TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
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Fertility decline, the child deficit and the changing value of children in Asia

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Springer Verla, ISBN 978-981-10-0230-4.
https://www.springer.com/gp/book/9789811002298#aboutBook

"I feel that a profound hidden, but intense relationship exists between the long term pattern of the birth rate and attitudes towards the child" (Aries, 1980:649).

What role does the value of the child play in population growth?

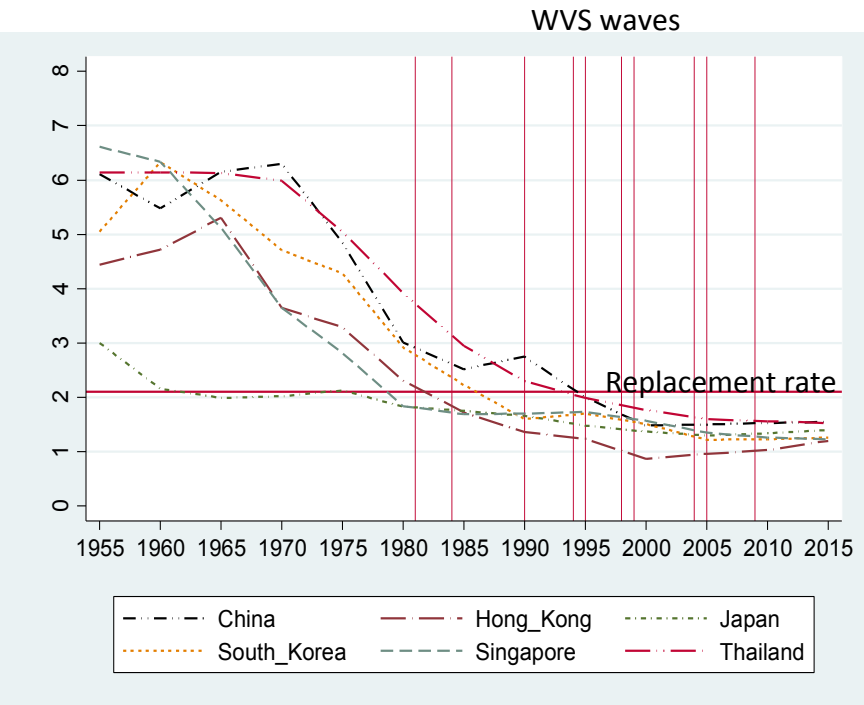
ARIES, P. 1980. Two successive motivations for the declining birth rate in the West. *Population and Development Review,* 6**,** 645-650.

Contents

1. Fertility decline in Asia

Figure 1. The total fertility rate in fourteen Asian countries for which World Value Survey data are available, 1950-2005

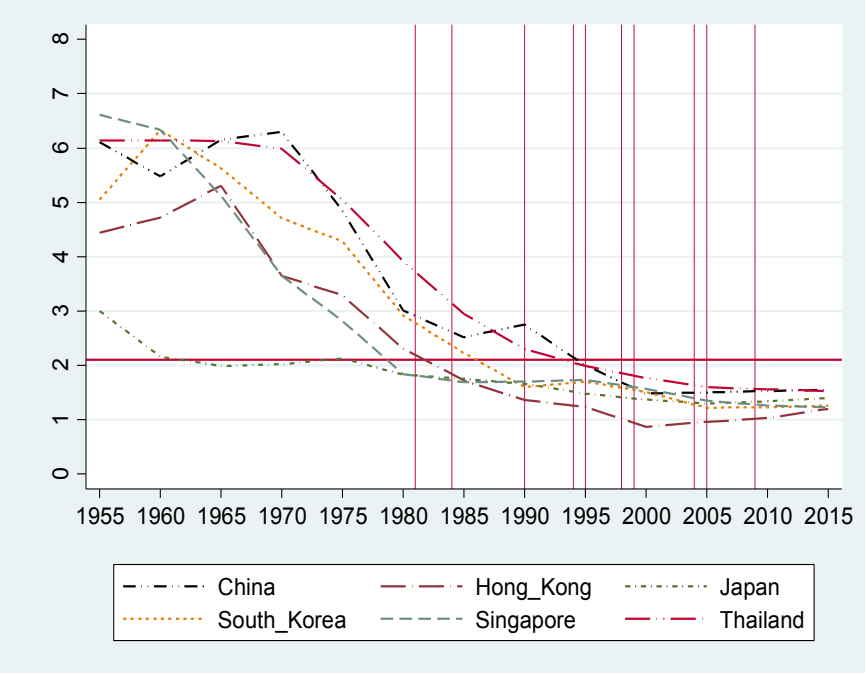
a. Low fertility countries



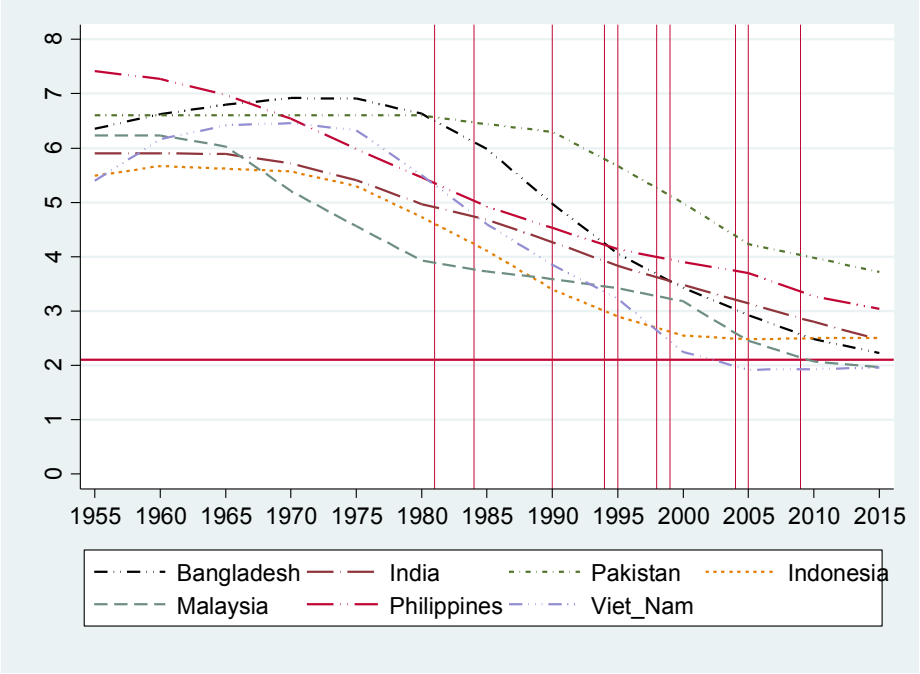
Although limited to almost a quarter of the 50 countries the United Nations includes under 'Asia', these 14 countries represent a wide range of fertility transitions.

Figure 1. The total fertility rate in fourteen Asian countries for which World Value Survey data are available, 1950-2005

a. Low fertility countries



b) High fertility countries



Although limited to almost a quarter of the 50 countries the United Nations includes under 'Asia', these 14 countries represent a wide range of fertility transitions.

2. The argument

During periods of fertility decline the **immanent** values which support the ideal number of children adjust more slowly than the **instrumental** values - the financial and time constraints which raise the opportunity cost of children.

As a result,

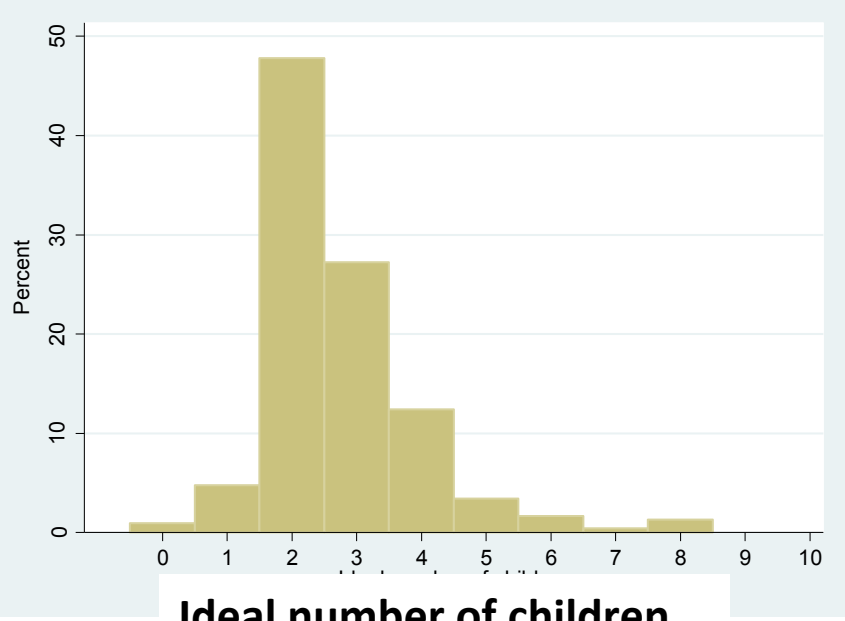
* the **ideal** number of children remains higher than the **actual**, and

* the difference between the two, the **child deficit**, increases with fertility decline, and consequently

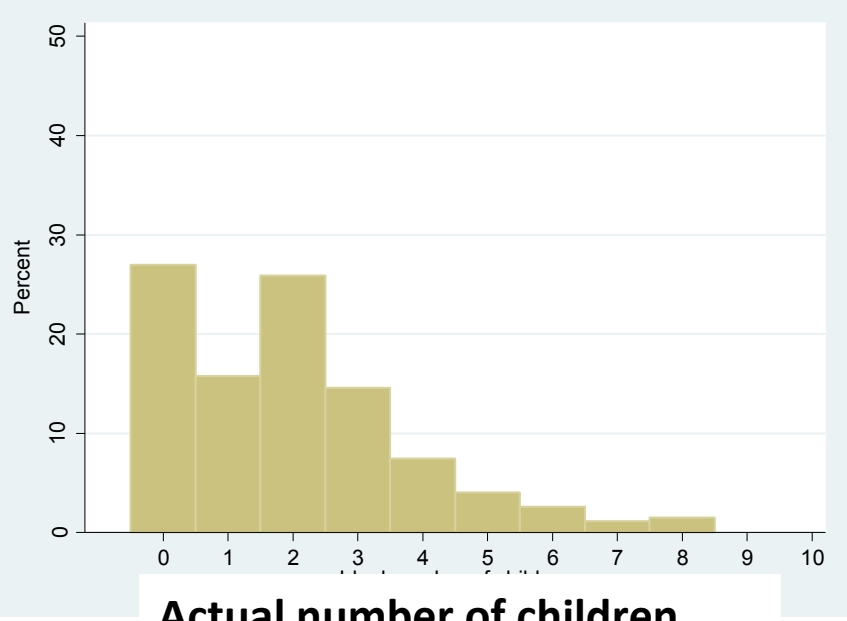
* countries with lower fertility rates experience higher child deficits.

Example: Japan

Figure 2. The *ideal* number of children wanted by young adults in Japan compared to the *actual* reported by the middle aged in Japan.



Ideal number of children
20<35 years old in 1990-94



Actual number of children
40 <55 years old in 1999-2004

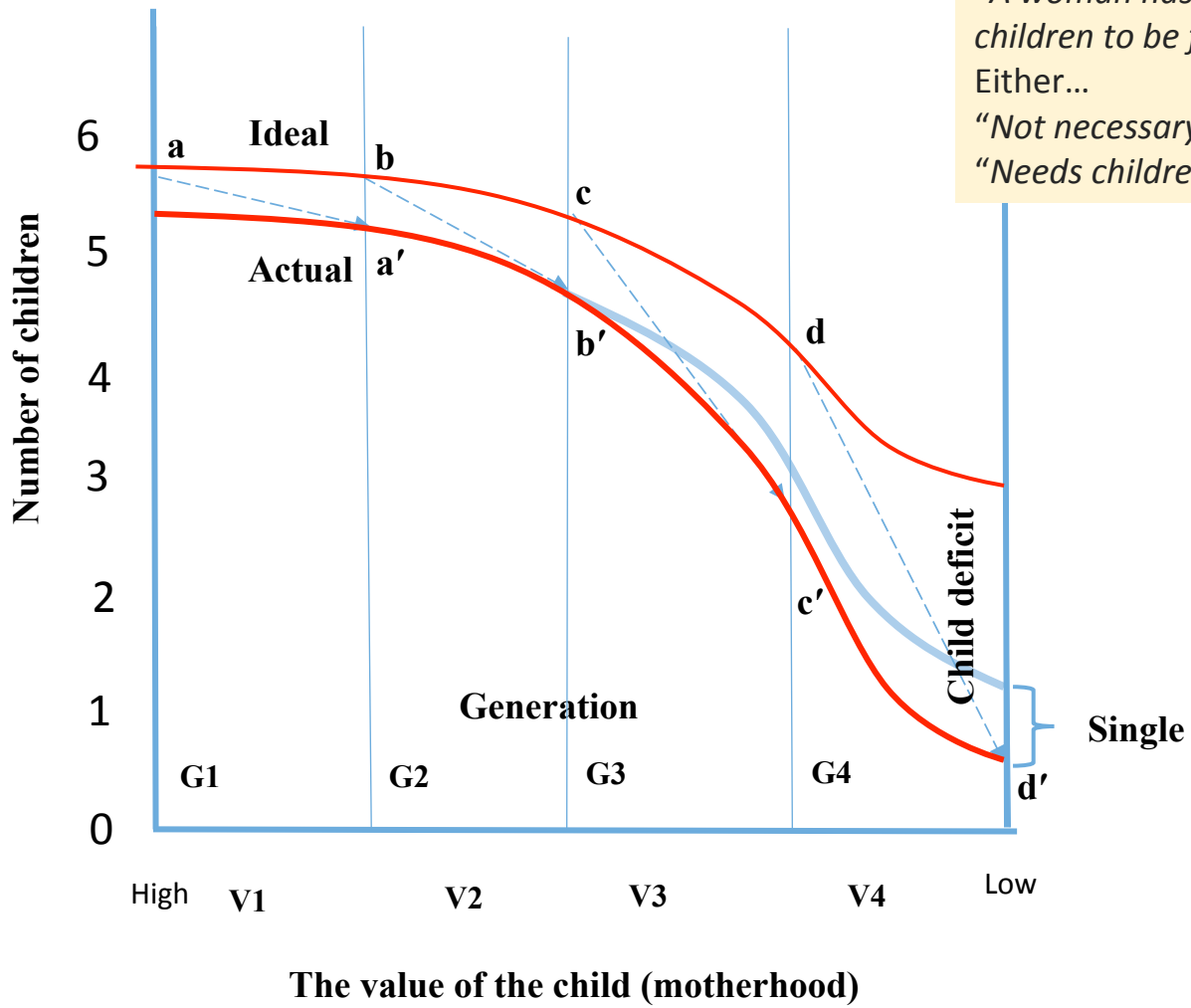
World Values Survey wave 2, 1990-94

WVS wave 4, 1999-2004.

3. A model of the child deficit

Figure 3. The ideal and actual number of children during fertility decline.

The **value** question :
"A woman has to have children to be fulfilled."
Either…
"Not necessary" or
"Needs children".



Demographically the falling fertility rate can be traced to:

1. Declining marriage rates
2. Later child bearing
3. Fewer children within marriage

4. Values and fertility: temporal estimates

Table 1. Coverage of children and value questions in the World Values Survey administered in fourteen Asian countries, waves 1 through 5.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
	W1	W2	W3	W4	W5	N	d017		x011		d019	do62	d068
Country	1981-1984	1990-1994	1995-1998	1999-2004	2005-2009	Sample size	Ideal	Max cat.	Actual	Max cat.	Woman has to have children to be fulfilled	Woman want home and children	Trait: good mother
Bangladesh			1			1525	1	5	1	8+	1	.	.
Bangladesh				1		1500	1	5	1	8+	1	.	1
China		1				1000	1	10+	1	6	1	1	.
China			1			1500	1	8	1	8+	1	.	.
China				1		1000	.		1	8+	1	.	.
China					1	2015	.		1	8+	.	.	.
Taiwan			1			780	1	8	1	8+	1	.	.
Taiwan					1	1227	.		1	8+	.	.	.
Hong Kong					1	1252			1	8+	1	.	.
India		1				2500	1	10+	.	6	1	1	.
India			1			2040	1	8	1	8+	1	.	.
India				1		2002	1	8	1	8+	1	.	.
Indonesia				1		1004	.		1	8+	.	.	.
Japan	1					1204	1	8	1	6	1	.	.
Japan		1				1011	1	10+	1	6	1	1	.
Japan			1			1054	1	5	1	8+	1	.	.
Japan				1		1362	1	8	1	8+	1	.	.
Japan					1	1096	1	5	1	7	1	.	.
South Korea	1					970	1	8	.		1	.	.
South Korea		1				1251	1	7	1	6	1	1	.
South Korea			1			1249	1	7	1	8+	1	.	.
South Korea				1		1200	1	8	1	7	1	.	.
South Korea					1	1200	.	.	1	7	.	.	.
Malaysia				1		1201	.	.	1	8+	.	.	.
Pakistan			1			733	1	8	1	8+	.	.	.
Pakistan				1		2000	1	8	1	8+	1	.	1
Philippines			1			1200	1	8	1	8+	1	.	.
Philippines				1		1200	1	8	1	8+	1	.	.
Singapore				1		1512	1	8	1	8+	1	.	.
Vietnam				1		1000	1	7	1	8+	1	.	.
Vietnam					1	1495	.		1	8+	.	.	.
Thailand				1		1534	.		1	8+	.	.	.
Total	**2**	**4**	**8**	**12**	**6**	**42817**	**23**		**30**		**24**	**4**	**2**

Table 2 Ten Asian countries with relevant questions by waves.

	Wave					
Country/region	**W1**	**W2**	**W3**	**W4**	**W5**	**Total**
	1981-1984	**1990-1994**	**1995-1998**	**1999-2004**	**2005-2009**	
Bangladesh			1,469	1,473		**2,942**
China		963	1,407			**2,370**
Taiwan			726			**726**
India		2,435	1,912	1,755		**6,102**
Japan	836	654	773	867	705	**3,835**
South Korea	903	1,162	1,226	1,029		**4,320**
Pakistan				1,330		**1,330**
Philippines			1,169	1,168		**2,337**
Singapore				1,466		**1,466**
Vietnam				952		**952**
Total	**1,739**	**5,214**	**8,682**	**10,040**	**705**	**26,380**

Source: World Values Survey, waves 1 through 5.

Figure 4. The mean probability of agreeing that a 'Woman has to have children to feel fulfilled'. WVS wave 2-5. Japan.

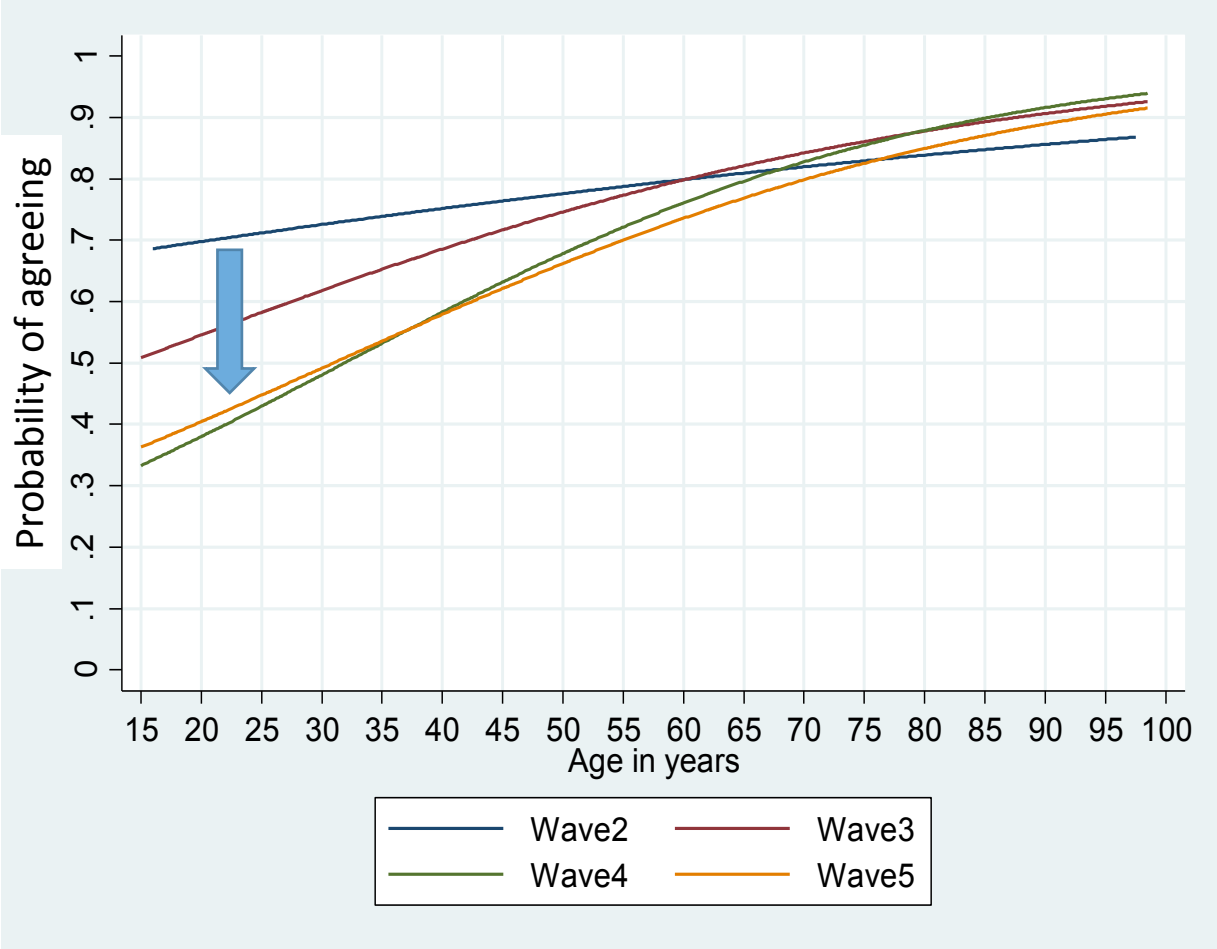
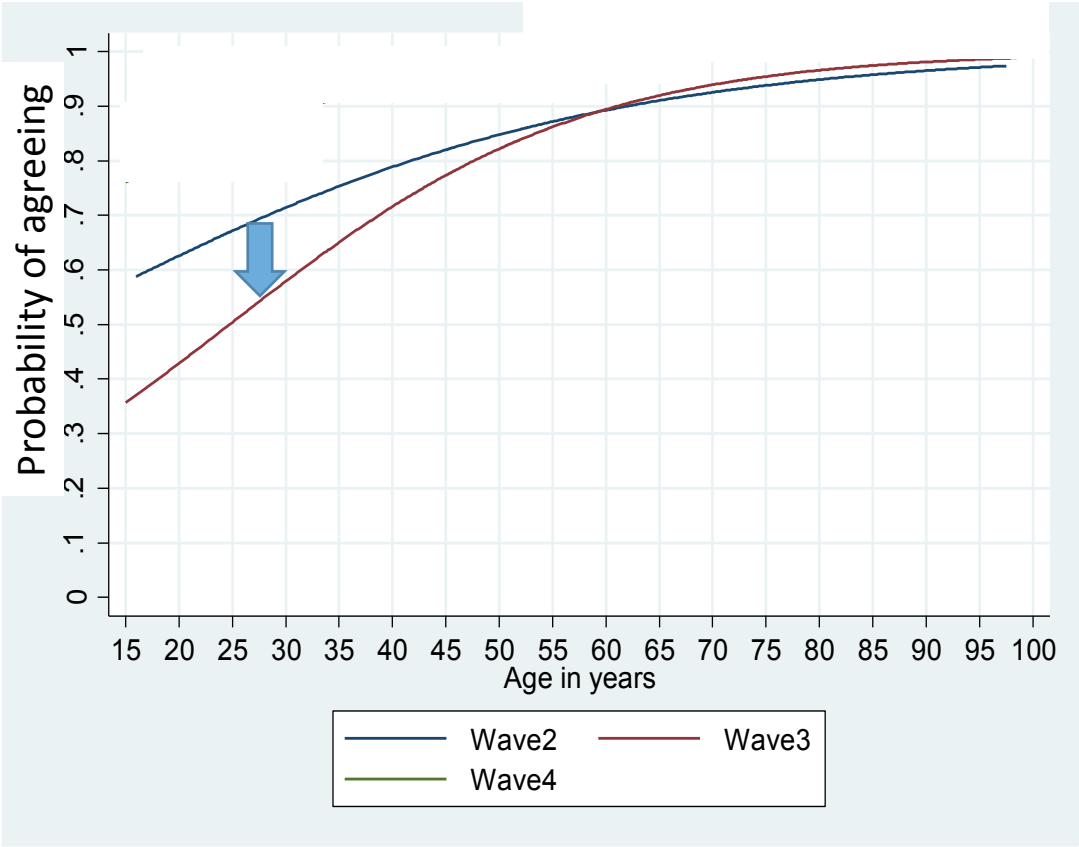


Figure 5. The mean probabilities of agreeing that a 'Woman has to have children to feel fulfilled'. WVS, wave 2-4. South Korea.



5. Values and fertility: Cross-sectional estimates

The following logistic regression model (1) generates the odds that the ith adult between 20 and 35 years responds with a given minimum family size as their ideal. A separate regression is run for each size threshold: 1 or more, 2 or more, 3 or more and 4 or more children. Vectors are in bold and the equation is estimated for women only (although the male regression yields very similar results).

$$(1) \qquad C_{ij} = a_o + \beta V_{ij} + \tau \boldsymbol{P}_{ij} + \mu \boldsymbol{A}_{ij} + \delta T_{ij} + \sigma E_{ij} + \boxed{?}\, \boldsymbol{W}_{ij} + \varepsilon_{ij}$$

C_{ij} = 1 if the specified minimum ideal number of children was returned by the ith (female) respondent in the jth country.

V_{ij} =1 if a positive response followed the statement, "*A woman has to have children to be fulfilled* ". The value of β will decline as the family size threshold rises.

P_{ij} = parity (existing number of children). Expect $\tau > 0$.

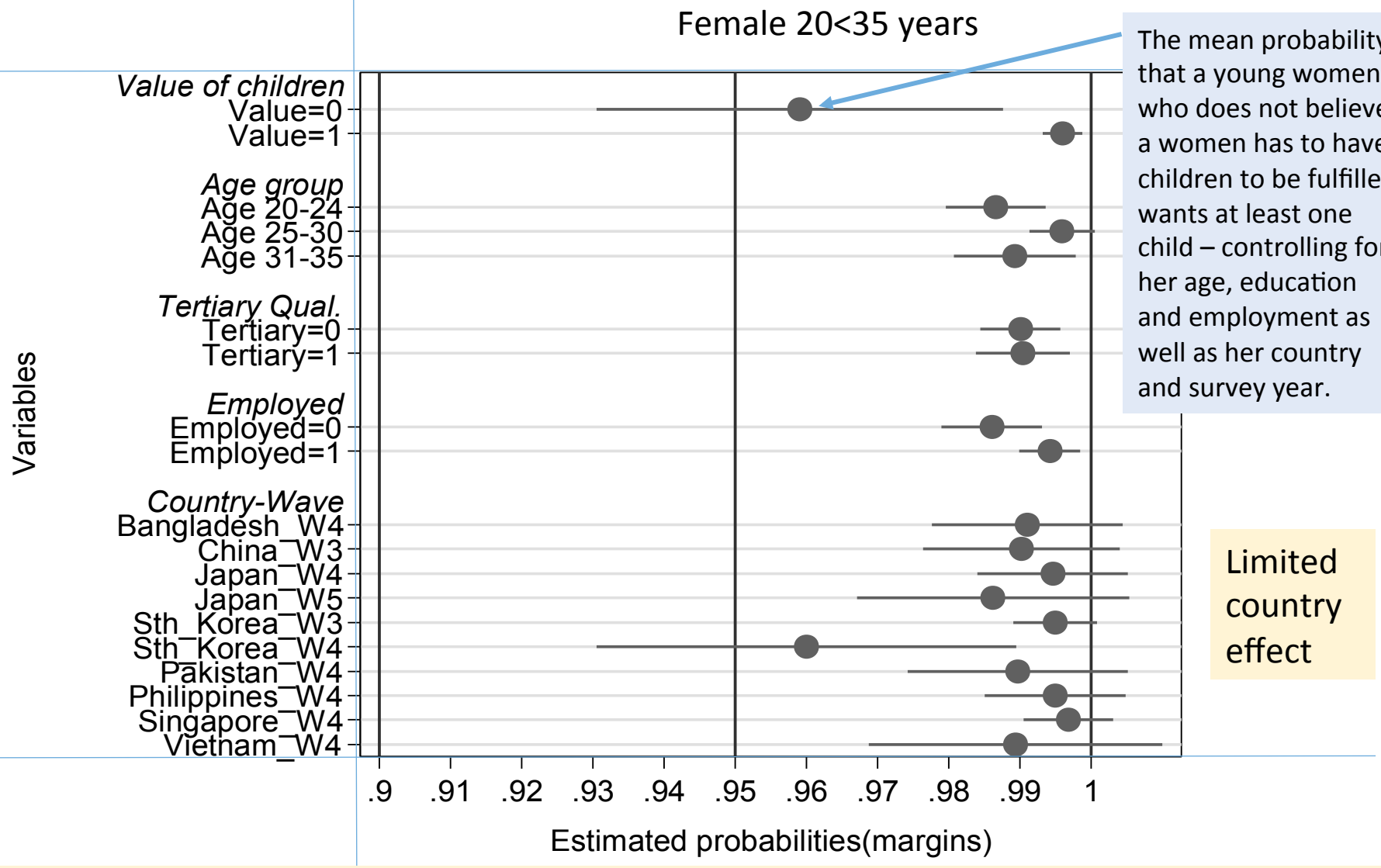
$\boldsymbol{A}_{ij}$ = the woman's age category within the 'young adult' age range 20<35 years: 20<25, 25<30 and 30<35, 25<30 and 30<35.

$\boldsymbol{T}_{ij}$ = 1 if the respondent reports a tertiary qualification, and 0 otherwise.Expect $\delta < 0$

E_{ij} = Employment. E=1 if the respondent is employed and 0 otherwise. Expect $\sigma < 0$.

$\boldsymbol{W}_{ij}$ = country and survey wave. Expect γ will rise with the country's total fertility rate.

Figure 6. Probability of wanting one or more children



The base value in this particular model is a women who does *not* believe a woman has to have children to be fulfilled, has no children, is aged 20 up to 25, does not have tertiary education and is not employed and is resident in Bangladesh (W3).

Figure 7. Probability of wanting two or more children

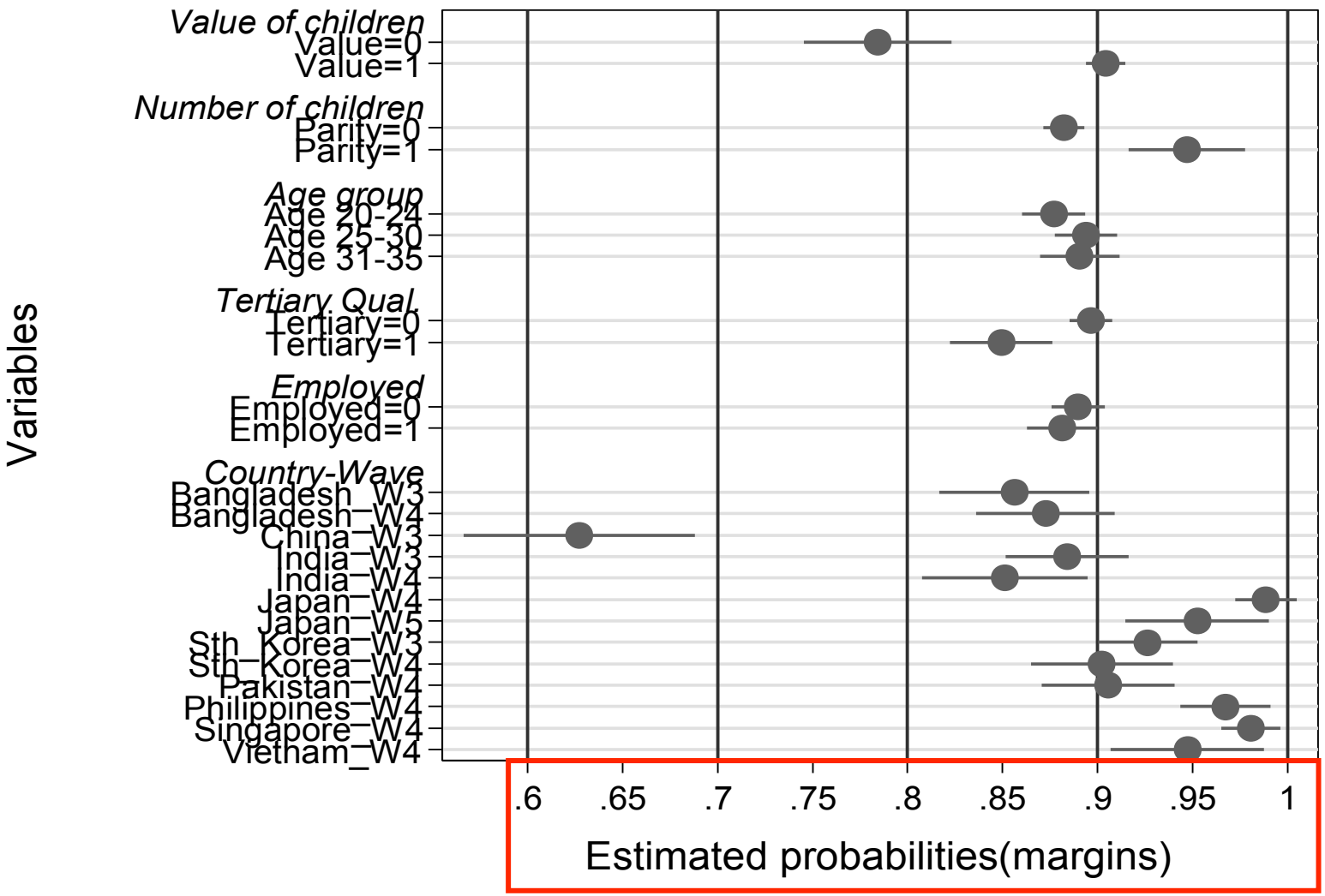


Figure 8. Probability of wanting three or more children

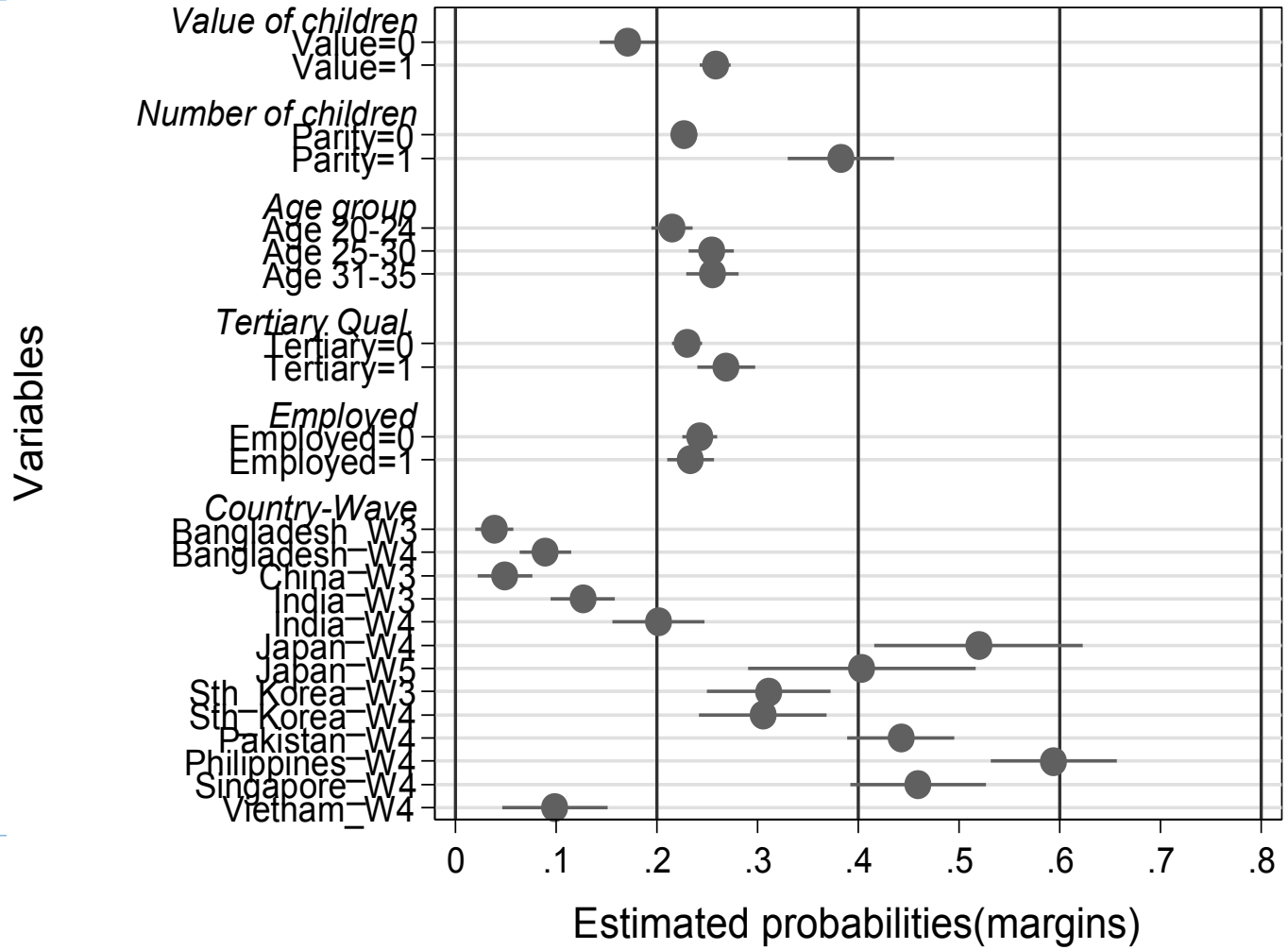
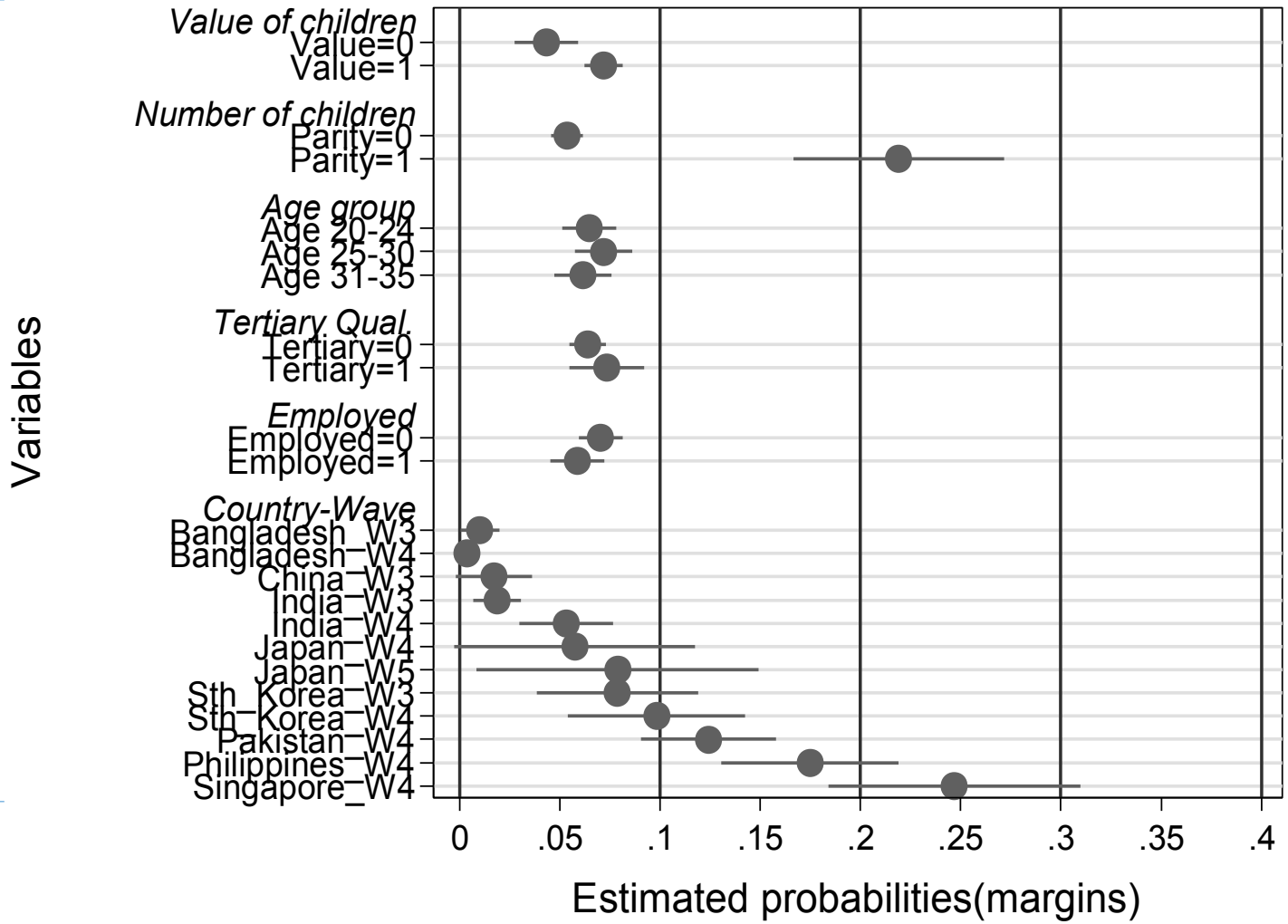


Figure 9. Probability of wanting four or more children



Conclusions from regressions on the 'ideal' family size

1. When it comes to the *ideal* family size the value of the child exerts its strongest influence on the propensity to have at least one child and to a lesser extent, two children.
2. The value of the child, as defined, exerts far less influence when it comes to having a third or fourth child
3. Of particular interest therefore is the very high latent preference for large families among countries, such as Singapore

Actual family size?

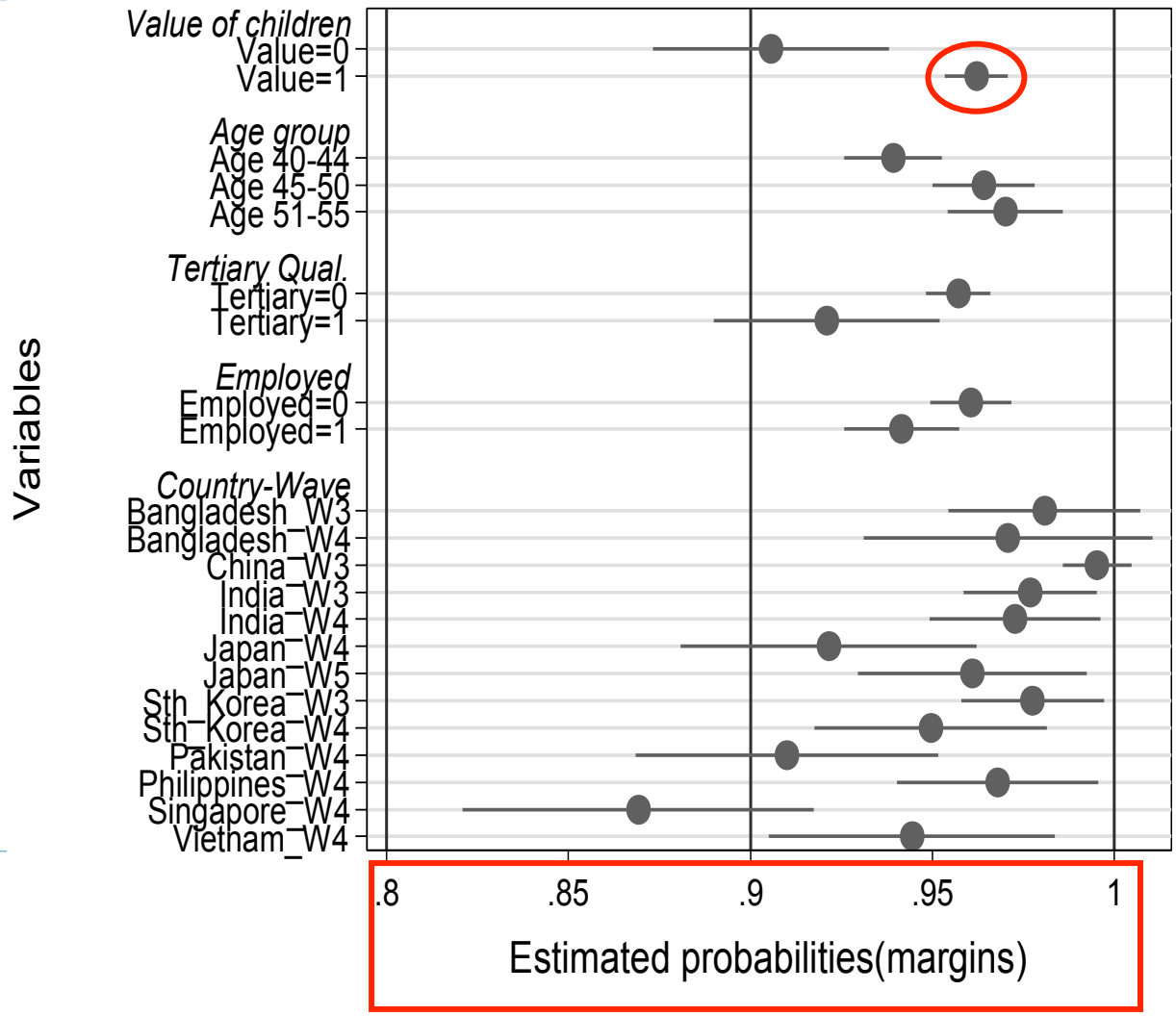
While the ideal is a relatively unconstrained thought, in an age of planned parenthood most parents are able to weigh up the costs and returns before deciding on the having an additional child.

The binary dependent variable C_{ij}, when applied to the older age group, (40-55 year), equals 1 if the *actual* number of children recorded for the ith respondent in the jth country is equal to n+ children and 0 otherwise (i.e. parity becomes the dependent variable) and the three age groups become 40-44, 45-50 and 51-55 years old.

The results to follow reveal a marked difference in the relative influence of the covariates: age, education and employment all exert a stronger influence when it comes to the reality of actually having children.

Figure 10. Probability of having had one or more children

Adults 40-55 years



When it comes to actually having children the country plays a more important role.

Figure 11. Probability of having two or more children

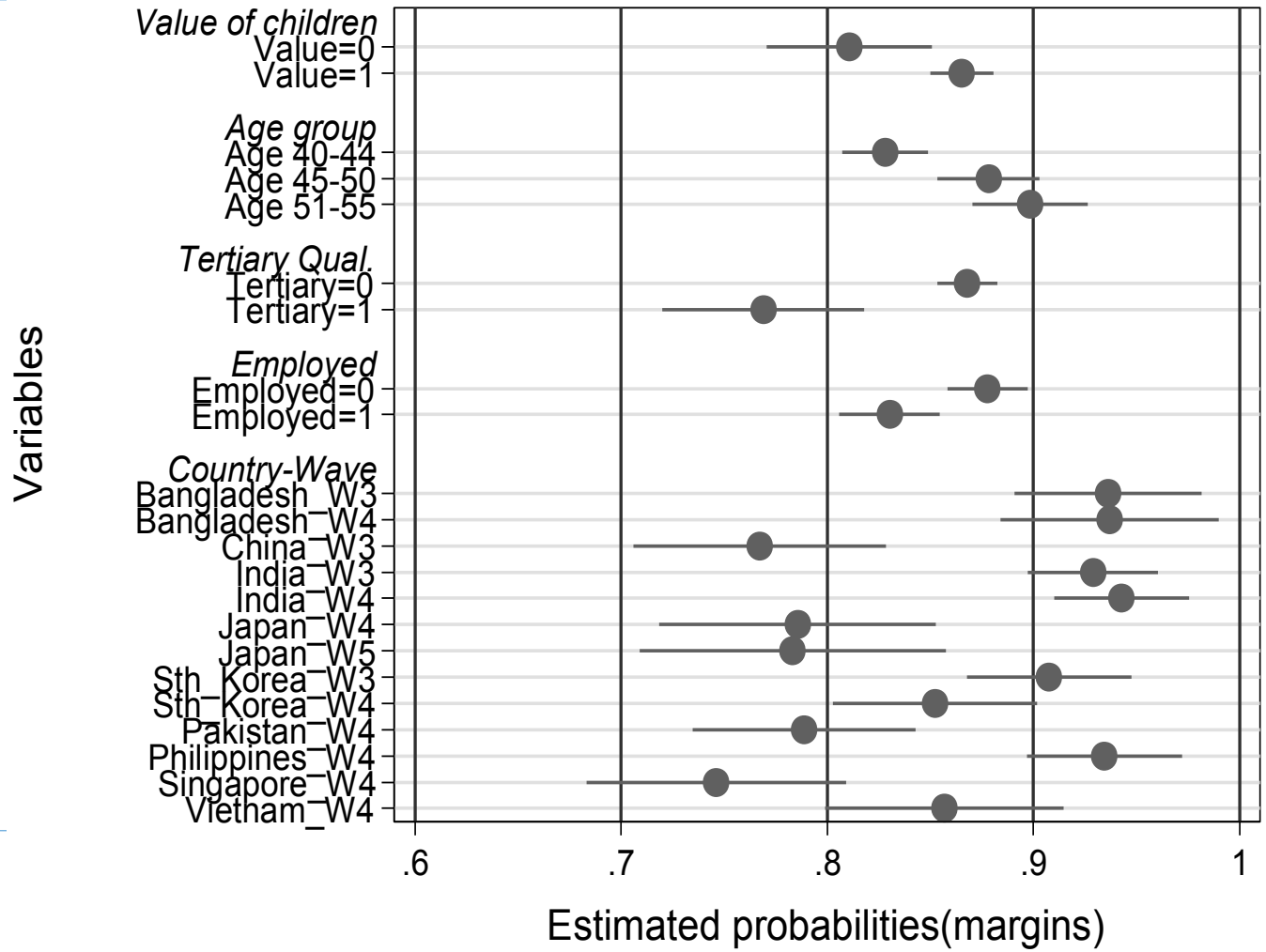


Figure 12. Probability of having three or more children

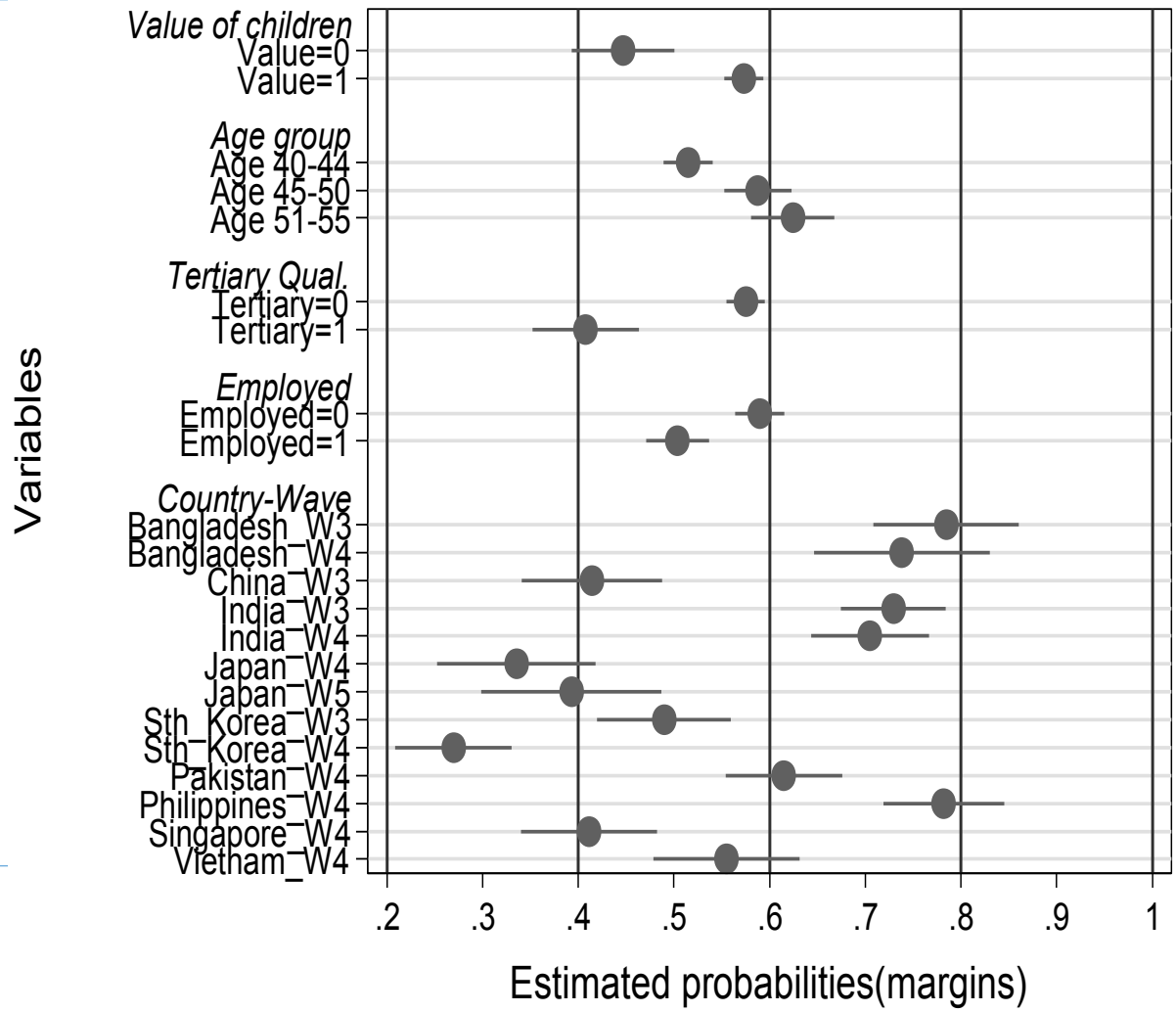
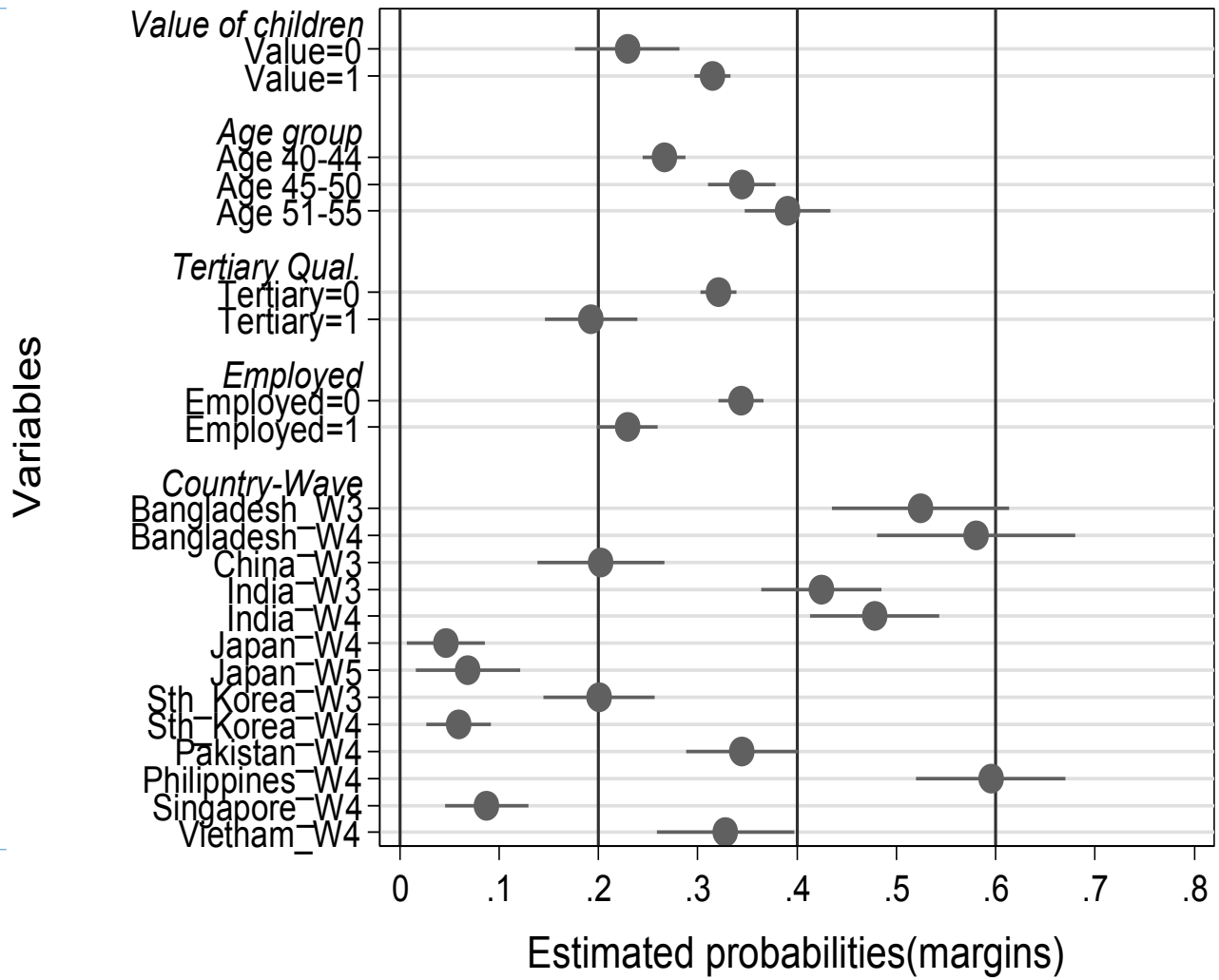
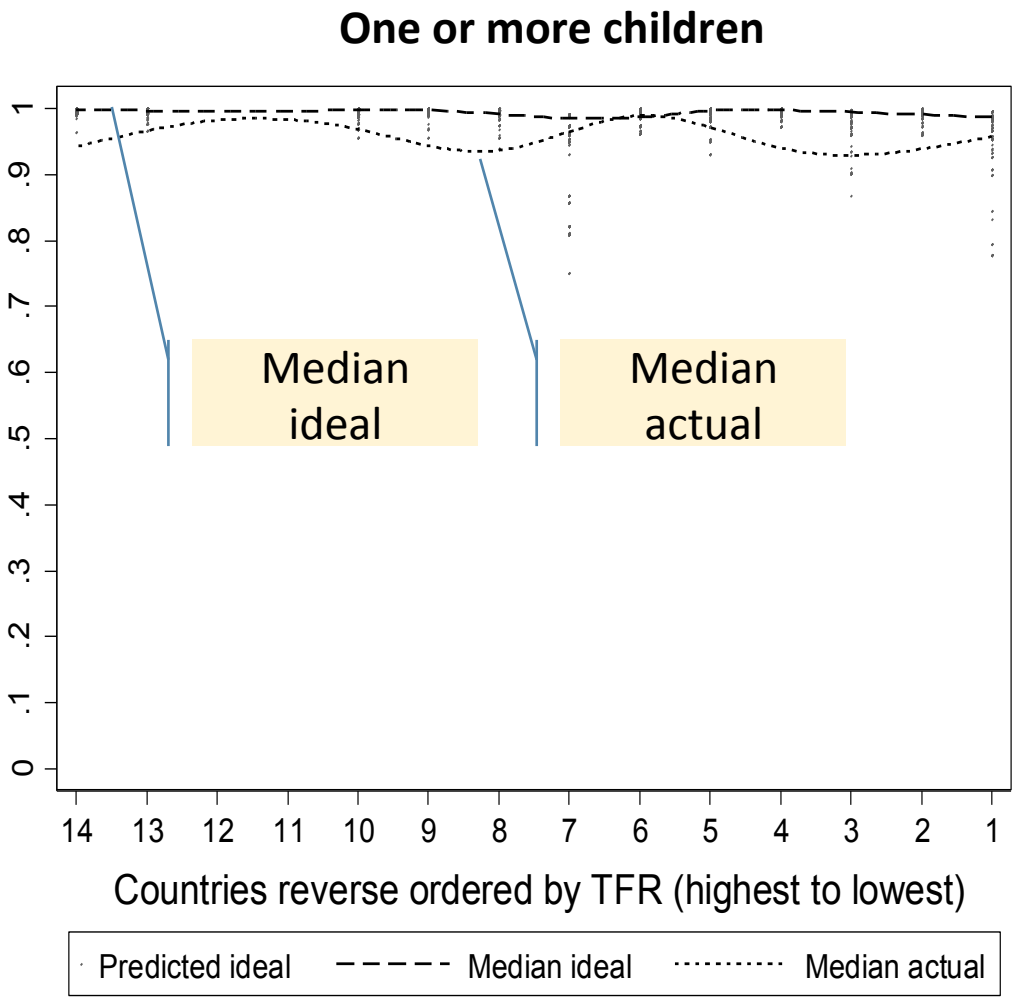


Figure 13. Probability of having four or more children



5. The birth rate and the child deficit

Figure 14. Median probabilities of young (20<35 yrs) women's *ideal* family sizes compared to the probability of middle aged (40<55 yrs) women reported *actual* family sizes. Country-waves are reverse ordered by their TFR.

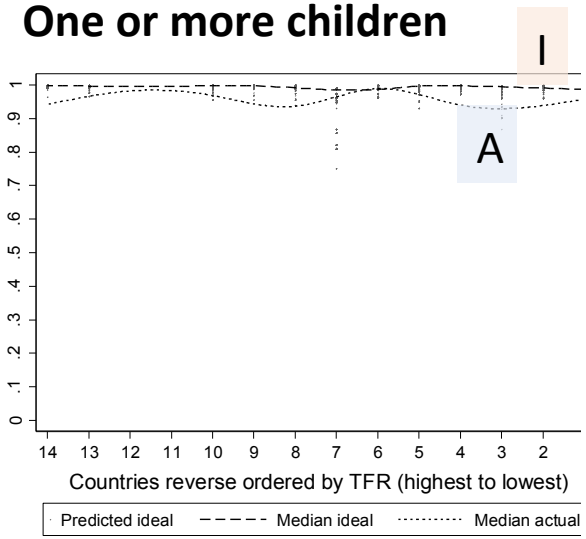


Country by TFR

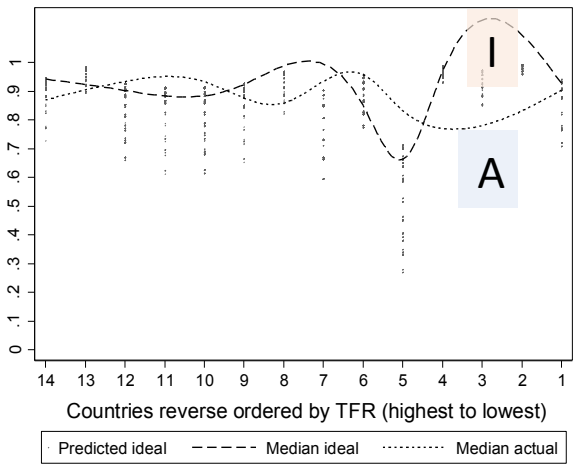
Code	Country	Freq.	TFR
1	SthKorea_01	1200	1.22
2	Japan_00	1362	1.3
3	Japan_05	1096	1.34
4	Singapore_02	1512	1.35
5	China_95	1500	1.48
6	SthKorea_96	1249	1.51
7	SthKorea_90	1251	1.7
8	Vietnam_01	1000	1.92
9	Bangladesh_02	1500	2.48
10	India_01	2002	3.14
11	Bangladesh_96	1525	3.43
12	India_95	2040	3.48
13	Philippines_01	1200	3.7
14	Pakistan_01	2000	4.23

Figure 15. Median probabilities of young (20<35 yrs) women's *ideal* family sizes compared to the probability of middle aged (40<55 yrs) women reported *actual* family sizes. Country-waves are reverse ordered by their TFR.

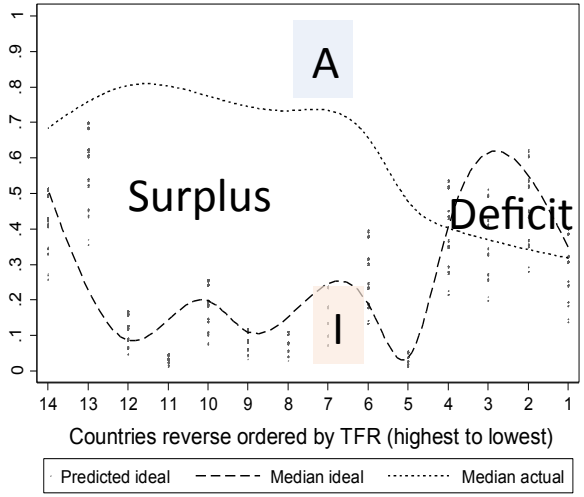
One or more children



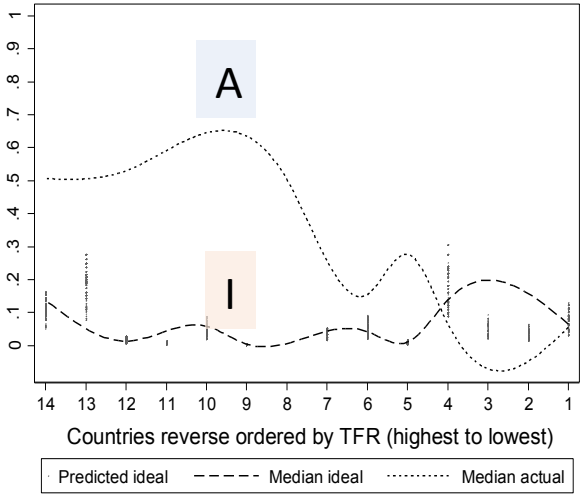
Two or more children



Three or more children



Four or more children



Country by TFR

Code	Country	Freq.	TFR
1	SthKorea_01	1200	1.22
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5	China_95	1500	1.48
6	SthKorea_96	1249	1.51
7	SthKorea_90	1251	1.7
8	Vietnam_01	1000	1.92
9	Bangladesh_02	1500	2.48
10	India_01	2002	3.14
11	Bangladesh_96	1525	3.43
12	India_95	2040	3.48
13	Philippines_01	1200	3.7
14	Pakistan_01	2000	4.23

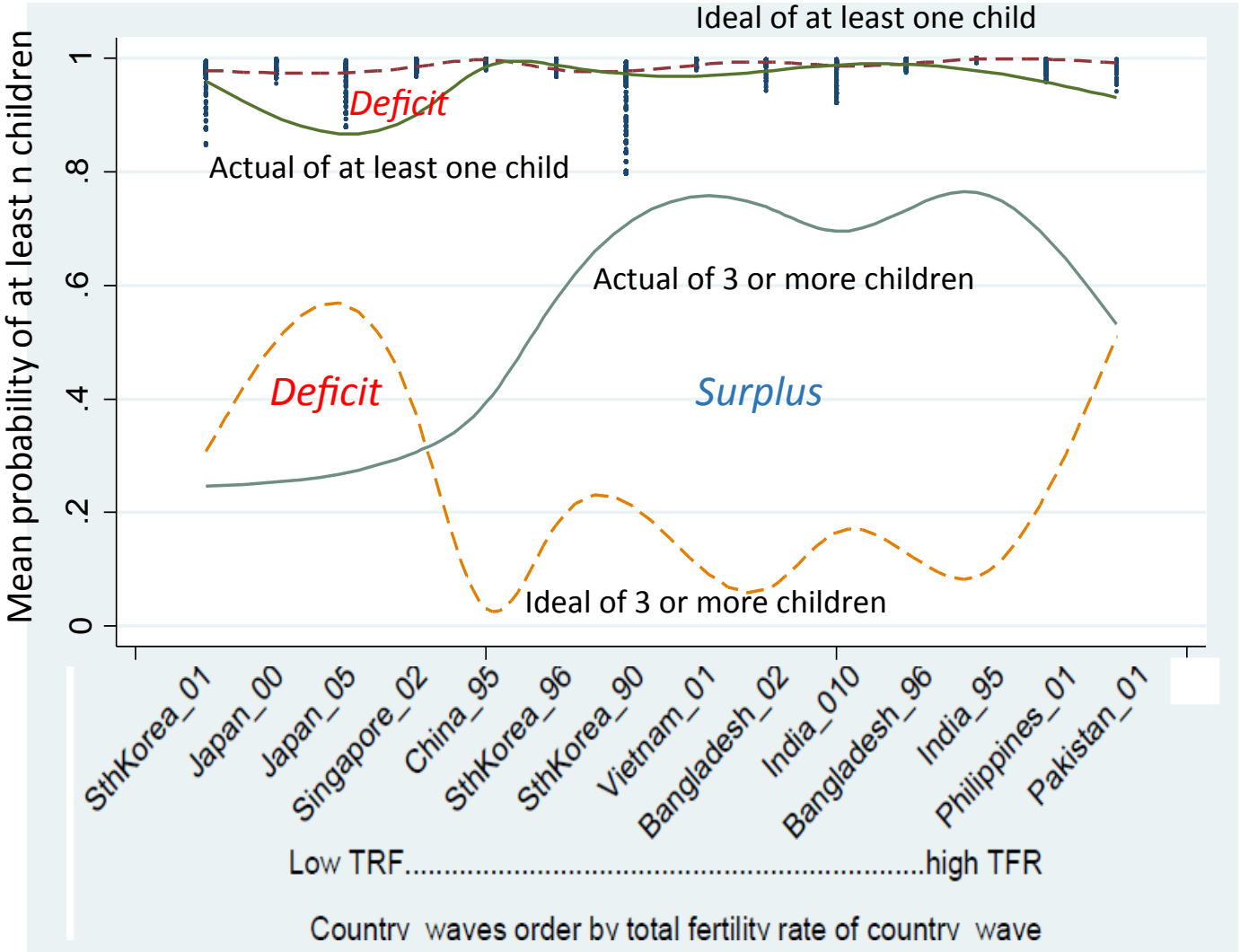
6. Summary

The child deficit and the changing value of children in Asia

1. In Europe as the birth rate fell the average ideal > actual, hence a child deficit (Aries)
2. In Asia too, as the TFR falls, the child 'surplus' turns into a child 'deficit'
3. The transition from a child surplus to a child deficit is accompanied by a "reduction in the value of the child" (a lower value is placed on motherhood) - as reflected in the falling marriage rate, later child bearing and fewer children within marriage.
4. The geographical result is the simultaneous presence of Sthn & Central Asia with a child surplus and Littoral Asia with a child deficit.
5. Changes in instrumental values relative to immanent values is an indicator of change in family size and of future fertility rates, population growth and and population size.

Questions

Figure 6. Mean probability of young adults (20<35 years) *wanting* and middle aged adults (40<55) *having* 'at least one' and 'at least three' children. Pooled sample of 14 Asian countries.



6. Conclusions

Outline

1. Fertility decline in Asia
2. The argument
3. A model of the child deficit
4. Values and fertility: temporal estimates
5. Values and fertility: cross-sectional estimates
6. Conclusions

Pooled cross-sectional analysis

$$(1) \quad C_{ij} = a_o + \beta V_{ij} + M_{ij} + \boldsymbol{A}_{ij} + \sigma \boldsymbol{E}_{ij} + \boxed{?}\, \boldsymbol{W}_{ij} + \varepsilon_{ij}$$

the dependent variable C_{ij} is the number of children above a designated threshold, n+; 1+, 2+, 3+, 4+ children.

Unit of analysis is the ith respondent living in the jth country (in the kth wave).

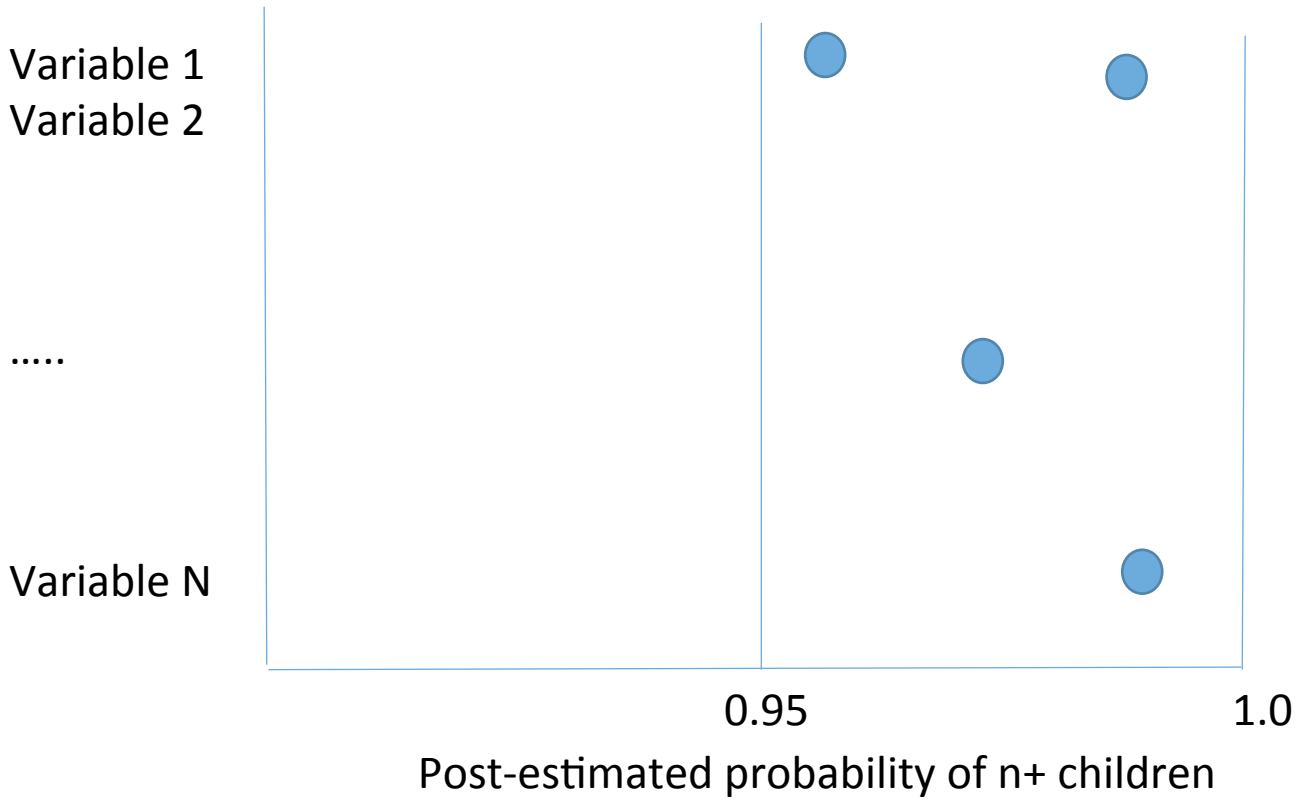
Four separate regressions are estimated (1+,…,4+) for the ideal (young adults) and actual number of children (middle aged).

Result: the **ideal** and **actual** number of children *are* conditioned by our proxy for the value of the child.

Estimates from the logistic regression are then used to generate mean probabilities of wanting and having n+ children.

The coefficients estimated from the logistic regression of equation 1 are exponentiated into odds ratios as is conventional but I take this a further by transforming of odds ratios into the marginal probabilities (margins) which yields a more intuitive interpretation. These 'margins' are presented as 'rope-ladder' plots in Figure 6.

Figure 7. The 'rope-ladder' plot



Writing on Europe's *first* demographic transition Van der Kaa recounts how,

> "The decline in the birth rate that began at the end of the eighteenth century and continued until the 1930s was unleashed by an enormous sentimental and financial investment in the child" (Van de Kaa, 1987:4).

In the *second* demographic transition, Van de Kaa saw,

> "..the current decrease in the birth rate as being, on the contrary, provoked by exactly the opposite attitude" (Ibid) p. 4

VAN DE KAA, D. J. 1987. Europe's second demographic transition. *Population Bulletin,* 42, 1-59.

"Two key words characterise the norms and attitudes behind the first and second demographic transitions and highlight the contrasts between them:

altruistic vs **individualistic**.

The first transition to lower fertility was dominated by concerns for the *family* and offspring, but the second emphasizes the rights and self-fulfilment of *individuals*" (Van de Kaa, 1987) p. 5.

In other words, we have moved from the '*bourgeois family* model' to the '*individualistic family* model' where the child, to say the least, occupies a smaller place (Ibid).

VAN DE KAA, D. J. 1987. Europe's second demographic transition. *Population Bulletin,* 42**,** 1-59.

More recently Margolis and Myrskyla (2011) took a wider geographic perspective noting how, in contrast to the European experience,

> "Much of the world is pervaded by strong cultural beliefs that children increase the wellbeing of parents, and especially women, and these beliefs have bolstered norms about the desirability of having children"
>
> (Margolis and Myrskyla, 2011: 29).

MARGOLIS, R. & MYRSKYLA, M. 2011. A global perspective on happiness and fertility. *Population and Development Review,* 37**,** 29-56.