

The Economics of Caste

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Caste plays a central role in the daily life of more than a billion Indians. Indeed, it affects their most private choices, such as marriage (Banerjee et al., 2009): in 2011-12, 95% of married women declared that they had married within caste¹, with very little change in this pattern over time, as illustrated in Figure 1. It also affects important economic decisions such as employment: in 2011-12, 20% of working age males were working in their jati's traditional occupation (Cassan et al., 2019)². The participation in collective action is also affected by caste as is exemplified by the importance of caste in political mobilization.

In fact, caste is an important determinant of most economic decisions in India. However, despite this role of caste in economic behaviour, it is only recently that economics has begun studying caste in depth.

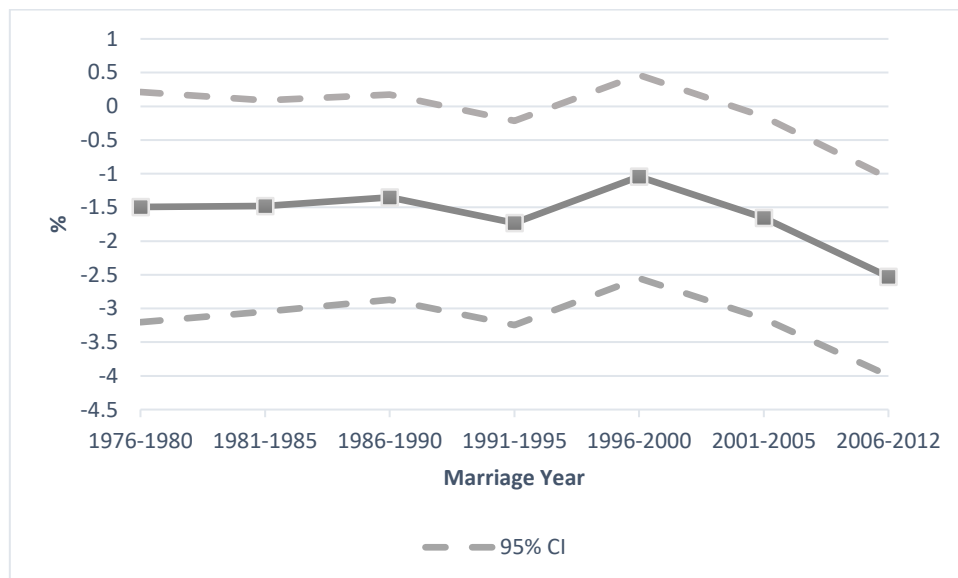


Figure 1: Evolution of within jati marriage.

Source: IHDS 2011-12, author's computation

Key: compared to marriages taking place before 1975, marriages taking place in 2006-2012 were 2.5 percentage points less likely to be within jati.

The growing availability of micro datasets since the late 1970's combined with a growing willingness to study the role of each country's specific institutional arrangement in economic behaviour have enabled economists, and development economists in particular, to delve into what they often loosely called "informal institutions" or "culture". In the case of India, this has meant a growing attention to the caste system.

¹ Source : IHDS, 2011-12, computations of the author.

² If individuals were allocated randomly across occupations, only 12% of the population should be working on its traditional occupation.

The first focus of economists has been to study caste as an object of public policies: economists have very fruitfully contributed to the debate about the effect of the various dimensions of reservations for low castes (Cassan, 2019), as is detailed in Ashwini Deshpande's chapter in that handbook. In that literature, however, by construction, the definition of caste tends to be restrained to official categories: Other Backward Classes, Scheduled Castes and Scheduled Tribes. Economists are now broadening their scope to other dimensions of the role of castes, in particular at the jati level.

To understand the approach taken by economists, it may be useful to rely on the often used dichotomy of ethnicization versus sanskritization of caste (Jaffrelot, 2000), since it reflects quite well the way economists have approached the caste system. Indeed, a first approach taken by economists to analyse the role of jatis has been to consider it as a network of mutual help, very similar to any other ethnic group. According to this view, jatis offers many services to its members, which may come at the cost of a lack of mobility, as network effects tend to lead to a lower socio-economic mobility, which may be hurtful in the long run.

A second approach, influenced by the contributions of other social sciences, considers jatis as part of a system: a single jati cannot be studied independently from the others, since one key feature of the caste system is that it determines inter-caste relationship.

Finally, a new promising field of research begins to look into the interaction between jati and gender, showing how the variations in gender norms across castes may lead to unexpected responses to a changing political or economic environment.

I. Caste as an ethnic group

The dominant economic approach to the caste system is that of a network which provides services to its members, very similar to the role offered by the membership in an ethnic group: access to information, access to insurance, access to employment etc...

In that view, there is nothing specific to the caste system that would distinguish it from an ethnic group. Indeed, each jati is seen as a network, providing services to its members, while the system as a whole is ignored.

In the economists' perspective, one key role of the state is to help resolving "market imperfections", the frequent situations in which the market left alone is dysfunctional. Take the case of the insurance market, for example. In most OECD countries, there exists a state organized compulsory social insurance scheme that will protect everyone against risks such as diseases or accidents. The state will also organize the protection against risks such as the loss of employment. As a matter of fact, it has long been documented that market forces by themselves will not be able to provide such highly needed services, justifying the intervention of the state in these sectors.

However, the state itself may not be able to correct these market imperfections: it may suffer from imperfections of its own. The "public choice" school of thought has for example long documented that the state itself is not a benevolent actor whose sole objective is to maximize the welfare of its citizens. The state faces its own constraints and own objectives, which may

different from the interest of the citizens. What is more, even if the state was indeed benevolent, it may not always have the means of its benevolence. Lant Pritchett (2009) has for example famously called the Indian state a “flailing state”, a state with a well functioning head, with willing and competent public servants, but a dysfunctioning body, not able to implement the decisions taken at the head.

Therefore, in a context in which both market and state fail to provide such vital services as access to finance and insurance, other alternatives are necessary.

Economists, and in particular, development economists and economic historians, have studied extensively such alternatives, often labelled “informal institutions”, and which rely on some form of mutual help network (Greif, 1993, Fafchamps and Lund, 2003; La Ferrara, 2003), typically relying on an ethnic, religious or caste network. One key aspect of these networks of mutual help is that they rely on informal sanction mechanisms, typically based on reputation, trust, and threat of ostracism. One may rely on the help of the members of the network only provided that the other members think that their help may be rewarded in the future, very much in the spirit of the gift- counter gift approach emphasized by Mauss (1925).

The caste system provides a way for economists to test this theory of ethnic networks as mutual help groups. Indeed, the diversity of jatis, even at the local level, is unique, and allows economists to look at these network effects within fairly small geographical areas, such as cities or villages. However, collecting large quantitative data at the jati level – a requirement for mainstream economics analysis, which relies on statistical approaches – is notoriously complex, due to the numerous synonyms that a same jati can have, as well as to the polysemy of the word caste itself. One only needs to look into the first attempts of the British census colonial administration in the late XIXth century, to convince oneself of the difficulty of the task (Conlon, 1981). It is therefore only relatively recently that economists have managed to apply their tools to jatis, either by collecting their own data, or by exploiting systematically the colonial census data, which contains a wealth of jati level statistics (Banerjee and Somanathan, 2007 ; Cassan, 2015).

This availability of data has enabled economists to deepen their analysis of the role of jatis. Munshi and Rosenzweig (2009) for example used the REDS data, representative of rural India in 1999, to show that 20% of the households they surveyed participated in some form of jati based insurance in the previous year. Households sending either loans or gifts to fellow jati members would send an amount close to 9% of their income, while those loans and gifts would represent more than 40% of the income of those that benefited from them. It is therefore true that the jati network represents an important resource of mutual help.

To understand the way in which jati network and insurance motives interact, Rosenzweig and Stark (1989) propose an interpretation of the organisation of the rural Indian marriage practices as a way to provide insurance. Indeed, in a rural setting, in which agriculture is the main source of income, income tend to be unstable: it will rely extensively on variable climatic conditions, which have strong consequences on the harvest. In such a risky context, access to insurance is paramount. Marriages in rural India tend to be organised across villages but within

jati. For Rosenzweig and Stark (1989), the reason why this is the case is that the local weather may vary across villages, and therefore, the weather induced fluctuations in income will not be exactly similar across villages. As a consequence, by having married a daughter in another village, households may ask for help in bad years. The fact that the marriages are organised within jati helps building a reputation which may be tarnished if the family proves not to be reliable.

Jatis have also been shown to help providing information, in particular for accessing employment. Munshi (2011) for example studies the market of diamond in Mumbai. In this specific market, most transactions do not rely on explicitly written contract, but rather on the trust between the buyer and the seller, when the seller typically accepts to sell the diamond at credit. In the absence of written contract, trust is paramount: the seller needs to know that the buyer is worthy enough to be trusted with an important credit with no formal contract written, and therefore, no possibility to turn to the court in the eventuality of a default. In such a context, the reputation of buyers is crucial. To enter in such a market, one needs to be introduced by an insider, and to benefit from his recommendation. Historically, this market has been dominated by two jatis, the Marwaris and the Palanpuris, whose traditional occupation is linked to trade. However, a third jati, the Kathiawari, has managed to enter this sector, despite being a relatively lower caste, whose traditional occupation is linked to agriculture. Following a sudden increase in the supply of diamonds, some Kathiawari managed to move from the low skilled occupation of diamond cutting to diamond selling in the 1970's. These new entrants managed to help fellow jati members set up their own business in the sector, leading to a large increase in the share of diamond firms owned by Kathiawaris from the 1980's onwards. That is, in this specific setting, the sharing of information and the density of the caste network³ allowed members of a relatively low caste to successfully enter a new, more skilled occupation, despite its original disadvantage.

In the political world as well, jatis have been shown to offer several services to its members. Munshi and Rosenzweig (2010), using the REDS data, for example argue that jati network at the ward level in a panchayat allow for a better control of the actions of local politicians. Elected personal coming from a jati with a large population in the ward will tend to see their behaviour monitored, and will face social sanctions in case of misbehaviour. In the context of these very local elections, thus, the existence of jati network may increase the quality of political action.

Therefore, jatis do appear to indeed offer services to its member akin to those offered by other informal network such as ethnic groups. And these services are quantitatively important.

³ The author notably underlines the role of within jati and within industry marriages in strengthening the network.

II. Caste and inefficiency

However, those network based services typically come at a cost. Greif (1993), in his study of the community of Maghribi traders in 11th century Mediterranean, famously underlined how the establishment of such networks can be extremely beneficiary in the short run, but may lead to long run costs, if the economic environment changes and individuals are caught in a network that doesn't allow them to benefit from these new economic opportunities.

These insights have been applied to the caste system (Munshi, Forthcoming). Munshi and Rosenzweig (2009) for example explored whether attachment to the jati network, may not be a reason why the level of rural to urban migration is so low in India. Indeed, India's urbanization rate stands out compared to countries comparable in terms of economic development. As a matter of fact, compared to China, Indonesia or Nigeria, India's urbanization rate was quite similar until the late 1970's, when it started to diverge drastically, with a level of urbanization remaining remarkably low. Could it be that the importance of the services offered to its members by the jati network is in fact so high that in spite of the development of new economic opportunities in urban areas, people tend to prefer to remain in rural areas, with their fellow jati members ? Using the REDS data, a very detailed data on migration, marriage and caste based insurance arrangement, Munshi and Rosenzweig show strong supportive evidence that the characteristic of the insurance services offered by a jati strongly affects the probability to both marry outside the jati and migrate. They show that jatis do offer a strong level of insurance to their members, as measured by tests of risk sharing⁴, and that individuals associated to the benefits of these insurance tend indeed to migrate less, and to out marry less than individuals that benefit only marginally from these services.

However, this result is only suggesting that there may be dynamic inefficiencies: we do not know if indeed, in the long run, it would have been better for individuals to migrate or no, even if this evidence is quite suggestive.

Munshi and Rosenzweig (2006) go further in developing evidence of these dynamic inefficiencies. Looking into the schooling choices in Mumbai, they show that the returns to being educated in an English speaking school increases with the economic liberalization of the early 1990's. However, the jatis who tend to rely heavily on jati network to gain access to employment (typically low castes in blue collar type of jobs) will tend to maintain their children in Marathi speaking schools despite the constraint that this represent for the professional career of their children. Indeed, their children will be less able to speak English, and therefore, to benefit from the newly developing economic activities of the city. Obviously, one may think that the reason why these children are not scholarized in English speaking schools may be linked to discrimination against lower castes. That is indeed possible. However, Munshi and Rosenzweig show that this pattern is only true for male and not female children: female

⁴ Which measures the extent to which an income shock faced by a member in a given year affects the consumption of that member during that year, if other members of the network do not face that shock. If risk sharing is high, then facing an income shock at the individual level should not affect individual consumption, since network level insurance mechanism would allow that individual to spend more than her income: consumption in a given year should only depend on the total income of the network. In the absence of risk sharing mechanism, then consumption in a given year should be highly correlated to income in that same year, at the individual level, but not at the network level.

children are increasingly scholarized in English speaking schools, while male children are not, which is at odds with a simple discrimination explanation. The explanation of the authors is that the jati networks enabling the access to these blue collar jobs were typically useful only for males (since females would not work in these occupations). Therefore, the social identity of the male members of these jati revolved around working in a blue collar occupation. Putting one's male child in a English speaking school would be an indication of a betrayal of that identity, which may come at a cost (either an individual cost, the feeling of betraying one's identity, or a social cost, with some form of social sanction against the parents putting their male children in an English speaking school), while no such cost would exist for girls. Therefore, while their parents have benefited from the jati network, which has allowed them to enter blue collar occupations, male children may suffer from the very existence of these networks, which forces them into a career path which may not be relevant anymore, given the changes in economic conditions.

Do these rigidities matter at the level of the entire Indian economy? Cassan et al. (2019) combined jati level information from the 1911 census, the Indian Human Development Survey (2011-12), the Demographic and Health Survey (2005-6) as well as the People of India Project (Singh, 1996) to compute a large scale database on occupation choices, wages and jati traditional occupation. They use this dataset to estimate the cost that the rigidities linked to the caste system may impose on the economy. By preventing individuals from freely choosing their occupation, the caste system may slow down economic activities, as already alluded to by Ambedkar⁵. Indeed, the caste system, which imposes an occupation on individuals may lead to "misallocation of talent": individuals end up working in an occupation not best suited for them, which comes at a cost for the economy as a whole. Indeed, these authors find that individuals tend to be twice as likely to work in the traditional occupation of their jati than in any other occupation. On top of that, they find evidence that within a given jati, individuals working in the traditional occupation appear less productive than individuals working in an other occupations. That is, there is evidence that members of jatis working in their traditional occupation may very well have been more productive in an other occupation.

Therefore, even when controlling for network and human capital transmission effects, jati is a strong determinant of occupational choice, which prevents individuals to work in the occupation in which they would be more productive, leading, in general equilibrium, to worst economic performances.

In the political sphere, also, there are drawbacks related to the reliance on jati networks. While at the very local, as already discussed, there may be evidence of benefits of an increased control of a jati on its representative, at other levels of representation, these benefits may disappear. Banerjee and Pande (2007) have for example shown that for legislative elections, the tendency to vote for ones' caste leads to a lower quality of elected personnel. Indeed, if electors vote for candidates based on their caste identity, and, because the elections are at

⁵ "[Industry] undergoes rapid and abrupt changes. [...] an individual must be free to change his occupation. [...] Now the Caste System will not allow Hindus to take to occupations where they are wanted, if they do not belong to them by heredity. [...] By not permitting readjustment of occupations, Caste becomes a direct cause of much of the unemployment we see in the country." (Ambedkar, 1987)

the state level and not at the panchayat level, they can not exert any direct control on their action, then the caste identity of the candidates may compensate for the lack of skill.

Along the same lines, Lehne et al. (2018) have shown that the delivery of contracts for road construction in the PMGSY program may be diverted due to jati based linked between the members of the legislative assembly in whose constituency a road is being built and contractors. Indeed, they show that when MLA and contractors share the same last name (a proxy for sharing the same jati), the probability for the contractor to win the road construction contract increases by 83%.

Hence, caste networks appear to impose significant costs on the economy: by restraining socio-economic mobility and by affecting the functioning of the state, it affects the performance of the economy as the whole.

III. Caste as a system: Homo economicus meets homo hierarchicus

Studying jatis as a network has yielded very useful results, and has deepened our knowledge of its role in the Indian economy. However, this approach also neglects many of its important aspects. In particular, it puts aside that there exists a caste system, and that studying each jati independently from the other does not allow a full understanding of the role of jatis in economic decisions.

A new strand of studies, often drawing from contributions of other social sciences, is embracing the specificities of castes. Indeed, castes are part of a system which codifies relationship across castes, often in a hierarchical manner.

A novel strand of research is specifically focusing on these aspects of the caste system, often by collecting specifically tailored dataset, or by offering a new take on already existing datasets.⁶

Anderson (2011) has for example studied the trade of water across jati in rural Uttar Pradesh and Bihar. Embracing the concept of caste dominance (Srinivas, 1955, 1987), she studies how the constraint put on the sharing of water across castes affects agricultural productivity. In particular, she shows that in villages in which low castes are the dominant castes, then access to water for members of these castes is not an issue, while the opposite is true when high castes are dominant. This results in dramatic differences in agricultural productivity for low castes in villages not dominated by them, despite the fact that there are no differences across those two types of villages in terms of the quantity and quality of land these caste own. Her main finding is that the agricultural yields of low castes relying on water buying and residing in villages in which high castes are dominating (and controlling water access) is 45% lower than those of low castes relying on water buying but residing in villages in which water sellers are of the same caste.

Anderson et al. (2015), despite not explicitly referring to it, analyse the political consequences of the jajmani system (Wiser, 1936). Collecting a novel dataset on political and socio-economic

⁶ Note that I chose not to present here the large body of work pertaining to caste based discrimination, as this is covered in Ashwini Deshpande's chapter.

relationships in rural Maharashtra, they offer an explanation to the puzzle of how, in a democracy such as India, in which the large majority of the population lives in poverty, the policies implemented often are not to the benefit of the poor. In the specific context that they study, they analyse how, at the panchayat level, the Maratha jati came to maintain its political dominance in a democratic context, and to implement policies going against the interests of the poor majority⁷. Their argument is that Maratha landlords, in the villages that they dominate, will buy the votes of agricultural labourers by offering them insurance. This will allow the local dominant Maratha to get the upper hand on policy delivery at the local level and therefore a better control of the local labour force. Thanks to the depth of their data collection, Anderson et al. (2015) can show that indeed, in Maratha dominated villages, landless households tend to report that they have more often access to informal insurance than in non Maratha dominated villages, but that in those same villages, those same households have a lower access to pro-poor policies, while Maratha landlords obtain higher profit from their land.

Therefore, by considering castes as embedded within a system, economists have been able to uncover and measure how important this system of relations affects economic decisions, as exemplified by the economic costs due to the absence of trade of water across castes, as well as the capture of local electoral offices by dominant castes.

IV. Caste and gender

A burgeoning field in the economics literature delves into the interaction between caste and gender. One main focus of attention of this literature is the fact that gender norms, and in particular, women mobility and labor force participation, widely differ across jatis. Indeed, it has long been documented that women of lower castes background tend to be facing less constraints in that dimension than women from high caste background (Mencher, 1988; Chakravarti, 1993; Kapadia, 1997; Drèze & Sen, 2002; Joshi et al., 2017).

Therefore, differences in jati level reaction to changes in the economic or political environment may be linked to these differences in gender norms.

Luke and Munshi (2011) show that in the context of the tea estates of the High Range in Kerala and Tamil Nadu, low caste households who have migrated to work on these tea estates seem to give a higher education to their children than high caste households working in the same estates, despite having similar income. In particular, they show that when the relative income of the mother in the household is high, the education of children increases, but only for low caste households. Their interpretation is that while women may want to educate their children more than men do, and that women with a relatively high income within their household may have a higher bargaining power, it is only women of low caste that succeed in rising the education of their children when their relative income is high. That is, it is likely that the social

⁷ As measured by the non implementation of pro-poor policies such as the distribution of Below Poverty Line cards or access to Employment Guarantee Scheme programs.

norms against women participation in household decision among high castes may be too high for them to be able to influence the education of their children, compared to low castes⁸. In their view, this is indicative that novel economic opportunities may be seized more easily by women of low castes, one of the group the most disadvantaged in India, due to the fact that they are less constrained by social norms.

In the same line of thought, Cassan and Vandewalle (2019) look into how the relatively high physical mobility of low caste women may interact with gender specific policies. Analysing the implementation of quotas for women in panchayat's presidents elections, using data representative of rural India, they show that in elections reserved for women, the representation of low castes increases drastically. Table 1 shows that when an election is not reserved, 50.9% of the elections are won by high caste males⁹. However, when the election is reserved for women, the candidate that wins that election is a low caste woman in 64.6% of the cases. That is, the gender quota not only changes the gender of the president but also, often, its caste. Taking advantage of the wealth of information available in the dataset, they can then show that the women elected under this quota do not only implement policies closer to the preferences of women (as documented in Chattopadhyay and Duflo, 2004) but also closer to the preferences of low castes.

Table 1: Reservations and President Characteristics

	No reservations	Reserved for women	Reserved for LC
HC men	50.9%	0%	3.1%
LC Men	42.6%	4.6%	87.6%
HC Women	3.7%	30.8%	0%
LC Women	2.8%	64.6%	9.3%
Number of Elections	108	65	97

Source: The REDS 2006 data. Elections reserved for both women and LC are excluded

The research on the interaction between gender and caste therefore appears to be a promising field, providing novel and thought provoking findings. It shows in particular that the dynamic inefficiencies and the caste hierarchy discussed above may become questioned as women of low castes managed to benefit from novel political and economic opportunities better than their high castes counterpart, which may prove to have far reaching consequences for the caste system as a whole in the long run.

V. Discussion

In the last decades, economists have entered the debate on the role of jatis in the Indian economy. Using both tools that were developed for different contexts, and developing specific

⁸ Note that the authors also find evidence of backlash, as marital violence also seem to be higher against women of low castes whose relative income is high.

⁹ They define high caste as non OBC, non SC and non ST, while low castes are defined as OBC, SC or ST. Muslims are almost not represented in their sample. In that definition, high castes represent around 20% of the population, and high caste males 10% of the population. They are therefore over represented.

ones for the study of the caste system, the contribution of economists has allowed to greatly broaden our knowledge of the role of caste in the Indian economy. In particular, we now have a better grasp of the quantitative extent of this importance.

However, there are only few datasets available to scholars. Indeed, scholars have either relied on datasets that they had collected by themselves, which may not be an option for many, or on one specific dataset, the REDS data, the access to which implies high administrative costs. Until recently, economists had remained shy of systematically analysing the jati data available in public datasets such as the Indian Human Development Survey or the Demographic and Health Survey. With the decrease in data treatment cost, this has become possible (Cassan, 2019; Cassan et al. 2019): the quantitative analysis of jati data is “democratizing” and economists are now more and more able to study the role of jati with such publicly available data or via clever ways of treating administrative data (Lehne et al., 2018). We can therefore expect an important increase in the study of jatis in the forthcoming years, as has been the case for the analysis of ethnic groups in Sub Saharan Africa in the last decade, following the digitization of sources such as Murdock (1959, 1967).

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