*Report on the Workshop on "The Role of Micro-Institutions in Economic Development" 12-13 May 2000

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A workshop was held at the Centro Studi Luca D'Agliano on 12-13 May on "The role of micro-institutions in economic development". It gathered some of the most prominent European researchers working on microeconomic theories applied to development (including topics on informal and non-market institutions, contract theory, evolution of social norms, social capital, and the interface between state and society). This initiative is the first in its genre in Milan and Italy, where the tradition of micro-development is very recent, and reflects the Centre's current aim to fund more research in this field and promote a continuous dialogue with institutions in other countries. The workshop was organized by Eliana La Ferrara, who is responsible for this research area within the Centre, and was attended also by many researchers and students from Milan and surrounding universities. The one and half day of activities were lively and intellectually stimulating, and were divided into five sessions where a total of 12 papers were presented, each followed by a floor discussion.

The first session on Collective Credit Schemes opened with a paper by **Jean-Marie Baland** on the economics of Roscas (rotating saving and credit associations). The model proposed aims to explain the evidence, from survey data collected in the slum communities in Nairobi, that the probability of participating in a Rosca is much higher for women than men, and even higher if the woman is married and has a job. The paper's central hypothesis is that married working women participate in Roscas as a way to make income illiquid and protect it from their husbands' claim, in order to earmark the saving for household indivisible expenses (for instance child school fees, if a woman cares for them while the husband does not). The theoretical model predicts that the higher is a woman's bargaining power within the household (as defined by the share of her income over total household income), the greater is her ability to protect income from the husband's claim and therefore the greater is her participation in Roscas.

The empirical data show an inverted-U shape relationship between the share of a woman's income in total household income and the size of her Roscas contribution. The declining segment of the relationship at higher income levels is possibly due to women switching to superior saving means (e.g. bank accounts), a point which has been commented upon by several people from the audience (Laffont and Azam). In particular, it was felt that the paper should better incorporate the availability and use of alternative saving mechanisms, in order to account more fully for the inverse U-shape. It was also pointed out (Serra) that an alternative model to explain the same stylised facts could incorporate separate spouses' budgets and decision making over their respective income, with bargaining taking place only over each spouse's contribution to household common expenses. On the empirical side, Oriana Bandiera remarked that food expenditure might not be the best proxy for household income in this context, since this item is quite inelastic to income once a given threshold is reached; in the absence of reliable information on wealth, the use of other expenditure items, e.g. clothing, has been suggested.

The presentation by **Jean-Jacques Laffont** closed the first session with an analysis of the efficient and optimality properties of group-lending practices (the latter have developed to an extraordinary extent in the recent decades due to their ability to circumvent moral hazard problems associated with lending to the poor, who typically have no collateral). Group-lending contracts need to be not only individually incentive compatible but also collusion-proof. The paper first characterises optimal lending contracts in the face of adverse selection and borrower's limited liability and then goes on to consider how Grameen Bank's types of contract (GB contracts) fare with respect to this characterisation. It is found that contracts are optimal when repayment is not linked to the ex-post observability of partners' performances. GB contracts are efficient if the correlation between the returns of the group members are high enough (since what happens to one member can then be used as a signalling device for the others) but not always optimal, since collusive behaviour among borrowers prevents the bank to reach the first-best. Nonetheless, if collusion between borrowers under complete information is allowed, it is good to share information and use members' knowledge about each other's status as a signalling device. Group lending contracts are optimal in the class of simple revelation mechanisms (which elicit only the borrower's own private information) and remain useful with extended revelation mechanisms (which elicit information from both the borrower and the partner and any deviation from the sending of the same messages by the two agents is punished).

The second session of the workshop, on Collective Action and Property Rights, opened with a paper discussing the inefficiencies resulting from collective responses to a situation of imperfect property rights. The setting considered in the paper by **Jean-Paul Azam** (with J D Rinaud) is an irrigation system in Southern Punjab (Pakistan), where upstream richer farmers can divert water to their own benefits by paying a bribe to the irrigation official in order to have canal outlets enlarged. As a result of these deals, downstream farmers witness a weakening of their formal entitlement to a given quantity of water; the model predicts that their best response is not paying bribes but lobbying politicians in order to increase the probability of sanctions being imposed on the corrupt officials. This triggers a contest where the rich farmers invest resources to cover their corrupt practices. Crucial to such a model (and main obstacle to the emergence of an efficient water market) is the existence of asymmetric information, since poor farmers are imperfectly aware of the amount of water diverted. Empirical testing of the model is made possible by the fact that outlet modifications leave physical marks that can be measured. Irrigation thus offers a unique opportunity to researchers to test the determinants of corruption and the effects of political interference. (It must be noted that the sites are visited periodically by inspectors, implying that enlargements are reversible, with re-negotiation between rich farmers and officials occurring every year.) Econometric estimates show that outlet enlargements reflect both technical constraints (e.g. distance from the canal head) and the socio-economic characteristics of the farmers involved; corruption is inversely related to the probability of inspection and is a function of the bargaining power of the prominent farmers in the groups concerned as well as of their ethnic homogeneity.

Questions from the floor focussed on the mechanic and logic of data collection. For instance, Laffont asked whether modifications induced by bribes could be really distinguished by those approved officially or induced by nature (geological factors). Galasso noted that, as the composition of groups along the canal is heterogeneous, this would affect outcomes as a result of the different bargaining powers both within and across groups (a group of farmers here is served by the same outlet).

The paper presented by **Jean-Philippe Platteau** (with J Gaspart) is a study on the forms of collective actions undertaken by fishermen communities in Senegal in order to control for fishing efforts. It is known that collective management of fish resources is particularly difficult since fishes move widely, appear with low levels of predictability and are caught with a variety of techniques; the merit of the paper lies in its examining a number of fundamental issues having to do with the motivations, feasibility, sustainability and typologies of collective action among fishermen. Five communities were surveyed in 1997: one had never undertaken any effort at regulation (control sample) while the others had experienced regulation at varying degrees of time length and success. Concepts of labour incentive and monitoring are used to explain why different forms of effort control (fish quota or boat trip limitation) emerge in correspondence of different fishing techniques. Fishermen's responses to the question of whether rule violations are judged to be frequent are used as the basis to examine scheme's success and its determinants. The extent of success depends on the fishing techniques (effort-reducing methods in line fishing being subject to higher supervision problems), past experiences of collective action, local customs of organising fishing expeditions for collective purposes, the socio-economic characteristics of each community (e.g. the proportion of owner versus crew and the 'leadership phenomenon'), and the existence of exclusive sale agreements between fishermen and fishmerchants. The paper also attempts at disentangling the determinants of fishermen's perceived effects of the scheme, in particular distinguishing economic objectives (e.g. sustaining fish prices) and ecological goals (preserving fish stock over time). Interestingly, in schemes where violations appear more frequent, respondents would mention the biological effects more often than the economic effects.

The first day ended with a paper by **Oriana Bandiera**, whose aim is to explain farmers' crop choice mix as a function of the distribution of property rights in a situation where there is complementarity between crop type and effort, effort is non-contractible and the farmer is subject to a limited liability constraint.. The basic idea is that, since providing incentives is costly –due to limited liability- the costs incurred by a landlord who delegates the cultivation of her plots differ from those incurred by an owner cultivator. The fact that different crops have different incentive needs implies that a specific crop might be profitable for an owner-cultivator but not for a landlord because the two parties incur different incentive costs. The model is tested with data from rural Nicaragua (LSMS), which show that property rights affect the crop mix only if the farmer is sufficiently wealthy. In this case the results suggest that owner-cultivators tend to choose more profitable but also riskier crops. The paper raised an interesting debate on whether it is possible for property rights to affect crop choice independently from the wealth effects induced by a given distribution of property rights.

The second day opened with a session on Development, Groups and Social Norms and with the paper by **Patrick François** (with J Zabojnik). The paper proposes a theoretical model of how a certain cultural trait (in the specific a 'work ethic') might prevail or not in a given population and interact, positively or negatively, with the introduction of new technologies, to reach either a high or low steady state. The model combines an evolutionary framework with the presence of rational agents (firms) and the feature that returns to possessing the trait depends on workers' interaction with such rational agents. The latter know the distribution of the trait across the population, and work ethic can be revealed by past performance (incomplete contracts). Firms can adopt two modes of organisations, one with high supervision costs (*s*) in which all workers produce the same irrespective of their type, and the other where workers' ethic can be revealed ex post (since performance varies according to the work ethic and ability). The latter organisation mode (*n*) thus performs a valuable screening role and generates a form of informational externality: it will be used when firms estimate that there is a sufficiently high proportion of workers with high work ethic. There is a mutual interdependence between work ethic and modes of organisation, which gives rise to multiple steady states: there is 'good' steady state, where firms adopt the *n* organisational mode and most workers are of the high work ethic type, and a 'bad' state, where firms adopt the *s* organisational mode and most workers have a low work ethic. In the former steady state, workers of high work type enjoy a rent: this provides the evolutionary incentive for work ethic to exist. However, if these workers enjoy too high returns and too quickly, the firm will set wages which are no more incentive compatible for the low work ethic type and the economy will converge to the bad equilibrium. The paper draws from the theoretical analysis the interesting result that a too rapid adoption of modern technologies in the presence of a skewed income distribution and of a widening gap between the modern and traditional sectors might be conducive to an underdevelopment trap (as it has occurred in many developing countries recently). The same framework can explain the success of the more gradual development process that has occurred in the West.

Frances Stewart's presentation was set in the context of a larger research initiative undertaken by Queen Elizabeth House and WIDER, aimed to uncover theoretically and empirically the links between the macro-environment (norms, institutions, economic structures), group behaviour and the outcomes of group behaviour (in terms of efficiency and equity). The types of group considered in the research agenda are: i) groups that correct market failures and therefore aim at efficiency; ii) claim and pressure groups, which try to shift bargaining power and resources among sections of society; and iii) 'welfare groups', which provide services for others (for instance NGOs). Three modes of behaviour can be enacted to ensure members' consistency to group objectives: power and control (e.g. hierarchy), co-operation (as a result of shared goals, reputation in repeated games or altruism) and market-mechanism (financial incentives). The paper went on to argue that the transition across these three modes of group operations can be explained to some extent by processes of change at the level of the macro-environment. Most developing countries (although in different periods) have gone through three main phases, e.g. a colonial period, characterised by foreign control and hierarchy; a first post-colonial phase dominated by the state role in the economy but also by a co-operation rhetoric, and a more recent period with an emphasis on liberalisation, market development and state retrenchment. How the macro-environment might have affected significantly group functioning is shown for the case of 'medical groups'. The proposed framework aims to understand past successes and failures and, for instance, accounts for the result that both efficiency and equity can be undermined by excessive emphasis on co-operation (second phase).

Among those intervening from the audience, Giorgio Barba Navarretti observed that the framework should allow for different groups (e.g. traditional health providers and state dispensaries) to be differently affected by observed macro changes. Moreover, the situation becomes even more complex when allowing for changes in individual members besides those in group functioning. Fafchamps noted that the simplistic notion that markets are much less developed in poor economies needs to be overcome, since markets fulfil many functions in these settings that in advanced economies are instead performed by hierarchies (firms).

The paper by **Eliana La Ferrara** opened the third session on Income Generation, Networks and Groups. She presented some preliminary findings from her in-depth survey of 'productive' groups (e.g. those generating income for their members) in the slums of Nairobi. The aim of the study is to achieve a thorough understanding of group functioning, members' characteristics and effects on individual welfare. Some of the aspects analysed in the paper are the criteria for choosing new members (commitment versus skills specific to the main activity); the determinants of individual income derived from group activities; the linguistic, social and demographic composition of groups; systems of decision-making and leadership. Econometric analysis shows that belonging to the dominant language within the group enhances the benefits that can be derived from the group (e.g. greater probability of borrowing money in case of need). As far as other aspects of heterogeneity are concerned, the probability of borrowing from group members is enhanced by a skewed wealth distribution (which provides the context for richer people to lend to the poorer) but is negatively related to inequality with respect to income derived from group activities (which is likely to increase internal conflicts). Ethnically fragmented groups seem to exhibit more hierarchical decision-making processes, fixed rules of compensation, and an equal division of tasks among members. Renata Serra suggested that this finding appears consistent with the need for ethnically fragmented groups to avert conflict: the existence of fixed rules and a 'less democratic' system of decision-making may be functional to ensure systematic positive benefits to minorities and to minimise the chances for change. Jean-Philippe Platteau pointed out that the correlation between ethnic fragmentation and division of tasks could be related to ethnic-specific skills in the production process and not to monitoring and/or decision making concerns.

The paper by **Marcel Fafchamps** (with B Minten) addresses the hotly debated topic of social capital and examines its sources and its effects in the context of agricultural traders in Madagascar. Fafchamps proposed a framework in which social capital is an input that increases the productivity of physical and human capital in a standard Cobb-Douglas production function. The paper uses data from a 1997 survey conducted among traders involved in the foodmarketing chain in three main agricultural regions of Madagascar (2/3 of traders marketed mostly rice). Robin Burgess expressed the concern that the cross section nature of the data does not enable to deal with problems of endogeneity, given the double interpretation that can be given to the statistical association between social capital and greater sales or margins: not only does the former enhance the latter, but also traders that grow bigger are likely to enlarge their social relationships. Fafchamps replied by noting that the paper tries to deal with such problems with instrumental variables; moreover, 'investment in other people' should be seen as a conscious choice driven by the knowledge of its economic value, rather than just as a by-product of increased efficiency. Econometric analysis shows that the number of traders known and the number of people the respondent can count on in case of troubles have a statistically and economically significant effect on traders' output. Controls included human and physical capital, entrepreneur's attitude (propensity to spend, to invest, individualism etc.) and entrepreneur's family background (father's and mother's education and trade experience) and past shocks.

The number of close relatives in agricultural trade has instead a negative effect, which, Eliana La Ferrara suggested, may be due to the fact that relatives share social relationships to a greater extent: the effect of more relatives, once controlling for the total number of people known, is to lower the individual share of a fixed resource. Other comments from the audience referred to the choice of the dependent variables, annual sales and value added. Jean-Paul Azam suggested that the latter should be substituted for by unit value added; he also noted that the regression does not really allow one to distinguish, as intended, between the effects of social capital on profits through collusion and reduction of transaction costs. Also in the presence of collusion, value added (and not only sales) might increase (for a sufficient price increase). Francis Stewart proposed to interpret the results in terms of the 'bridging-bonding' debate in the social capital literature: wider connections and family relations having a positive, respectively negative, effects on social capital. This would involved an extension of a concept that, as Fafchamps noted, has been mainly used with reference to the externalities generated by social capital.

Within the last session, on Welfare and State Intervention, **Emanuela Galasso** presented a methodology for analysing the distributional outcomes (in particular the benefits to the poor) of decentralised projects. The paper is motivated by the need to assess, in a period of increasing decentralisation of public spending, whether the benefits from better targeting by local authorities overcome their lower accountability, due to national financing of local projects and limited local mobility. A crucial assumption in the model is that there are high costs to inter-jurisdictional mobility (contrary to what assumed in standard models applied to developed countries) and communities are not homogeneous, leading to possible local capture by elites when public spending is on a private excludable good and there is no self-targeting mechanism. Indeed evidence on many anti-poverty projects indicates that local capture is a serious problem. The model is tested with data on a food-for-education program (FFE) in Bangladesh, entailing distribution of fixed food rations to selected households whose school-aged children attend at least 85% of classes (in primary school). Although there is evidence that there are gains to the program, the question here is to assess whether these manage to reach mainly the poor. It is shown that the pro-poor bias is positive in the case of the FFE program; however, the effect is mostly due to efficient targeting by local authorities (within village component) rather than by the centre (between-communities component). This is a consequence of the fact that the central government, for political reasons, needed to select communities also on the basis of geographic representation. Targeting performance varies across villages and an analysis is carried out of the village characteristics (socio-economic composition, degree of modernisation, degree of inequality, existence of groups) that make it more likely that poor are targeted more efficiently. The findings are suggestive of 'early capture' by the program by the non-poor (e.g. benefits to the poor increase with the size of the transfer whereas benefits to the non-poor do not), and of lower pro-poor targeting in poorer villages (and of no better targeting in more equal villages). As suggested by François, these results indicate that it may be optimal, from the viewpoint of anti-poverty impact, to concentrate resources in a lower number of communities rather than spreading them too evenly across villages.

The paper by **Sylvie Lambert** addresses the issue of what are the welfare effects associated with the choice of either increasing school fees or decreasing school quality, both options connected with the need by a government in a developing country to reduce the education budget, as a consequence of the restrictive policies imposed since the 1980s. The paper is motivated by the need to explain why countries responding in a similar way to budget restrictions, for instance lowering school quality, witnessed quite a distinct impact in term of school enrolment (enrolment rates dropped by half in Tanzania but stayed constant in Madagascar). The tenet of the paper is that welfare effects (whereby a egalitarian welfare function is adopted, maximising the total enrolment rate) depend crucially on both demand factors (the income distribution of the population and the level of income at which households are indifferent between school and non school and between public and private school) and on supply factors (the mix of education policies). A theoretical model is proposed that analyses the relationship between education budget and the level of social welfare attained under different policy scenarii. Simulations are then undertaken in order to examine the effects corresponding to different income distributions. The interesting result of the paper is that the average willingness to pay for the education (average for all or just the poor) is not a sufficient element to determine effects on enrolment and the crucial element is instead population heterogeneity. As put by Patrick François in his intervention, the paper focuses on the trade-off between raising school fees, with the effect that the poorest children drop off school, and decreasing school quality, which induces the richest households to send their children to private schools. The paper shows that, since fees are in most countries uniform for all children (household incomes are not known), it is likely that, in the scenario with a single public school and an independent private education sector, a budgetary restriction will have a smaller detrimental impact on enrolment if it takes the form of a decrease in quality than an increase in fees. On the aspect of education policies, the paper shows that in certain cases, the state would do better by giving up education supply and allowing the development of independent private schools, especially while either taxing or subsidising them (an aspect rarely tackled in the literature).

Robin Burgess ended the workshop by presenting a paper that examines, for the first time by means of a broad quantitative analysis, the well-known argument (made famous by Amartya Sen) that in democracies where independent media exist and are developed, a government is bound above a minimum degree of accountability and, in particular, cannot afford not to react effectively in the face of famine or other large exogenous shocks. The paper develops a theoretical model of the principal-agent relationship between electorate and government in a democracy, and shows that a more informed electorate creates better incentives for politicians to be more responsive, because of the stronger link between policy performance and re-election. Media have therefore the role of a powerful check on politicians: those who do not perform well in certain crucial situations (exogenous shocks) are less likely to be re-elected. The model is tested using panel data from India on public distribution of food and calamity relief expenditures at state level, the two most common ways of state intervention in the face of droughts and floods. The main result is that, in states with better developed media (proxied by newspaper circulation), the government has protected citizens from the above calamities to a more effective extent. However, government responsiveness is reduced in states exhibiting greater polarisation along caste and income dimension, possibly because voting in these states is more likely to be carried out on an ideological basis, thus weakening the link between performance and re-election. The disaggregation of newspapers by language shows that the main result is driven largely by regional papers (in non-English and non-Hindi language), who are more focussed on local issues and thus more effective in influencing policies.