprocal rights, obligations and debts that work as assets and investments for the future. Individuals use links based on kin, neighbourhood, or occupation for repeated exchanges that build trust, in order to reduce information costs and problems of moral hazard and enhance coordination in the event of a shock (disease, death, unemployment). Individuals ‘invest’ in these links (in providing services, work, time, gifts, workforce, spouses, and so on) that open ‘debts’ with the expectation that the ‘debtor’ will return this investment if necessary. Kinship

[15] Among a vast literature, Platteau (1991).

[16] Though only partially: Grimard (1997). in the example of Côte d’Ivoire shows that risk-sharing is not complete within ethnic groups; this may be due, however, to the impossibility of defining the boundaries of such groups.

systems and their obligations are efficient in making these investments function over generations. These insurance and risk mitigating devices may be viewed as similar to credit, as the same norms allow a member to expect lending from other members in the case of need. Fafchamps and Lund (2003) elaborate models of quasi-credit: according the rules that organise groups, risk is shared among members through zero interest loans, while there also may be non reciprocal transfers. Common membership may be based on a variety of links, kinship, village, households, neighbourhoods (Udry 1990, Platteau and Abraham 1987).

The rights that are opened by traditional norms are flexible, as has been shown in the example of collective land rights. In agrarian economies property rights are usually not assigned to individuals but groups – village, clans, lineage, occupational groups, households – and a large literature has shown their efficiency in contexts of uncertainty and likelihood of shocks. Common held property (‘commons’, e.g., forests) may be efficient insurance devices in the context of incomplete markets (Baland and François 2005). These land rights are negotiable and adaptive (e.g., to demographic conditions, migration, to the type of crop), they are multiple, overlap, and secure access to land and its use, and not only ownership. As emphasized by Lavigne-Delville et al. (2001), these collective rights are efficient responses to problems of fairness, security and equity, in particular the unequal distribution of production factors in contexts of high risks (opportunistic behaviour, harvest failure, imperfect markets).

This flexibility is supported by cognitive devices, such as selective memory and forgetting, because these are oral societies and do not routinely rely on written rules. As shown by Goody (1977), there are a series of consequences in the fact that norms are unwritten and rely on individual memory and oral agreements between individuals. What an individual remembers is shaped by many factors, in particular the status of those who interact and power relationships that are involved[17]. Memories held by individuals by definition differ, and hence are sources of disagreements: they may create overlapping tenure rights that are unwritten, as this helps adapt to shocks and unexpected circumstances. Unwritten rules allow for negotiations on what is more optimal to remember or forget (filiations, events, and the like). In many developing

[17] As highlighted long ago by the Russian psychologist Lev Vigotsky; see Boyer (1994).

countries economic reforms institute written property rights (for example on land), which are supposed to secure them and hence have a positive impact on incomes. It often results, however, in an increase in conflicts: rights meant to be flexible, negotiable and forgettable become fixed, and moreover reflect a frozen state of affairs that is dynamic and changing.

Being an adaptive device for coordination, however, does not imply equality. Traditional, unwritten rules of organisation make individuals vulnerable to strategies of power. In the example of Ghana, Goldstein and Udry (2005) observe the ambiguity of land rights and hence the fact these are contested. The individuals that have power in the local hierarchies can ensure more secure tenure rights, and in a virtuous circle can invest in the improvement of land fertility and therefore enjoy higher output. Investments are more limited for individuals whose tenure is less secure and with lower status in the political hierarchy.

4. Coordination devices and inefficient norms in developing countries: poverty traps

Ambiguous economic outcomes: prosocial behaviour

The concept of ‘other-regarding’ norms is a key issue regarding the understanding of poverty traps: the question is whether these norms and behaviour, be they ‘ethics-oriented’ or reciprocal insurance mechanisms against shocks, reduce efficiency or welfare and limit the emergence of markets. The forms taken by this ‘ethics’ may be egalitarianism but also hierarchy as well: egalitarian norms prevail in many small scale societies and limit factor accumulation and the securing of property rights on assets (e.g., land). Norms may likewise prescribe an individual to make asymmetric transfers and gifts according to fixed and non-negotiable statuses, such as age, gender, lineage membership and so on.

Norms of reciprocity are defined as those that lead individuals to voluntarily cooperate with each other, not only in repeated interactions but also in one-shot interactions. A large literature in game theory and experimental economics has highlighted the existence of ‘strong’ reciprocity’ (defined as a predisposition to cooperate with others and punish those who violate norms of cooperation, even in he absence of reward and cost-recovery) and altruism (defined as a behaviour that confers benefits to other members of the group at a cost to the individual, i.e. a behaviour that is neutral or detrimental to the individual but positive for the survival of the group, Gintis et al. 2005b, p. 8 and 33[18]), even in one-shot games. The existence of altruism remains debated, beyond individual idiosyncratic features. ‘Other-regarding’ behaviour may account for phenomena explained by self-interest (Binmore 2006). It is difficult to prove that an altruistic norm or behaviour does not result from incentives (besides individual characteristics) (Benabou and Tirole 2004b), a problem that is at the core of ethical philosophy, or constitutional political economy[19]. It is not easy in real life to distinguish altruism from conditional cooperation: i.e. cooperation if the others cooperate, or cooperation with the expectation of a future return.

It has been argued, however, that human behaviour may be ‘other-regarding’ or ‘prosocial’, or at least that societies exhibit schemes of strong reciprocity that are attached to prosocial norms[20]. As argued by Seabright (2004), in Palaeolithic times individuals who were able to cooperate with strangers were more apt to survive; the ability to trade also seems to be an evolutionary asset. Prosocial norms, or altruism, go beyond what is coined as reciprocal altruism. Experimental economics confirm that individuals possess the desire to reciprocate, to avoid social disapproval and to be fair, with fairness defined as inequity aversion, but self-centred (Fehr and Schmidt 1999, Fehr and Fischbacher 2004, Fehr and Falk 2001).

Evolution seems to have favoured cooperative behaviour as the norm in closed social groups, a point that is relevant from the perspective developing countries and rural societies. There seems to be an evolutionary advantage not only in norms of cooperation, but also prosocial behaviour in non state and small scale societies (Richerson et al. 2003). These norms address within-group interactions (lineage, village, etc) and between-groups ones (e.g. friendly or agonistic exchange, reciprocity, even delayed in time, war, and so on). Evolution towards prosocial preferences - altruism and

[18] Among many studies, Bowles et al. (2003).
[19] In the tradition of, e.g., Viktor Vanberg.
[20] A collection of papers is in Gintis et al. (2005a).

altruistic punishment - is indeed empirically observed among human populations. Small groups are organised by norms that put the survival of the group above all, encourage cooperation and punish selfish behaviour. Cooperative rules are even viewed in many studies as a condition of survival in small societies, e.g. for addressing ‘tragedies of the commons’. Some studies show that fairness prevails, not only in experiments conducted in the laboratory but in real contexts (as shown by Henrich et al. 2001 on the example of fifteen small-scale societies). Fairness seems to be an asset for survival in resource-poor and unwelcoming environments.

Experiments in small-scale societies in developing countries confirm results that are found in western societies[21]: the study by Gowdy et al. (2003)[22] in a Igbo village in Nigeria suggest that fairness, not fear of retaliation—i.e. not the reasons for the usual explanations (economic rationality)—was the reason for high offers in the game. Another experiment by Greig and Bohnet (2005), based on a one-shot game with strangers conducted in Kenya, confirmed the development economics literature on mutual insurance (as explored, e.g., by Fafchamps), i.e. individuals are more likely to enter an implicit inter-temporal exchange contract, the needier and the more familiar their counterpart is. Women, who are poorer, were treated more generously. Greig and Bohnert coin this other-regarding behaviour as ‘balanced reciprocity’ (in contrast with the conditional reciprocity prevailing in developed countries).

Combinations leading to coordination failures and inefficiencies: political economy and norms

Ex ante it is difficult to predict the adverse effects of particular norms. As Engerman and Sokoloff (2003) famously put it, ‘institutions matter’, but no econometric exercises have convincingly demonstrated which institutions. Institutions are indeed names (concepts) and their content changes with history, so there cannot be a constant causal effect on income (micro) or growth (aggregate) through time.

Causes taken separately are not enough to explain lack of growth and the formation of low equilibria and traps. At the aggregate level, even dependence on commodities alone

[21] A review is in Cardenas and Carpenter (2005).
[22] Using ultimatums and dictator games.

does not explain the state of poverty in low-income countries. The so-called ‘natural resource curse’ emerges firstly because of specific features of local institutions: for example the fact they institute an unequal allocation of resources, allow rent-seeking, and that local institutions are unable to cope with price instability and the redistributive conflicts that stem from windfall gains. Some rich countries in contrast owed their development to the exploitation of natural resources (e.g. Scandinavian countries). Path dependence may be a more pertinent factor than resource dependence (Gylfason and Zoega 2006).

The traps that seem to lock the poorest countries or groups within countries stem from combinations of specific political and economic conditions (e.g., predatory regimes, commodity dependence), which both create instability and short term anticipations that are endogenous and reinforce each other. Political economy indeed strongly contributes to the endogenous processes leading to poverty traps in developing countries, such as commitment and credibility problems. As famously shown by Olson (1993), the combination of political instability and dictatorships leads to pure predators, because the latter feel insecure. They have more incentives to loot the country than to make it grow, increase productivity and levy taxes on its production – political stability indeed seems positively correlated to growth (Przeworski et al. 2000). Likewise, in a context of such combinations there is no incentive for development. Predatory regimes have no incentives to increase wealth and create efficient economic institutions that would aim, for example, at diversifying and industrialising.

Economic conditions and political institutions are endogenous, with equilibrium economic institutions resulting from conflict over the distribution of resources between the different groups that compose a society (e.g., elites, oligarchies, landlords, workers). Rulers, elites and interest groups redistribute to the groups and coalitions that support them (Acemoglu and Robinson 2006). These processes may in some cases, such as in Sub-Saharan Africa, lock countries into poverty. In other cases, for example combined with different types of natural resources endowments and property rights, they explain the divergence between growth trajectories as shown by Engerman and Sokoloff (2002, 2006) in regard to the divergence between South and North America.

The other terms of the combinations are social norms. The efficiency of mutual insurance mechanisms has thus been questioned (Platteau 1997). The dynamics of norms stems from the interaction between the content of norms – their relevance, cognitive salience and resilience – and changing environments, with outcomes being non predictable ex ante. Norms shape the reaction of individuals to change in the environment, under the two aspects of the pace of change (inertia, resilience of the previous equilibrium) and the type of reaction, according to the way previous norms 'composed' with the changing environment (combined with new inputs, new beliefs, new norms, new incentives). Outcomes cannot be predicted ex ante with certainty. An external perturbation may induce a catastrophic event pushing a group into a low equilibrium and self reinforcing destruction, as often happened after the colonial encounter. In some cases, however, the composition of old and new norms leads to positive changes in terms overall welfare[23]. In some cases institutions adapt, as external change provides new incentives. Locking-in institutions may transform toward improved efficiency, welfare or incomes. This has been shown by Platteau and Seki (2001) in the example of fisheries in Japan, where institutions incurred positive change when incentives have changed. In some cases, however, norms create threshold and lock-in effects. Certain types of beliefs and norms do not allow adapting and changing behaviour, e.g. responding to a shock or seizing new opportunities such as those offered by economic reform.

Rules of cooperation of small societies are easily destabilised by market relations. Time horizon is a key issue regarding efficiency. The long-term contracts created by common norms and repeated exchange, traditional social protection (under its various forms, insurance, land tenure) erode with exposure to larger markets ('globalisation') (Platteau 2004) and migration, which implies short-term time horizons, less repeated interactions, and lower probability of punishment. Opportunistic behaviour therefore yields greater payoffs. As for migration, this may be compounded by the local political economy that incites individuals to find income opportunities abroad. Institutions may persist, e.g., when the 'possession' of several memberships and the possibility to pool risk offer greater payoffs than escape and free riding, for example security in situations of poverty

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[23] Acemoglu et al. (2001) argued that colonised countries benefited when settlers wished to stay and establish institutions.

and uncertainty. Cooperative norms are also destabilised by change in technology, for example agricultural technology. The latter may lead to higher productivity, but implies investment in working capital and access to credit, which create thresholds and traps at the household level, with the richer acceding to credit, investment and higher productivity and higher returns[24]. The poor are caught in a poverty trap that is often compounded by indebtedness (as the lack of access to credit markets obligates recourse to distorted interests rates offered by landlords or moneylenders).

Certain norms prevent coordination and induce poverty traps because they prevent the functioning of markets, and may even prevent their existence. Bardhan (1989) famously revealed that in developing countries certain markets may be missing, typically the credit market. Contracts may be interlinked and contingent on several markets, linking individuals simultaneously, for example, in the labour, land and the credit markets[25]. The moneylender is also the landlord in tenancy contracts, according to a well-known example. Markets may also be segmented. In Sub-Saharan Africa, for example, infrastructure problems, small size of markets and limited collective action (multiplicity of players) appear to limit—though with large variations—the possibility of increasing returns in the marketing of agricultural products. This has been demonstrated by Fafchamps et al. (2005), who find no evidence of returns to scale in marketing and transport (quantities are pooled from multiple traders, transaction size has no impact on margins, while value added is determined by working and network capital).

Local norms may prevent the seizing of opportunities, in particular the opportunities offered by markets. Non-market norms and exchanges limit the scope for transactions (Fafchamps 1992, Platteau 1994). Typical coordination failures are created by discrimination, as analysed by Loury in regard to the issue of racial prejudice and following Gary Becker on the issue, who has argued that discrimination is costly for the discriminator and reduces the efficient functioning of labour markets. The question is therefore their resilience, as Loury has emphasized (1999). Discrimination is recurrent in developing countries, where market signals do not function due to political factors, ‘ethnicity’, political instability, autocracies and the like. The latter make it so that

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[24] As emphasised by Zimmermann and Carter (2003) on the example of South Africa

[25] Banerjee and Iyer (2005) on the example of different regions in India reveal the different effect of different land tenure institutions on individual income.

political connections replace market signals; market signals may also be replaced by monitoring and controlling devices such as a common kinship (therefore a common authority) and trust building devices such as repeated interactions: this creates ex ante distrust and discrimination against all the others. In such contexts skills provide signals that are irrelevant (Hoff and Sen 2006).

Traditional mutual insurance devices and risk-pooling lead an individual to 'invest' in many social networks. The latter, however, may represent substantial costs and have a crowd-out effect in terms of payment of taxes and hence on state capacity. These devices also function only for the individuals who are members by birth, voluntarily, and the like, e.g. micro-credit groups. These mutual assistance devices exclude non-members, which may reinforce inequality[26]. Exclusion is indeed not a specific feature of village systems, as states also exclude non-citizens from social protection schemes. Size matters, however, as it allows for economies of scale (extended protection to individuals beyond narrow reciprocity, i.e. who did not contribute to the cycles of services and returns), with states obviously displaying a greater resilience towards shocks. Traditional rules of reciprocity allow for the smoothing out of consumption in the event of shocks and build efficient insurance devices: social debts created in the past (e.g., via a service) expect a 'reimbursement' that can be delayed in time and benefit future members in future generations (as a PAYG state scheme). However, it does not function when poverty is extended to the whole group or in the case of aggregate or covariate shocks (e.g. a drought, a war). Moreover, these insurance devices may directly induce poverty traps when they are aggregated, as in the well-known example of demographic traps created by investing in numerous children supposed to provide security for the old days.

Traps indeed typically work at the intergenerational level. The poor have limited capacity to invest in health and education and therefore have less access to employment with higher returns, attach less value to the quality of children, use them as insurance in the absence of credit and insurance markets, and thus maintain high fertility and demography that in turn maintain poverty (Dasgupta 1997). They have less room to cope with unexpected income shocks and to seize markets opportunities. Institutions

[26] On the case of Ghana, Goldstein et al. (2002).

usually intensify these endogenous processes. These processes, however, result from combinations of multiple factors and are context-dependent[27].

Conversely, a decline in poverty does not imply a change in institutions. It does not necessarily change, for example, discriminative institutions and inefficient norms of contracting. Bardhan (1983) has suggested that agricultural development in itself does not suppress so-called ‘feudal’ institutions such as tied labour and in some cases (such as better yields and a tightening of the labour market) could even increase the number of these types of contracts. In the case of the evolution of poverty and inequality in rural India since the 1960s, Jayaraman and Lanjouw (1998) show that it may be explained by economic factors such as agricultural intensification and occupational diversification (non farm employment), but also institutional factors such as land ownership and tenancy. Poverty declined because of institutional transformation, in particular the reduced dependence on patrons and effective government policies. They show that the poverty of those who remain poor is due to the resilience of institutions such as caste s the poor mostly belong to disadvantaged castes—in combination with economic factors, i.e. reliance on income from agricultural labour and lack of diversification. Inequalities within village communities did not decline, moreover, and improved material well-being of rural households has even sometimes led to greater social stratification at the expense of women and members of lower castes.

5. Detrimental institutional combinations: membership norms

Combinations of economic and political conditions that create poverty traps are compounded by social norms, which by definition create insiders and outsiders, i.e. individuals who have the required attributes and comply (or comply therefore have the required attributes) vs. all other individuals. In essence norms divide, fragment, create borders and discontinuities, and thus induce lock-in and threshold effects, while they simultaneously gather individuals, reduce transaction costs and ease trust and collective

[27] As shown by low caste Indian female workers for whom labour norms enabled the seizing of the opportunities offered by trade openness (via work at home), more than their males counterparts, who were assigned by tradition to specific jobs; see Munshi and Rosenzweig (2003).

action. For these reasons, when aggregated, social norms show ambiguous relationships with growth, as cross-country studies have revealed.

Certain types of norms, such as membership norms, typically prevent coordination and are divisive devices (whatever the group). The better candidates are the norms applying within the family, ethnic membership norms and religious norms, i.e. the basic norms that manage parenthood, education, and managing the belief related to the life cycle (death, etc). These membership norms are particularly pertinent in developing countries where states constitute less relevant references than smaller-level reference groups (kinship, villages, occupation, and the like), and which generates networks effects. The reasons are many, some being recently constituted, corrupt, or weak states, and low credibility (as the states do not tax or provide public goods).

Membership norms may have positive aspects, as emphasized in studies of networks and the success of diasporas: reducing transaction costs, especially information costs, via trust, hence helping to access to markets, capital and credit markets. In Sub-Saharan Africa for example, common membership based on ethnicity may generate efficient insurance devices. It helps to smooth market imperfections, information asymmetries in obtaining supplier credit, and the running of manufacturing firms or entering into trading activities (Fafchamps 2000, 2003). In many developing countries, group membership in the absence of a democratic welfare state is a quasi-asset that creates a demand and supply (religions, professional or territorial associations, ethnic affiliations, etc.), which explains its resilience in contexts of poverty. Groups adapt and may use old forms of enforcement that are filled with new contents[28].

The negative aspects, however, seem to dominate the positive ones. Membership norms organise exclusion from acceding to institutions or opportunities of income for non-members. They are a device that excludes the majority and which builds a ‘we’ against ‘them’. They persist even when confronted with markets, due to the cognitive characteristics examined above: dissemination, relevance, non-falsifiability of beliefs that are definitional of group memberships (Sindzingre 2006b). The experiment by Hoff and Pandey (2004), for example, shows the negative effects of the resilience of the caste

[28] For example, traditional forms of punishment such as supernatural sanctions may be filled by new contents such as political rivalry, etc.

system in India. Individuals belonging to low castes have internalised the belief hold by the other groups[29]. 'Internalising' means that beliefs and signals are endogenous: the group defines the membership, the membership defines the group.

Fairness, as mentioned above, seems to prevail in agrarian societies. It should be stressed, however, that interactions exhibiting fairness exercise only within the group, as fairness and ethics are precisely an attribute of group membership. As suggested by Grice's cooperation principle, boundaries of groups can be narrow or extended but there is always a set of individuals (e.g., the narrow family) within which norms of fairness and trust prevail. Beyond this circle begin various concentric groups of non members and on whom an individual makes different assumptions, which range from trustworthiness and cooperation to hostility[30].

At the aggregate level, social fragmentation seems to have a negative effect on growth. One channel is an inefficient redistribution of resources (shown even in the contexts of rich countries[31]). Membership norms may lock groups into poverty by preventing them from changing and seizing opportunities to trigger more virtuous circles, which would lift these groups out of poverty. Hoff and Sen (2006) show that kinship membership may be an inefficient device, even if it offers protection in a context of uncertainty, as when facing economic change and modernisation. Kinship groups may lead to exit deterrence vis-à-vis their members, the outcome being what Hoff and Sen call 'collective conservatism'.

In developing countries—in stark contrast to their necessary role in triggering development and attenuating coordination failures—states and public policies often do not help in breaking these divisive norms. A definitional dimension of the state in developing countries is precisely its weakness and the fact that it is 'captured' by private interests, and is therefore less a state than the expression of various interests and of the balance of power among the various groups that constitute the society.

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[29] Many studies of statistical discrimination in developed countries reveal similar lock-in effects.

[30] A famous study showed that in certain societies norms may recommend lying to others as this works as a signal of status and ranking the others in the scale of memberships (Gilsenan 1976).

[31] See Alesina et al. (1999) on the example of ethnic divisions in US cities; at a cross-country level, Alesina et al. (2002) on the impact of fractionalisation on growth.

A typical example of group norms compounding intergenerational and demographic poverty traps in developing countries is that of norms governing reproduction. In the case of fertility transition in rural Bangladesh, Munshi and Myaux (2006) emphasize that group norms determine the slow response to external interventions and the wide variation in the response to the same intervention – this variation being explained by adherence to a common religion. They show that when the economic environment changes, individuals learn through their social interactions about the new reproductive equilibrium that emerges in the group. Change in behaviour (fertility transition) stems from a change in social norms in a given group, with individual decision responding strongly to changes in the behaviour of the membership group and with no influence from other groups despite the fact that all individuals in the village are exposed to the same innovation.

Membership norms are moreover a root cause of inequality, as they create hierarchies and statuses. They organise inequality via statuses that work ex ante (e.g. castes) or ex post, via endogenous processes of group formation though various commonalities, education, language, endogamy, and so on. If traditional rules of organisation may be conceived as long-term contracts, those based on birth (e.g. castes) are obviously the most rigid, prone to lock-in processes and the least transformable. Those based on religion are often secured as quasi-kinship: emotional rewards are large, e.g. conformity and severe sanctions are strong incentives for individuals not to leave the group. Both types of memberships (kinship, religion) overlap in many societies and hence reinforce each other. Other types of memberships may in contrast be flexible with statuses that can change and with lesser lock-in effects.

The World Bank World Development Report 2006 on inequality defines as ‘inequality traps’ the inequalities that are reproduced across generations among individuals and groups, poverty traps referring to the fact that the poor people are trapped in poverty because a lack of resources prevents them from having access to the possibility of acceding to resources. Inequality traps stem from the stability of distribution in a given country because the various dimensions of inequality (in wealth, power and social status) prevent social mobility. Well-known examples are the norms regulating the status of women, who may in some societies be denied property and inheritance rights, access to the labour market, which generate a trap where girls receive less education and women increase their economic dependence and poverty relative to men. Due to a lack of education, these norms are reproduced by the individuals who are the victims, hence reinforcing an inequality trap that persists over generations. Rao and Walton (2004) show that the same processes apply to inequality between elites and workers, e.g. landlords and agricultural labourers, the latter being caught in this situation because of the power of the landlord, the latter's capture of political institutions (corruption), and the labourer's indebtedness and lack of education, which narrows employment opportunities. This is compounded by norms of endogamous membership systems, such as caste.

Finally, arguing that the detrimental effects of membership norms are typical mechanisms of coordination failure in developing countries is not to assume their systematic outcome ex ante: in unwritten contexts (i.e. outside the fixing of norms by the state and written laws) membership generates groupings that may change and select different discriminative criteria and attributes according to the circumstances. This is what anthropology has conceptualised as 'segmentary' systems, e.g., a member of a village is opposed to another village in a given situation; the same individual, being a member of a kinship group, is opposed to another kinship group within this same village in another situation. This is why acknowledging the importance of membership norms does not mean using concepts such as ethnicity as key factors of coordination failures in developing countries. Ethnic categories are ex post outcomes of social interactions and characterised by flexible boundaries (Sindzingre 2002). Extreme situations such as civil wars are indeed not caused by ethnic divisions: interethnic cooperation is indeed more common than conflict (Fearon and Laitin 1996) and civil wars are associated in the first place with the level of development (Fearon and Laitin 2003): the poorer the country and the weaker the state, the more probable a civil war is, whatever the degree of 'ethnic' diversity - and indeed in more homogenous countries.

Conclusion

This paper has focused on the concepts of coordination and cooperation in development economics, especially coordination failure, positive feedbacks and self-reinforcing processes, and their contribution to the explanation of poverty traps and multiple equilibria. Poverty traps may be created by economic conditions. It has been shown, however, that institutions and social norms are crucial factors of the creation and resilience of poverty traps, and in particular what Samuel Bowles' coins as 'institutional poverty traps', institutions that persist though they are inefficient, perpetuate inequality and lock groups into poverty and prevent them from acceding to better income opportunities. Of particular relevance in development economics are the institutions that organise group membership.

In order to understand how institutions and norms can cause poverty traps, institutions and norms have been analysed according to their cognitive dimensions, i.e. as beliefs. The contribution of norms to poverty traps stems from the fact that some beliefs and norms appear to be particularly resilient and difficult to revise, both because of endogenous processes of self-reinforcement stemming from the interaction between individuals, on the one hand, and between them and their environment, on the other, and because some beliefs include intrinsic cognitive properties that allow them to better disseminate and persist.

It has also been shown that no particular institution is ex ante a cause of traps and that similar institutional forms may be efficient or inefficient, as is the case with insurance devices in rural societies. Non market or 'traditional' norms may be efficient and foster cooperation, or inefficient and foster social polarisation. It is the combination of multiple elements – specific economic and political environments, social norms, history, path dependence – that create thresholds effects and entrap groups into low equilibria. It has been finally argued that norms organising group membership, because the beliefs they involve are the most difficult to revise and because by definition they restrain cooperation, introduce divisions and organise inequality. These norms are typical factors in poverty traps because they are likely to persist and even reinforce themselves in the contexts of poverty, uncertainty and weak states that characterise many developing countries.

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