Economics focus

The plough and the now

Deep-seated attitudes to women have roots in ancient agriculture

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FERNAND BRAUDEL, a renowned French historian, once described a remarkable transformation in the society of ancient Mesopotamia. Sometime before the end of the fifth millennium BC, he wrote, the fertile region between the Tigris and the Euphrates went from being one that worshipped "all-powerful mother goddesses" to one where it was "the male gods and priests who were predominant in Sumer and Babylon." The cause of this move from matriarchy, Mr. Braudel argued, was neither a change in law nor a wholesale reorganisation of politics. Rather, it was a fundamental change in the technology the Mesopotamians used to produce food: the adoption of the plough.

The plough was heavier than the tools formerly used by farmers. By demanding significantly more upper-body strength than hoes did, it gave men an advantage over women. According to Mr Braudel, women in ancient Mesopotamia had previously been in charge of the fields and gardens where cereals were grown. With the advent of the plough, however, farming became the work of men. A new paper* by Alberto Alesina and Nathan Nunn of Harvard University and Paola Giuliano of the University of California, Los Angeles, finds striking evidence that ancient agricultural techniques have very long-lasting effects.

Long after most people have stopped tilling the land for a living, the economists find, their views about the economic role of women seem to line up with whether their ancestors ploughed or whether they hoed. Women descended from plough-users are less likely to work outside the home, to be elected to parliament or to run businesses than their counterparts in countries at similar levels of development who happen to be descended from hoe-users. The research reinforces the ideas of Ester Boserup, an economist who argued in the 1970s that cultural norms about the economic roles of the sexes can be traced back to traditional farming practices.

The economists trawled a vast amount of rather unusual data to reach their conclusions. Their primary source of information was a detailed ethnographic description of over 1,200 language groups across the world. For each group, the data included a description of its agricultural methods as far back in time as it was possible to go using historical evidence or, in the case of groups which did not have a written language, the first time they were observed by outsiders. The data also noted whether agriculture was the preserve of either of the sexes, or whether both participated. Historically, women were much more involved in farming among groups that did not use ploughs.

Despite a host of changes over the subsequent centuries—such as industrialisation and higher overall rates of female participation in the workforce—the economists find that variations between countries in the fraction of adult women who work outside the home can be explained rather well by the farming practices of their ancestors. This variation is huge. Only about a quarter of women in the Arab world work outside their homes, but 91% of women in Burundi do. In most industrialised countries the fraction ranges between half and three-fifths. But in countries like Rwanda, Botswana, Madagascar or Kenya, whose people are predominantly descended from hoe-users, women are far more likely to be in the labour force than those in historically plough-using places like India, Syria or Egypt.

This alone does not prove the Boserup hypothesis. It is possible that societies which had very strong notions about “a woman's place” or “men's work” were the ones which adopted the plough. Did the plough cause attitudes to be formed, in other words, or did existing attitudes lead to its adoption?

The academics point out that the decision to choose—or abstain from—plough cultivation has a lot to do with the type of farmland and climate. Broadly speaking, ploughs are most useful for crops that require large tracts of land to be tilled in a short span of time, perhaps because the climate favours a grain with a relatively short growing season. Crops like wheat, teff, barley and rye are well-suited for plough-based farming; others, including sorghum, millet, roots and tubers, benefit less from the use of the plough. The economists were able to use measures of agro-climatic conditions to predict which parts of the world would adopt the plough. The data show that ethnic groups whose ancestors would have been expected to pick ploughs based on climatic conditions have sharply differentiated economic roles for the sexes even today. So it seems reasonable to argue that its use drove attitudes rather than the other way around.

The furrow of history

The economists offer a final piece of evidence that suggests that agricultural history still affects people's beliefs. Using data from the World Values Survey, they show that descendants of plough-users are significantly more likely to agree with a statement that men should have first dibs on jobs when unemployment is high. They also tend to agree that men make better political leaders. Such beliefs survive immigration: the authors find that the daughters of immigrants to America are less likely to work if their parents came from a traditionally plough-based society.

These attitudes are not fixed for ever. Many Western countries (which were predominantly, but not exclusively, inhabited by plough-users) became radically more receptive to mothers working full-time thanks to the second world war, which forced many women to take on hitherto “male” jobs. Yet even now, the share of adult women who work outside the home in OECD countries is about 16 percentage points lower than the corresponding share for men. Policies that make it easier for women to balance their family lives with the demands of the workplace are up against attitudes that have their roots deep in ancient history.

* “On the Origins of Gender Roles: Women and the Plough”, May 2011

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