ON THE ORIGINS OF GENDER ROLES: **WOMEN AND THE PLOUGH (2013)**

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Addendum

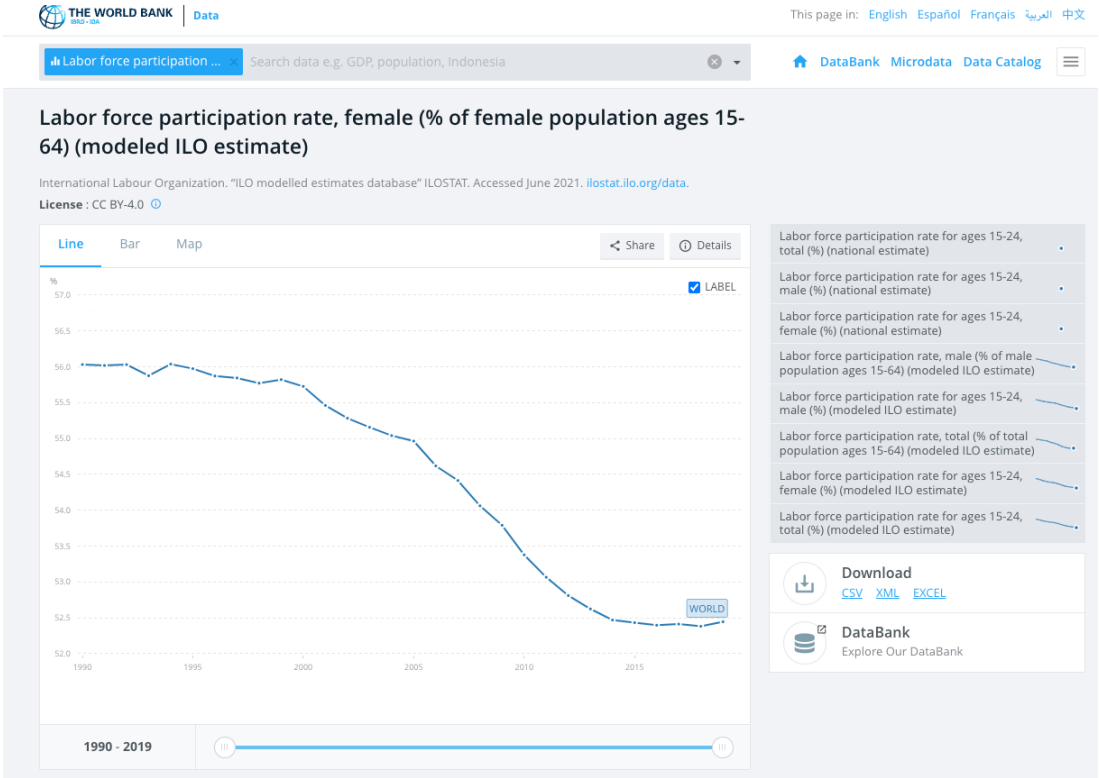
Topics suggested for further exploration during the exam presentation.

Addendum Extension 1. Replicating the claimed results in the paper

Claimed dataset used in paper (2013)

Female labor force participation measured at the country level is taken from the World Bank's *World Development Indicators*. The variable is measured in the standard manner: the percentage of women aged 15 to 64 that are in the labor force. The variable is measured in 2000. The measures for the 1950s–1970s are taken from the ILO's historical archive, accessible at: `http://laborsta.ilo.org/`.

Where we took the data today (2023)



Addendum Extension 1. Replicating the claimed results in the paper

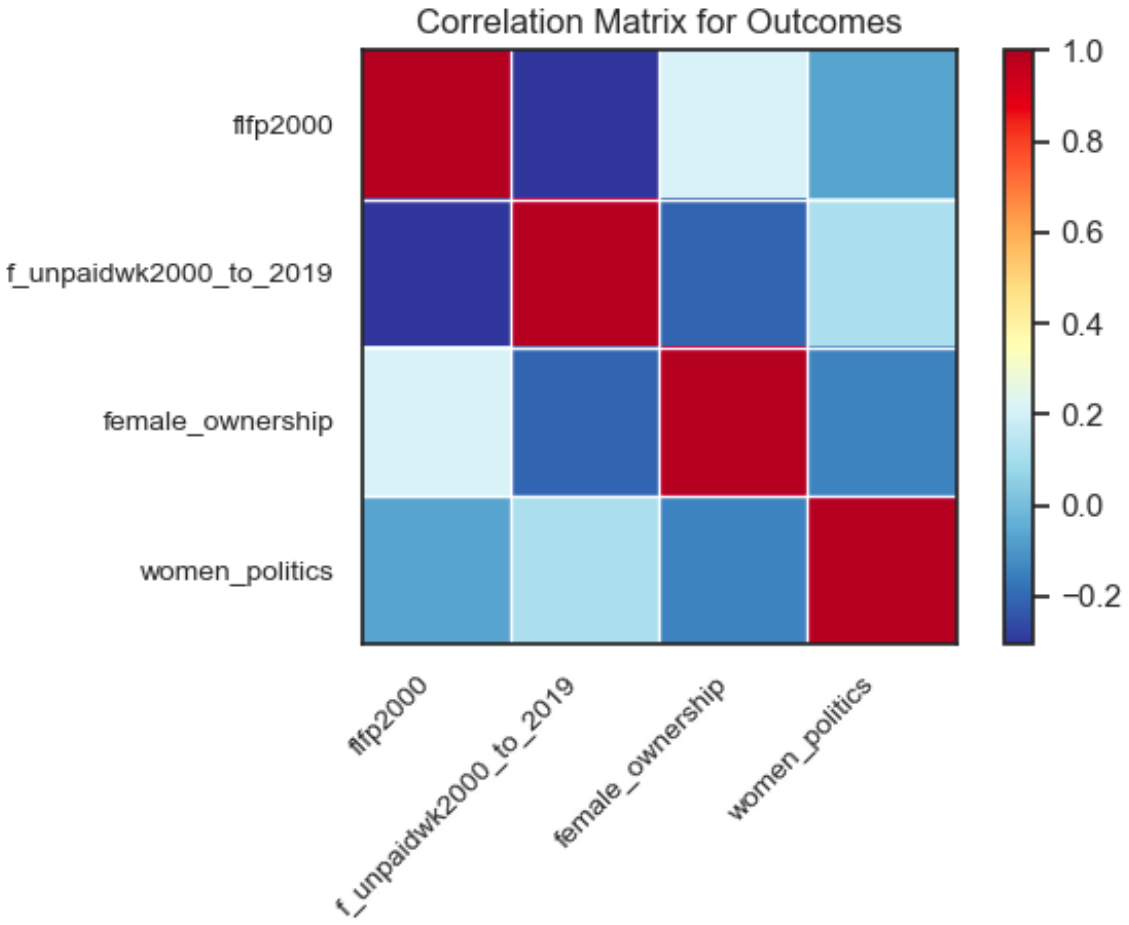
Results of the paper are robust to this dataset. Perhaps a revision of the numbers?

Notable:

- Plow unchanged much
- R^2 similar
- Tropical climate variable changed (+ x3.5 std)

	F_lab_part2000 paper	F_lab_part2000 found in wb
	(1)	(2)
Intercept	51.658***	59.879***
	(6.338)	(7.837)
agricultural_suitability	9.407**	8.482**
	(3.885)	(4.046)
economic_complexity	0.170	1.513
	(0.849)	(1.002)
large_animals	10.903**	7.446
	(5.032)	(5.978)
plow	-14.895***	-14.443***
	(3.318)	(3.838)
political_hierarchies	-0.787	-1.667
	(1.622)	(1.705)
tropical_climate	-8.644***	-16.702***
	(2.698)	(3.050)
Observations	177	175
R^2	0.222	0.241
Adjusted R^2	0.195	0.214
Residual Std. Error	13.980 (df=170)	15.661 (df=168)
F Statistic	7.306*** (df=6; 170)	8.214*** (df=6; 168)
Note:		*p<0.1; **p<0.05; ***p<0.01

Addendum Extension 2. Is the new outcome variable “female unpaid work” orthogonal to the previous outcomes?



Answer is new variable is orthogonal to a great extent (corr. only ranges from 0.37-0.04).

As a side note, as expected, the correlation is negative - the more females do unpaid work the less they tend to participate in the labour force and own businesses.

Addendum Extension 2. Transforming the female unpaid work to capture more variance

New variable transformation: Male unpaid work / female unpaid work (in %)

Interpretation: for every unpaid hour worked by females, what percentage of that hour would males work in a given country?

Conclusion from picture: Plow does not predict inequality as measured in unpaid work done by females. In this sample the trend is even opposite to what is expected (albeit not stat. significant)

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	f_unpaidwk2000_to_2019	M/F ratio unpaidwk2000_to_2019
	(1)	(2)
Intercept	-24.474*	170.044**
	(14.059)	(66.308)
economic_complexity	-0.778***	-0.309
	(0.267)	(0.946)
fertility2019	0.309	-4.554
	(0.701)	(2.949)
ln_income	10.813***	-35.482**
	(3.017)	(15.098)
ln_income_squared	-0.650***	2.485***
	(0.174)	(0.900)
plow	-1.208	-6.409
	(1.212)	(6.192)
political_hierarchies	1.089*	1.691
	(0.609)	(2.317)
Observations	83	83
R^2	0.256	0.360
Adjusted R^2	0.198	0.309
Residual Std. Error	3.360 (df=76)	14.164 (df=76)
F Statistic	4.780*** (df=6; 76)	5.213*** (df=6; 76)
Note:		*p<0.1; **p<0.05; ***p<0.01

Addendum Extension 2. Transforming the female unpaid work to capture more variance

Replicating the results in the paper using the values present in the regression with the new unpaid female work dataset. (New dataset of 89 countries is more sparse than the one in paper, and sometimes does not match)

Before and after meaning: before - paper original result, after – using new dataset countries only.

Conclusion: 3 out of 4 outcomes with the plow variable are consistent with the new dataset values. That gives more confidence in the lack of relationship for plow and unpaid female labour. This also means that this gender outcome does not prove the hypothesis of the paper.

	flfp2000 before	flfp2000 after	female_ownership before	female_ownership after	women_politics before	women_politics after	aes before	aes after
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C(continent)[T.Asia]		-6.508		4.266		1.372		0.556*
		(6.956)		(8.630)		(3.292)		(0.325)
C(continent)[T.Europe]		-20.280***		3.608		3.798		0.605
		(7.195)		(12.865)		(5.501)		(0.399)
C(continent)[T.North America]		-19.676***		0.516		5.291		-0.189
		(4.268)		(6.517)		(3.938)		(0.187)
C(continent)[T.Oceania]		-6.242		9.310		0.161		0.056
		(8.977)		(8.426)		(3.687)		(0.318)
C(continent)[T.South America]		-14.037**		7.816		2.624		-0.089
		(5.747)		(7.278)		(4.483)		(0.285)
Intercept	51.658***	61.393***	34.481***	34.940**	17.096***	7.681	2.020***	1.941***
	(6.338)	(10.031)	(10.386)	(16.193)	(4.810)	(7.105)	(0.302)	(0.594)
agricultural_suitability	9.407**	10.534*	1.514	-1.403	1.009	2.210	0.312	0.267
	(3.885)	(5.922)	(5.358)	(8.819)	(2.799)	(4.533)	(0.229)	(0.316)
economic_complexity	0.170	2.199*	1.810*	1.948	1.082**	-0.014	0.048	-0.012
	(0.849)	(1.274)	(1.023)	(1.619)	(0.491)	(0.718)	(0.037)	(0.059)
large_animals	10.903**	-1.011	-0.649	11.147	-9.152**	-4.718	0.174	0.240
	(5.032)	(8.336)	(9.130)	(11.986)	(4.052)	(6.156)	(0.197)	(0.359)
plow	-14.895***	-15.350**	-16.243***	-12.562	-2.522	-3.705	-0.736***	-1.471***
	(3.318)	(7.034)	(3.854)	(8.446)	(1.967)	(3.846)	(0.148)	(0.346)
political_hierarchies	-0.787	1.008	1.502	-2.060	0.906	2.105	0.080	0.164
	(1.622)	(2.339)	(1.845)	(2.967)	(0.740)	(1.383)	(0.070)	(0.120)
tropical_climate	-8.644***	-16.906***	-11.091***	-15.494*	-7.671***	0.423	-0.322**	0.087
	(2.698)	(4.459)	(3.608)	(8.189)	(2.370)	(3.910)	(0.147)	(0.324)
Observations	177	84	128	63	153	72	107	56
R^2	0.222	0.318	0.179	0.209	0.174	0.129	0.254	0.434
Adjusted R^2	0.195	0.214	0.138	0.038	0.140	-0.031	0.209	0.293
Residual Std. Error	13.980 (df=170)	15.291 (df=72)	14.134 (df=121)	15.054 (df=51)	8.390 (df=146)	8.380 (df=60)	0.527 (df=100)	0.510 (df=44)
F Statistic	7.306*** (df=6; 170)	5.598*** (df=11; 72)	4.871*** (df=6; 121)	13.923*** (df=11; 51)	4.415*** (df=6; 146)	1.213 (df=11; 60)	6.490*** (df=6; 100)	3.741*** (df=11; 44)
Note:								*p<0.1; **p<0.05; ***p<0.01