INDONESIA DEVELOPMENT FORUM

INSPIRE • IMAGINE • INNOVATE

Kementerian PPN/Bappenas

KN WLEDGE SECTOR INITIATIVE

Australian Government

Indonesia Development Forum 2017

Fighting Inequality for Better Growth

Jakarta, 9-10 August 2017

Ethnic social norm and Female Labor Force Participation in Indonesia

Ethnic social norm and Female Labor Force Participation in Indonesia

Ilmiawan Auwalin

Ph.D Candidate, School of Economics, the University of Sydney, Australia.

Faculty of Economics and Business, Universitas Airlangga, Surabaya, East Java, Indonesia.

Indonesia Development Forum, 9 August 2017

Introduction

- Globally, and also in the case of Indonesia, women make up over half of the population.

- However, female labor force participation rates remain stagnant at around 50 percent in the past 3 decades.

- There are possible significant macroeconomic gains if women are able to develop their full labor market potential:
  - Enhancing productivity which will boost economic growth (Do et al. 2011; Aguirre et al. 2012; World Bank 2012)
  - Improving development outcomes for the next generation (Thomas 1990; Duflo 2003; Doss 2006; Schady and Rosero 2008; Luke and Munshi 2011, among others)

- The effect of economic development, rising women's education, and declining fertility help explaining the changes in female participation rates in the past.

- However, these variables have been less helpful in explaining the stagnation in female labour force participation in the more recent times.
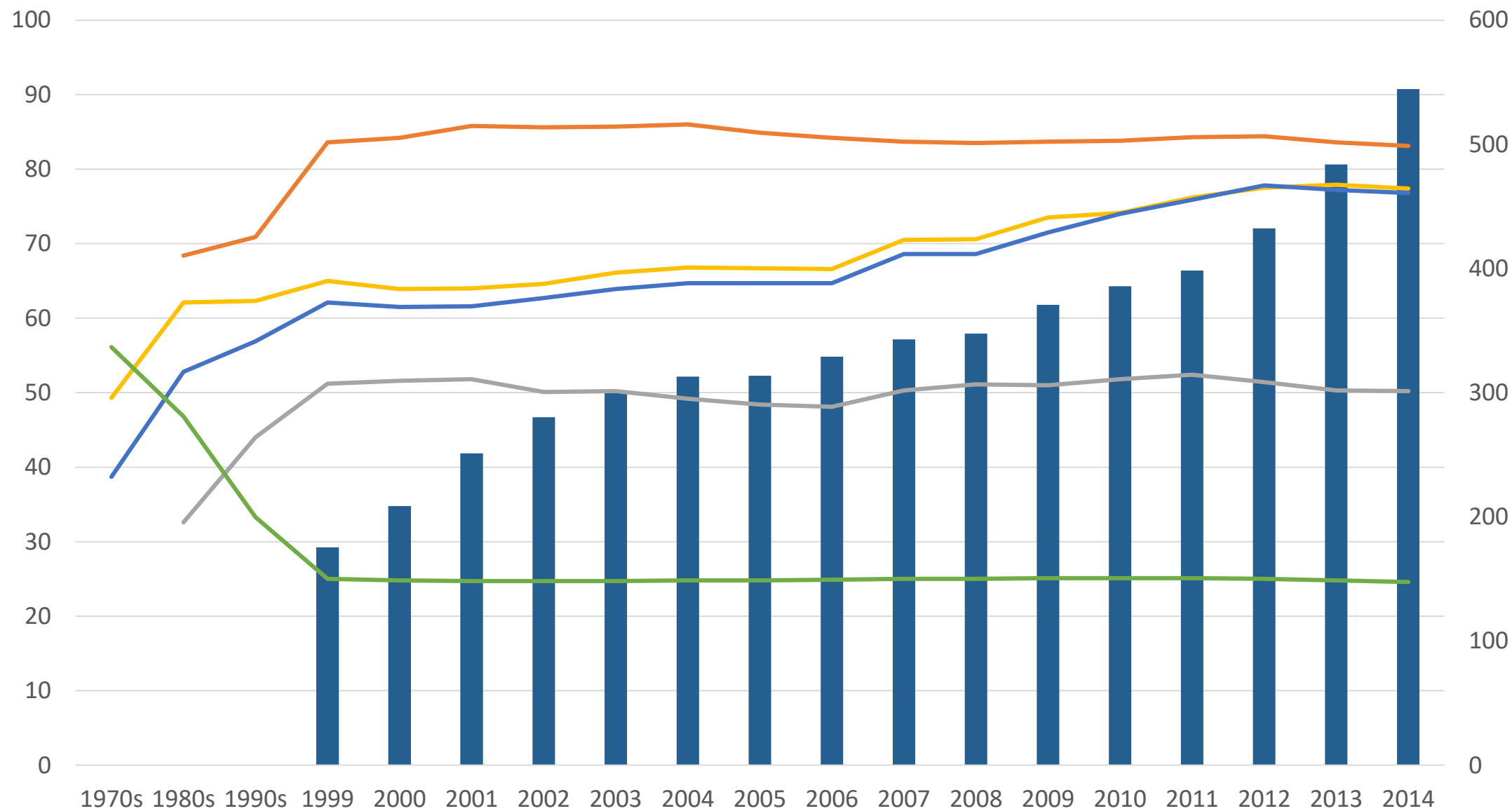
Legend:
- Average Real minimum wage (000 IDR - right scale)^^
- Male Labour Force Participation (%)*
- Female Labor Force Participation (%)*
- Male School Enrolment (%)**
- Female School Enrolment (%)**
- Fertility rates (births per 10 woman)^

- Recent studies turn the attention to the role of informal institutions, particularly cultural or social norms, on female labor force participation (Fernandez & Fogli 2009; Goldin 2006; Fernandez 2013).

- The studies suggests that more traditional social norms related to gender roles for family care and housework and for mobility can limit women's participation in the labour market.

- However, those studies have been mostly focusing on developed countries using the case of women from later generation of migrants from different cultural background of origin.

- This study specifically attempts to identify the causal effect and the transmissions of ethnic social norms, in terms of kinship norms, on the female labor force participation in Indonesia.

Women decision to work

- Following Fernandez (2013), a woman makes a decision to work outside home to maximize:

$$U(w_i, v_i) = \frac{c^{1-\gamma}}{1-\gamma} - 1(E_{it}v_i), \qquad \gamma \geq 0$$

- w_i is a woman i's earnings, $w_i > 0$ only if she works
- v_i is the disutility of working
- 1 is an indicator function, 1 if she works and 0 otherwise.
- v_i consists of l_i (a known idiosyncratic component) and B_i (an unknown component, with expected value of β).
- The realization of B_i is revealed only if the woman works.
- Hence, expected value of v_i is $E_{it}v_i = E_{it}(\beta) + l_i$

Women learn from older women in her household

- Before the woman *i* makes decision to work, she observed a private signal s_i from older woman in her household that will form the true value of β for her.

- After obtaining the private signal s_i, the woman *i* updates her prior belief on the values of working woman.

- Up to this point, apart from the private signal s, there is no transmission of the ethnic group norms regarding working women from one generation to the next within the ethnic group communities.

Transmission of ethnic group's norm to the next generation

- Other than private signal from within women *i*'s household, there is additional information of work decision as an aggregate within her ethnic group, L_t.

- L_t is observed by women at *t+1* which was not known by women at time *t*. L_t would be in the form of noisy signal.

- Hence, ethnic norm in this study is specified as <u>a combination of the two signals that woman *i* observes</u>, the private signal s_i from older women in the household and the public signal y_t from her ethnic groups.

Context of study: Indonesia

- Indonesia provides an interesting case to study:
  - a large number of different ethnic groups, Census 2010 identified 1,471 ethnic groups and sub ethnic groups.
  - each ethnic group has some distinctive social norms on the role of male and female.
- However, there are challenges:
  - Prior to the 2000 census, ethnic information in Indonesia's population was only identified in the Dutch colonial census in 1930.
  - During the New Order periods, ethnicity questions were not included due to the policy to emphasize on Indonesian nationality.
  - Starting in the census 2000 and continued in census 2010, ethnicity information is included.

Data

- Uses panel data of the 5 waves of Indonesian Family Life Survey (IFLS).

- IFLS is not sampled based on ethnicity →uses the 2000 and 2010 Indonesian censuses to construct the ethnic group level of female labor force participation.

- Similar to the censuses, specific ethnic identification was firstly introduced in 4th wave of IFLS in 2007.

- Individuals from previous waves not covered in IFLS4 are identified using some proxies: influential ethnic group custom (IFLS3) & household head ethnicity.

- IFLS only identified 28 main ethnic groups, smaller ethnic groups included in the "other ethnic groups".

Identifying ethnic groups' kinship structures

- Kinship or lineage structure is chosen as this norm is the most common characteristics identified in ethnographic studies.

- Information of the kinship structure is collected from the Ethnographic Atlas (Murdock, 1967) and Encyclopaedia of Ethnic Groups in Indonesia (Melalatoa, 1995 and Hidayah, 2015).

Lineage structure	Ethnographic Atlas (Murdock, 1967)	Encyclopaedia of Ethnic Groups in Indonesia (1995, 2015)[a]
Matrilineal	3	14
Patrilineal	13	65
Bilateral	11	43
Not identified	3	602
Total Ethnic groups	*30*	*724*

Identifying ethnic groups' kinship structures – contd.

- The identified kinship or lineage structure of the ethnic groups is then matched to ethnic group in the census data an IFLS data.

- The ethnic groups in census 2000 and census 2010 are coded differently:
  - in census 2000, coded by alphabetical order of the ethnic group name,
  - in census 2010, coded by ethnic groups' province of origin from the western part to the eastern part of Indonesia.

- Standardize the ethnic codes in each census following the work of Ananta et al. (2015) who categorize 1,495 sub-ethnic groups into 618 main ethnic groups in Indonesia.

Kinship Structure and FLFP Rates in Censuses

Kinship	Combined FLFP	2000 FLFP	2010 FLFP
Patrilineal	35.96	34.66	36.91
Matrilineal	33.60	30.12	36.54
Bilateral	53.10	32.58	70.75
Total	50.31	32.72	65.14

The effect of kinship norm on Female Labour Force Participation

- In order to estimate the importance of ethnic social norms on female's decision to work, we specified a simple estimation model as follows:

$$FEMP_{ijkt} = \beta_0 + \beta_1 KINSHIP_j + \beta_2 X_{ijkt} + C_k + e_{ijkt}$$

- Where subscript *i* denotes individuals, *j* denotes ethnic group, *k* represents district, and *t* denotes census year.

- $FEMP$ equals 1 if a woman works, and 0 otherwise.

- $KINSHIP$ identifies each of the kinship structures of the ethnic groups. In the estimation, bilateral is set as the base group

- *X* is a vector of individual characteristics, including age, marital status, education year, and religion.

- C_k represents a regional fixed effect at district level, and e is the error term.

- observations are limited to female individual aged 15 to 60 years old

Summary statistics of the census data

(1) Variables	(2) Total			(3) Patrilineal			(4) Matrilineal			(5) Bilateral		
	Obs. (000)	Mean	SD	Obs. (000)	Mean	SD	Obs. (000)	Mean	SD	Obs. (000)	Mean	SD
Female Paid Employed	12,985	**0.503**	0.500	1,584	**0.360**	0.480	467	**0.336**	0.472	10,934	**0.531**	0.499
Age	12,990	**33.412**	12.291	1,585	**32.769**	12.195	467	**33.110**	12.377	10,938	**33.518**	12.298
Married	12,990	**0.698**	0.459	1,585	**0.659**	0.474	467	**0.657**	0.475	10,938	**0.705**	0.456
Education year	12,988	**7.339**	4.228	1,585	**7.530**	4.553	467	**8.653**	4.323	10,936	**7.255**	4.165
Muslim	12,990	**0.899**	0.301	1,585	**0.516**	0.500	467	**0.988**	0.110	10,938	**0.951**	0.215

Dep. Variable: Female in paid empl.	(1)	(2)	(3)	(4)	(5)
kinship = 1, Patrilineal	-0.171***	0.022	0.023	0.008	-0.006
	(0.000)	(0.015)	(0.015)	(0.014)	(0.016)
kinship = 2, Matrilineal	-0.195***	0.007	0.007	-0.026***	-0.014*
	(0.001)	(0.007)	(0.007)	(0.009)	(0.007)
Age				0.033***	0.033***
				(0.003)	(0.003)
Age^2				-0.000***	-0.000***
				(0.000)	(0.000)
Married				-0.142***	-0.149***
				(0.007)	(0.006)
Educ. year				0.018***	0.009***
				(0.001)	(0.001)
Muslim				0.030*	0.006
				(0.016)	(0.015)
Year					0.033***
					(0.005)
Constant	0.531***	0.500***	0.500***	-0.214***	-65.619***
	(0.000)	(0.005)	(0.005)	(0.039)	(10.931)
Observations	12,985,100	12,985,100	6,492,243	6,491,471	6,491,471
R-squared	0.017	0.128	0.128	0.172	0.267

- Column (2) to (5) using 30% subsample.
- Estimations with Regional Fixed Effect at district level (340 districts), except col.1
- Error clustered at ethnic group level.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Empirical model

$$YFLFP_{ijklt} = \beta_0 + \beta_1(NOFWORK_{it-1} * EFWORK_{lt-1}) + \theta_1 NOFWORK_{jklt-1} +$$
$$\theta_2\, EFWORK_{lt-1} + \beta_2 KINSHIP_l + \beta_3 X_{it} + \beta_4 H_{jt} + \beta_5 C_{kt} + \beta_6 P_t + e_{ijklt}$$

- $YFLFP_{ijklt}$ equals 1 if woman *i*, aged 15 to 50 years old, is doing paid work, and 0 otherwise.
- $NOFWORK_{it-1}$ is the number of older females aged 50 years or more doing paid or who have ever worked in woman *i*'s household.
- $EFWORK_{lt-1}$ is the share of female members of ethnic group *l* who are doing paid work.
- The interaction term is the proxy for the transmitted ethnic norms effect on the female labor force participation.
- $KINSHIP$ are dummies for kinship structures with bilateral as the base group.
- X_{it} denotes a vector of individual characteristics of woman *i*.
- H_{jt} is a vector of household *j* characteristics.
- C_{kt} is a vector of community *k* characteristics.
- P_t is the time variable and ε_{ijklt} is the error term.

(1) Life stages	(2) Total			(3) Patrilineal			(4) Matrilineal			(5) Bilateral		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Female Individuals												
1st menstrual	14,601	**14.38**	6.17	2,956	**14.38**	5.42	673	**14.50**	7.44	10,972	**14.38**	6.28
1st work full time	8,358	**20.15**	7.23	1,639	**19.48**	6.43	347	**21.60**	7.37	6,372	**20.25**	7.40
1st marriage	13,348	**20.21**	4.73	2,780	**20.83**	4.63	616	**21.64**	4.55	9,952	**19.94**	4.73
1st gave birth	12,523	**21.72**	4.51	2,601	**22.01**	4.42	571	**22.86**	4.37	9,351	**21.57**	4.53
1st live birth male baby [a]	13,407	**0.51**	0.50	2,710	**0.49**	0.50	616	**0.54**	0.50	10,081	**0.51**	0.50
1st marriage end	1,870	**23.72**	8.03	321	**24.92**	7.61	74	**25.91**	7.09	1,475	**23.35**	8.13
2nd marriage	1,887	**25.50**	8.19	304	**26.17**	7.55	78	**27.19**	7.07	1,505	**25.28**	8.35
Male Individuals												
1st work full time	9,916	**19.17**	5.07	1,942	**19.04**	4.83	468	**20.00**	6.00	7,506	**19.15**	5.06
1st marriage	10,303	**23.80**	5.13	2,081	**23.52**	4.78	457	**25.01**	4.43	7,765	**23.81**	5.25
1st marriage end	1,737	**29.54**	11.69	311	**31.14**	11.70	70	**32.84**	10.84	1,356	**29.01**	11.67
2nd marriage	1,948	**31.63**	10.96	387	**32.34**	10.72	79	**33.67**	9.36	1,482	**31.33**	11.09

Dependent variable:	LPM (Robust)			
Female aged 15-49 y.o. work (1=Yes, 0=No)	(1)	(2)	(3)	(4)
Percent female work at ethnic group level (census)	0.005**	0.005***	0.004***	0.005***
	(0.002)	(0.001)	(0.001)	(0.002)
Number of older female working or ever work in HH	0.032	0.121**	0.147***	0.222***
	(0.037)	(0.045)	(0.051)	(0.065)
Percent female work at Ethnic level*Number older female work in HH	-0.001	-0.002*	-0.003**	-0.004**
	(0.001)	(0.001)	(0.001)	(0.002)
Kinship = 1, Patrilineal	-0.041	0.046	0.070	0.049
	(0.053)	(0.045)	(0.042)	(0.062)
Kinship = 2, Matrilineal	0.082**	0.081***	0.095***	0.095*
	(0.039)	(0.025)	(0.023)	(0.050)
Individual characteristics variables	NO	YES	YES	YES
Household characteristics variables	NO	NO	YES	YES
Community characteristics variables	NO	NO	NO	YES
Constant	0.556***	-0.330	-0.256	-1.333
	(0.110)	(0.828)	(0.865)	(1.392)
Observations	22,730	848	844	499
R-squared	0.021	0.069	0.116	0.154

Dependent variable:	Logit RE			
Female aged 15-49 y.o. work (1=Yes, 0=No)	(5)	(6)	(7)	(8)
Percent female work at ethnic group level (census)	0.004**	0.005***	0.004***	0.005***
	(0.002)	(0.001)	(0.001)	(0.002)
Number of older female working or ever work in HH	0.024	0.116***	0.139***	0.198***
	(0.028)	(0.044)	(0.049)	(0.065)
Percent female work at Ethnic level*Number older female work in HH	-0.001	-0.002**	-0.002**	-0.004**
	(0.001)	(0.001)	(0.001)	(0.002)
Kinship = 1, Patrilineal	-0.044	0.052	0.073	0.050
	(0.049)	(0.048)	(0.044)	(0.064)
Kinship = 2, Matrilineal	0.075**	0.082***	0.090***	0.085
	(0.035)	(0.026)	(0.025)	(0.054)
Individual characteristics variables	NO	YES	YES	YES
Household characteristics variables	NO	NO	YES	YES
Community characteristics variables	NO	NO	NO	YES
Constant	0.564***	-0.354	-0.243	-0.849
	(0.096)	(0.731)	(0.767)	(1.087)
Observations	22,730	848	844	499
Number of Panel Individuals	11,908	811	807	475

Some takeaways

- There are indications that ethnic social norms, as reflected by kinship norms, influence the decision of women to participate in the labour market.

- The estimation results also suggest that transmission of ethnic norms regarding the value of working women exists.

- The negative effect of the interaction term may cancels out the positive trend in female education and increasing real wage, and the decreasing fertility.

- Particular attention on differences of ethnic norms needs to be considered in designing and delivering policies to improve female labour force participation.

Thank you