Economic Development and Gender Equality Revisited: Is there a U-Shape or Do Institutions Explain it all?

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The fruits of economic growth are not always distributed fairly, both between and within countries. Women are one group that is especially likely to be disadvantaged relative to men. This is all the more striking given that women share most aspects of their lives with men. It is therefore not surprising that as early as 1792 Mary Wollstonecraft outlined a program for the emancipation of women: education of girls, an end to prejudice against women, and that women should be evaluated on their own merits and not their partners'. Besides this intrinsic importance, women's economic empowerment is also thought to be smart economics. There is a growing body of evidence that improving women's access to resources and legal standing can improve children's education (Currie and Moretti 2003) and stimulate economic growth (Klasen 2002; Klasen and Lamanna 2009).

Despite the evidence on the literature and the calls by leading international organizations such as the World Bank, women and men are still treated differently in many countries. Economic empowerment is an especially important aspect of this as even in developed countries, substantial gender gaps in earnings exist to this day (Arulampalam Booth and Bryan, 2007). In the Middle East, female labour force participation is low despite good female education attainment (Vishwanath 2012).

Different views exist on the drivers of gender inequality (Dilli et al. 2014); however, most attention has been paid to economic development as one of the most crucial contributors in improving women's position. In particular, the long-term evolution of women's economic empowerment, and particularly female labour force participation is often thought to have a non-linear relationship with economic development. Goldin's (1995) U-shaped curve between economic development and female labour force particpation is the best-known example, but other research has arrived at similar non-linear relations (Eastin and Prakash 2013; Iversen and Rosenbluth 2006; Boserup 1970). The idea is that in the initial stages of growth, men move into higher productivity jobs, especially industry and this income effect lowers women's labour force participation. However, eventually a tipping point is reached where women's wage-earning opportunities in the service sector outweigh the family income effect. Alternatively, initial gains in women's empowerment may temporarily reinforce traditional norms that preclude the inclusion of women in life outside the household (Eastin and Prakash 2013).

While institutions and customs are mentioned in this process, explanations of this non-linear relation tend to focus on the sectoral shares. Moreover, most of this literature sticks to testing the relation between development and female labour force participation. This paper intends to give serious attention to the institutions necessary to translate economic growth into women's economic empowerment, which has been overlooked so far. It intends to investigate what role institutions have in hindering or strengthening the relation between economic development and women's economic empowerment in the long run.

We see this as key because, although institutions related to gender may improve as the economy develops (Doepke and Tertilt 2009), there is also reason to believe that institutions are slow to change. This is especially the case when institutions are rooted in history and cultural practices (Nunn 2009, 2012). A well-known example is the recent finding that attitudes determined by agricultural practices still determine gender equality outcomes today (Alesina et al. 2013). The fact that institutions respond slowly to economic change could be an important explanation of the observation that in the early stages of economic development, the position of women does not improve accordingly.

Therefore, the hypotheses to be tested in this paper are the following.
1. The relation between economic growth and women's economic empowerment is conditional on the presence of institutions conducive to gender equality.
2. Institutions related to women's economic empowerment slowly change in response to economic growth. Therefore, in societies that do not have these institutions as an initial condition, it would take longer for economic development to translate into a higher level of women's empowerment.

We focus on a selection of 14 countries to be able to look at long term developments. In the selection we strive to include a set of countries from most of the world's regions. Our data covers the United States, Great Britain, Argentina, Brasil, Mexico, the Netherlands, France, Poland, Turkey, Egypt, India, China, Kenya and Uganda.

Our dependent variable is women's economic empowerment. However this is a multidimensional concept (Carmichael et. al 2014; Dilli et al. 2014). We therefore use multiple indicators of women's economic empowerment to fully capture women's position. First, we look at earnings of women relative to men using the ILO databases since 1924 (cf De Zwart et al. 2014). Earnings are indicative, to some extent, of the potential for control over resources that women have in a given society. Secondly, we capture female labour force participation using Mitchell (2007) and the ILO database from 1945 onwards, cross-checked with the census data (see below). This gives us a measure of how accepted it was for women to work outside the household. Lastly we look at the enrolment of girls in education (Mitchell 2007; Barro and Lee 1996).

To operationalise household-level institutions we look at actual household formation in census-data. Wherever possible we use micro-data itself, but for countries where these are not available we use the aggregate region or country level census reports. These data can tell us about marriage patterns (Carmichael 2011), where early marriage limits the room for women to enter education and the labour force. We will also explore using ethnographic and census sources the prevalence of extended households, which are indicative of the patriarchal structures of a society. This will be supplemented by information of inheritance and polygamy, for which micro data will be largely unavailable. However using a new dataset on country family systems we can look at these two indicators at the macro level (Rijpma and Carmichael 2013).

Our starting points for the data on macro institutions related to women's economic empowerment are the Social Institutions and Gender Index (SIGI: Branisa et al. 2012) and the World Bank's Women's Legal Rights databases (Hallward-Driemeier, Hasan, and Rusu 2012). SIGI is a cross-country measure of discrimination against women in social institutions focusing both on formal laws and informal institutions, as well as social norms and practices across 160 countries since 2009. The database by the World Bank provides insight into women's property rights and legal capacity in 100 countries in the last 50 years. We extend these databases back to 1870, particularly focusing on laws introduced to set a minimum marriage age for women; laws on women's property rights (whether women can own property), women's legal status (whether they can sign a contract) and women's position in the labour market (women's ability to work without permission from their father or husband). In addition to these data sources, we look at whether similar rules on compulsory education were applied to boys and girls.

At the macro level we take into account global institutions, which also played a crucial role in the legislation introduced at a national level. One exampleis the Convention to Eliminate All Forms of Discrimination Against Women (CEDAW) in 1981. We will also look at the years countries became member of international organizations such as UN and whether this corresponds with an improvement in women's economic position.

Data on economic growth comes from the Maddison 2010and will be supplemented by more recent datasets giving long-term insights as to the sectoral composition of the economy (Timmer, De Vries, and De Vries, 2014; Wingender 2014; Klein Goldewijk 2011)

Our basic empirical strategy is the estimation of a panel model with interactions to assess the conditional relationship between economic growth, institutions, and women's economic empowerment. This will provide empirical support for our first hypothesis. Furthermore, we will use structural equation modeling to simultaneously test direct and indirect (via institutions) effects of economic growth on women's economic empowerment. This will also provide us with insight into whether and how economic development plays a role in altering institutions related to women's empowerment. As a last step, we will focus on individual country cases to evaluate the long and short-term impacts of economic development and institutions on women's economic empowerment by applying a time series analysis. By applying these two additional analysis we test our second hypothesis.

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