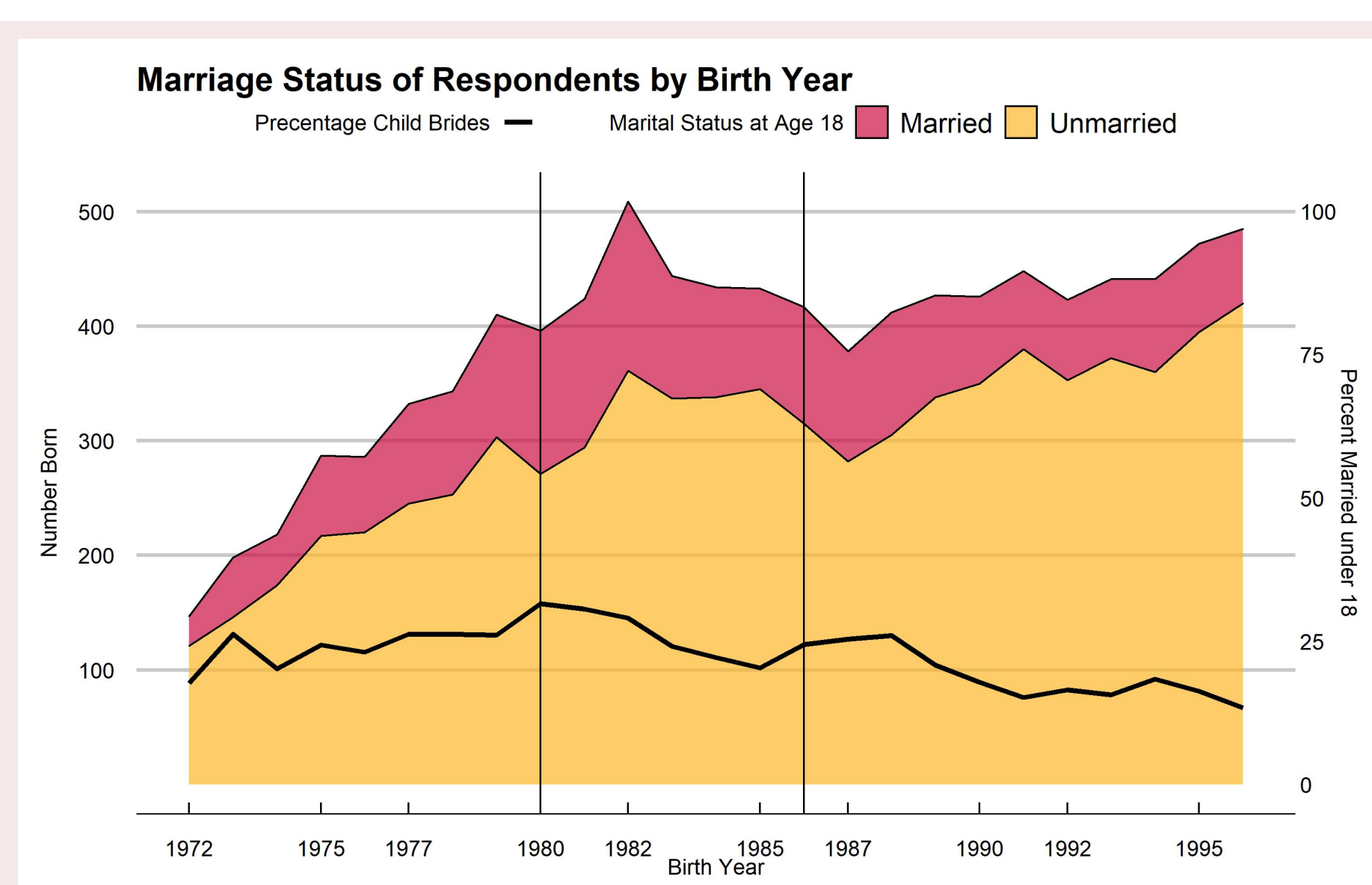


On Rice and Weddings: An Investigation of the Impacts of Food Assistance on Child Marriage in Indonesia

Aaron Lorenz

Department of Food, Resource and Agricultural Economics, University of Guelph

1. Introduction



- UNICEF estimates that 11.21% of women born 1994-2000 in Indonesia were married before the age of 18 despite significant decrease in child marriage rates over the previous ten years (Wodon et al., 2017).
- There is extensive literature which demonstrates that **child marriage has numerous long-term harmful effects** (Chari et al., 2017; Garcia-Hombrados, 2021; Tenkorang, 2019; Wodon et al., 2017).
- The interaction of economic and cultural institutions influences child marriage rates (Corno et al., 2020; Trinh and Zhang, 2021).
- Corno et al. (2020) find negative income shocks reduced child marriage rates in dowry-based India.
- This result is disputed by evidence from natural disasters (Das and Dasgupta, 2020; Khanna and Kochhar, 2020).
- The conflicting results within the literature suggest multiple potential mechanisms behind the income shock-child marriage relationship.

2. Indonesia's Raskin Program

- In 1998, Indonesia implemented a program in which the government purchased rice from farmers, distributed it throughout the country, and then sold it back to the public at a significantly reduced price (World Bank, 2012).
- Extensive research demonstrated that the program was poorly targeted and riven with corruption, leading to around half of the country becoming a recipient of subsidised rice (Alatas et al., 2012; Banerjee et al., 2015, 2019; Paler et al., 2020; World Bank, 2012).
- A series of RCTs demonstrated that cash transfers could more efficiently achieve the goals of the Raskin program, and it was replaced in 2017 (Banerjee et al., 2021).

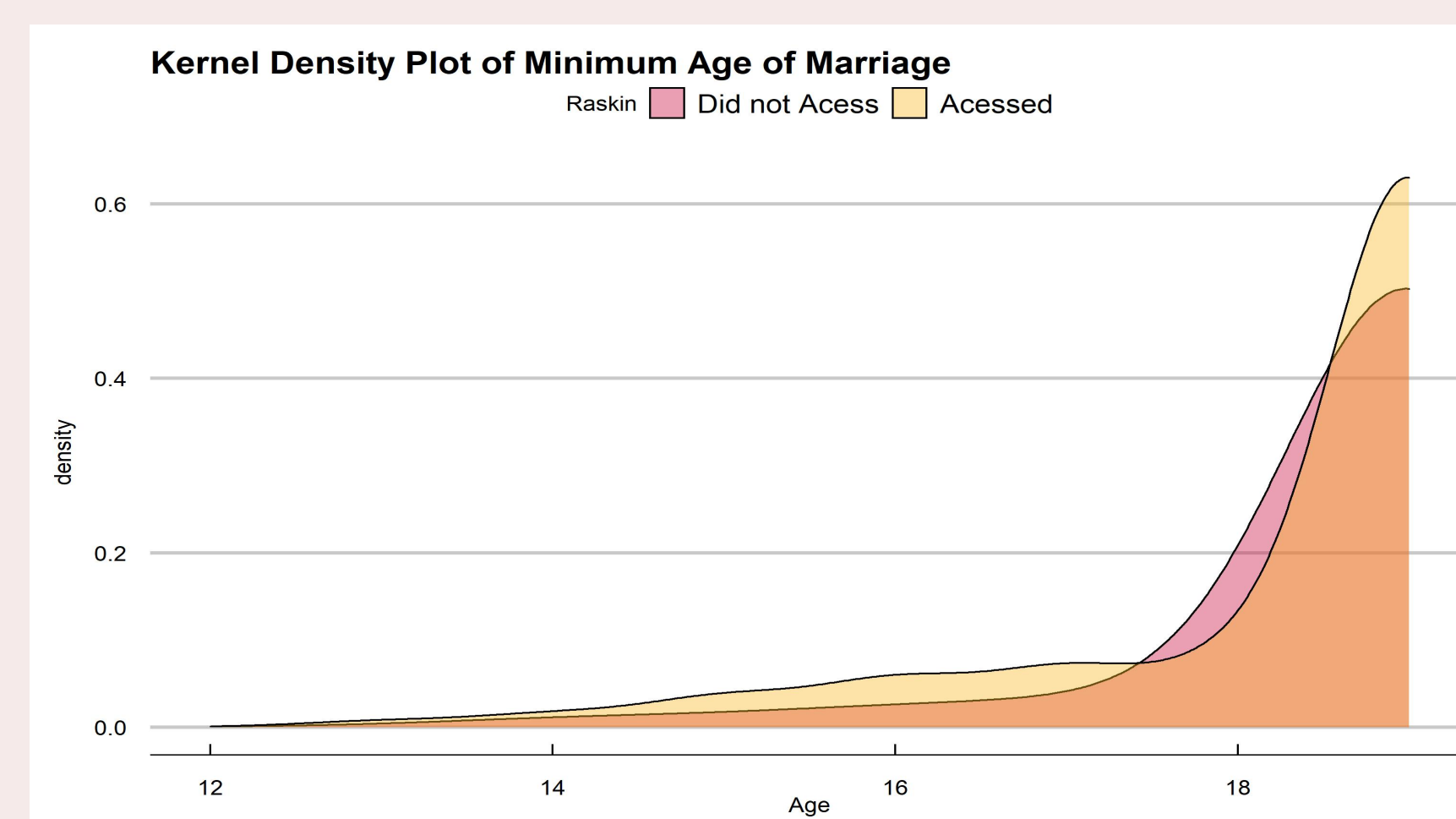
3. Conceptual Frameworks

- Corno et al. (2020) theory of income smoothing and liquidity constraints:
 - Agricultural productivity shock $\uparrow \Rightarrow$ income \downarrow , liquidity constraint binds. Dowry (bride price) culture \Rightarrow family postpones (arranges) marriage to delay paying dowry (to receive bride price) \Rightarrow child marriage rate $\downarrow(\uparrow)$
- An alternate mechanism is suggested by the effect of food price shocks on child marriage rates (Lee and Bischoff, 2022):
 - Agricultural commodity price $\uparrow \Rightarrow$ food access \downarrow , marginal cost of feeding a daughter $\uparrow \Rightarrow$ family arranges marriages for daughter in order to reduce family's food intake requirements \Rightarrow child marriage rate \uparrow
- **Indonesia's Raskin program allows us to contribute to this literature by looking at its effects on food insecurity, thus isolating a potential mechanism**

4. Data



- We use the Indonesian Family Life Survey (IFLS), a longitudinal survey conducted by the RAND Corporation and a group of Indonesian Universities (Strauss et al., 2016).
- The IFLS has five waves (1993, 1997, 2000, 2007, 2014), followed over 7,000 households (30,000 participants), and is representative of over 83% of the Indonesian population (Strauss et al., 2016)



Research Question

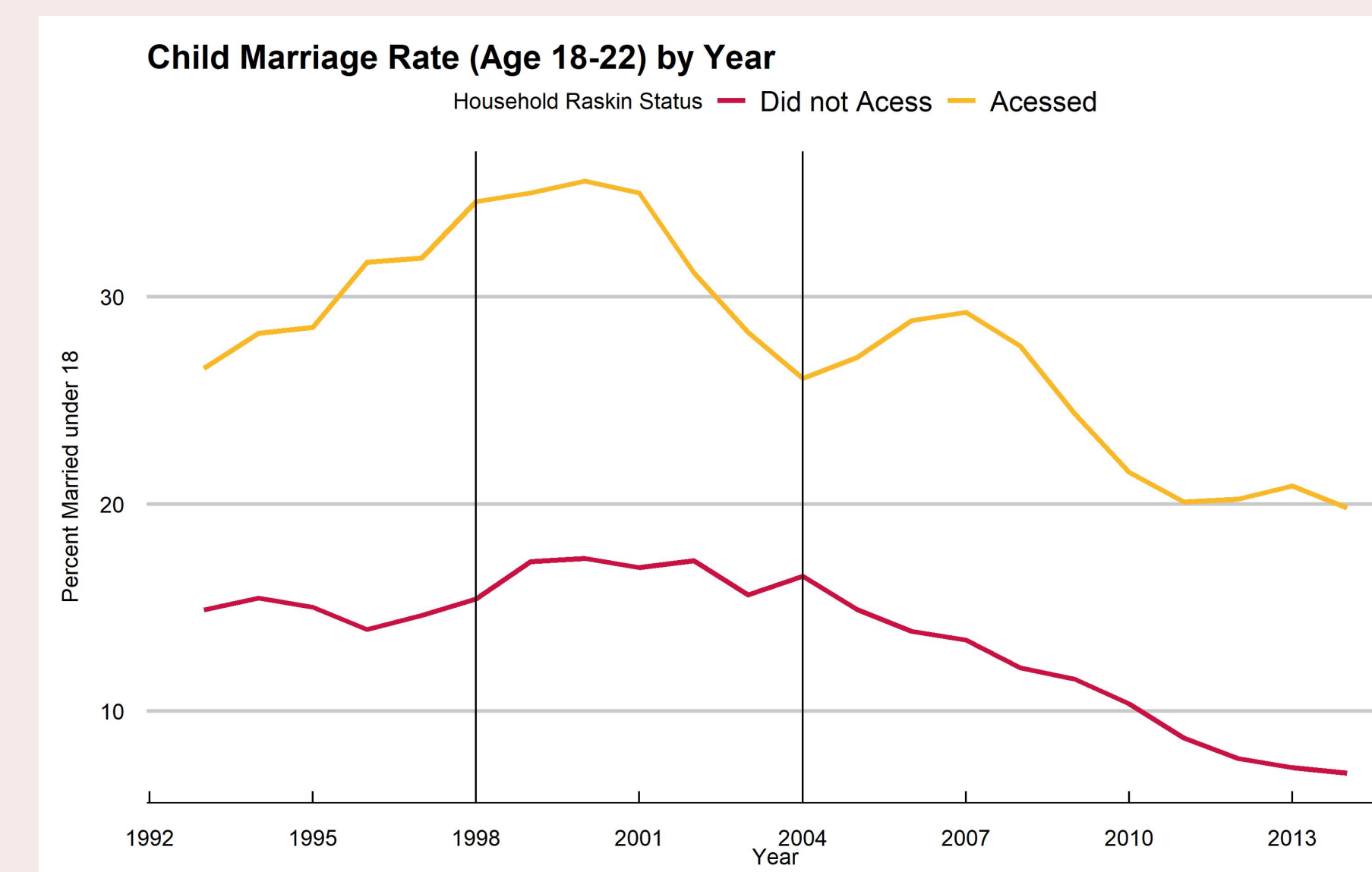
- **Did Indonesia's Raskin Program affect the incidence of child marriage?**

5. Empirical Framework

- In order to estimate the causal effect of having access to Raskin on a daughter's risk of child marriage, the following difference-in-differences equation was estimated:

$$M_{ijat} = \rho R_{jt} + \phi P_t + \beta(R_j * P_t) + \nu_a + \tau_t + \lambda_j + \epsilon_{ijat} \quad (1)$$

- M_{ijat} : an indicator for daughter i in household j born in year a getting married under the age of 18 in year t
- R_j : an indicator for household j ever purchased rice through the Raskin Program
- P_t : an indicator for the year t being post- the introduction of the Raskin program in 1998
- ν_a : fixed effect for birth year a .
- τ_t : fixed effect specific to year t .
- λ_j : fixed effect for household j .
- ϵ_{ijat} : an error term with mean zero.



Next Steps

- 1 Investigate heterogeneity of effect across different income strata.
- 2 Formally compare the validity of income smoothing and food insecurity as mechanisms by including local rice prices, rice consumption, household composition, and dowry size in the model.

6. Results

	(1) OLS	(2) Household FE	(3) Individual FE
Post Treatment=1	0.380*** (0.00965)	0.548*** (0.0207)	0.629*** (0.0199)
Raskin=1	0.0285*** (0.00353)	Omitted	Omitted
Post Treatment \times Raskin	-0.00179 (0.00435)	0.0120** (0.00555)	0.0617*** (0.00930)
Constant	-0.205*** (0.00657)	0.0240* (0.0130)	-0.362*** (0.0145)
Observations	54,704	54,704	54,704
R^2	0.023	0.045	0.064
Birth Year FE	YES	YES	YES
Year FE	YES	YES	YES
Number of Households		5,885	
Households FE		YES	
Number of Individuals			9,631
Individual FE			YES

Standard errors in parentheses are clustered at household level.

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

- **Raskin has a significant and positive effect on the incidence of a girl being married before the age of 18 when accounting for year of birth, time, and time-invariant household characteristics.**

7. Policy Implications

- A program designed to combat food insecurity may have caused an increase in child marriages.
- Programs designed to solve one problem may interact with local cultural institutions and have unfortunate side effects.
- Program monitoring and evaluation is important to understand and adapt to these unforeseen consequences

