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Evaluating Longer-term Impact of Indonesia's CCT Program: Evidence From A Randomised Control Trial

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Background

- Conditional Cash Transfer (CCT) program probably is the most adopted program worldwide in the last two decades.
- Its inspiration started with the success of Progresa in Mexico in protecting the welfare of the poor as well as to improve the health and education-related behavior of the poor
- CCT uses double weapons to address poverty:
  - Short-term: to protect the welfare of the poor through consumption support
  - Long-term: to improve the education and health-related behavior of the poor through tying the up the cash with behavioral compliance
- While relatively more expensive compared to UCT, its conditionality that made the program is more effective (see for example Baird et al, 2010) than other anti-poverty programs.

Why Evaluating PKH After 6 Years?

- The guideline of PKH requires that after 6 years in the program, the beneficiaries should be 'graduated'.

- Some of program outcomes are short-term indicators, while some other are long-term ones.
  - World Bank conducted evaluation 2 years after implementation that might capture only short term impacts (World Bank 2011).

Outline

- About Indonesia's Program Keluarga Harapan
- Evaluation Design
- Empirical Strategy
- Main Findings and Discussions
- Conclusion and Implications

Indonesia's CCT Program
Program Keluarga Harapan

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Program Keluarga Harapan

- Launched in 2007 as Pilot in 6 Provinces, become National Program in 2013.
- Target the very poor households/families with the present of the following type of family members:
  - Pregnant/lactating mother
  - Pre-schooler (under 6 years old)
  - School-age children (up to Junior Secondary School)
- As other CCT programs, PKH links the benefits to the compliance of the beneficiaries on required conditions
- Conditionality includes:
  - Pregnant/lactating mother should visit Puskesmas 4 times/as required.
  - Pre-schooler needs to be presented at Posyandu or Puskemas for growth monitoring and nutrition supplementation
  - School-age children need to have monthly attendance rate at least 85%.

Items for PKH cash transfer

Support scenario	Amount of transfer per household per year (Rupiah)
Fixed cash transfer	200,000
Cash transfer per household with	
a. Child aged less than 6 years	800,000
b. Pregnant or lactating mother	800,000
c. Children of primary school age	400,000
d. Children of secondary school age	800,000
Average transfer per household	1,390,000
Minimum transfer per household	600,000
Maximum transfer per household	2,200,000

Source: MoSA (2008)

PKH Expansion since 2007

YEAR	BUDGET (in Billion)		BENEFICIARIES		LOCATION			
	PLANNED	REALIZATION	PLANNED	REALIZATION	PROV	DISTRICT	SUB DISTRICT	VILLAGE
2007	843,60	507,97	500.000	387.947	7	48	337	4.311
2008	981,75	767,59	642.000	620.848	13	70	637	7.654
2009	1.100,00	923,94	720.000	726.376	13	70	781	9.295
2010	1.300,00	929,41	816.000	774.293	20	88	946	10.998
2011	1.610,00	1.282,20	1.116.000	1.052.201	25	118	1.387	16.154
2012	1.567,48	1.540,20	1.516.000	1.492.473	33	168	2.001	21.471
2013	2.951,50	2.938,56	2.400.000	2.326.523	33	336	3.417	43.318

Source : Bappenas and Ministry of Social Affairs

Evaluation Design

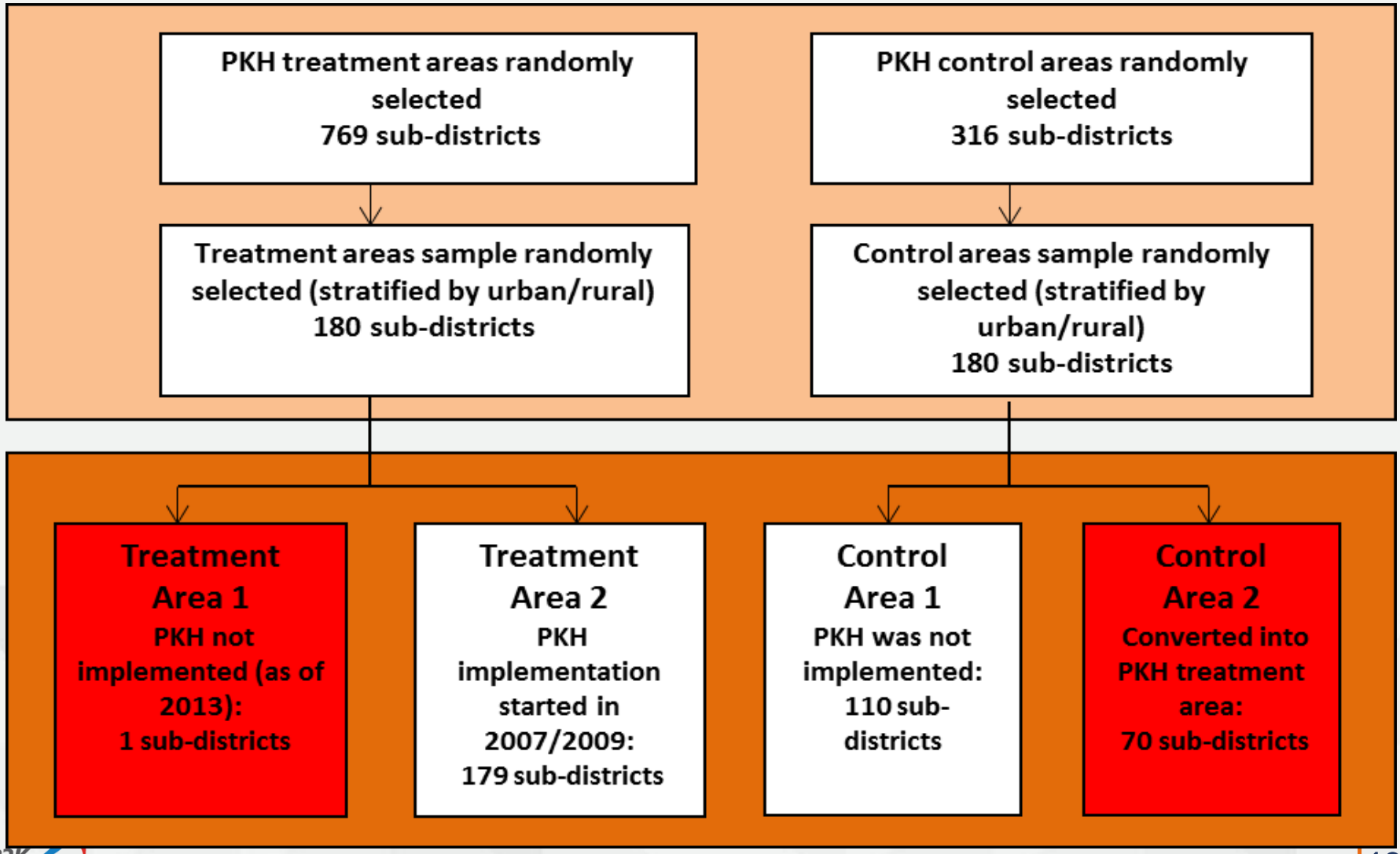
Impact Evaluation Design

- Baseline survey (2007) was designed as randomized control trial (RCT) at sub-district level (World Bank, 2011)
- Selection of eligible sub-districts was based on characteristics including prevalence of malnutrition, poverty rate, school drop-out, and availability of health and education facilities.
- From the list, two sets of sub-districts was randomly selected to be assigned to treatment and control groups.
- Within each sample sub-districts, households were sampled randomly based on PKH beneficiaries criteria
- Midline evaluation by World Bank in 2009 finds that there has been contamination in the sample
  - 1 treatment sub-districts never received program, 39 out of 180 control sub-districts received program.

Endline Survey

- After midline evaluation by the World Bank (2011), endline survey was conducted by TNP2K to identify longer-term impact of the program
- Endline survey revisits all sub-districts and reinterviews households in baseline sample including split households and new household members: 6 provinces, 360 original sub-districts
- Further conversion from control to treatment sub-districts found.

Sampled Sub-Districts in 2013



Endline Survey Sample Size

Sample	Baseline Survey (2007)			Endline Survey (2013)			Panel 2007 –2013	
	T	C	Total	T	C	Total	Ind	Cohort
Sub districts	180	180	360	249	111	360	360	
Villages	1,354	1,369	2,723	2,027	887	2,914	2,721	
Households	7,195	7,131	14,326	10,847	4,770	15,617	14,117	
Individuals	19,894	19,993	39,887	38,601	16,789	55,390	31,468	16,634
Children age 0-3 years	3,077	3,077	6,154	7,750	3,356	11,106	5,323	0
Children age 6-15 years	9,409	9,551	18,960	19,304	8,352	27,656	13,682	5,937
Women age 16-49	7,408	7,365	14,773	11,547	5,081	16,628	12,463	10,697

Source: SPKP (2007 & 2013)

Empirical Strategy

Empirical Strategy

- We would like to see the impact of PKH on important outcomes, such as
  - Household expenditures/consumptions
  - Health outcomes: pre- and post-natal visits, assisted delivery, children immunisation, stunting.
  - Education outcomes: enrolment at primary and secondary school, transition from primary to secondary school, and child labor.

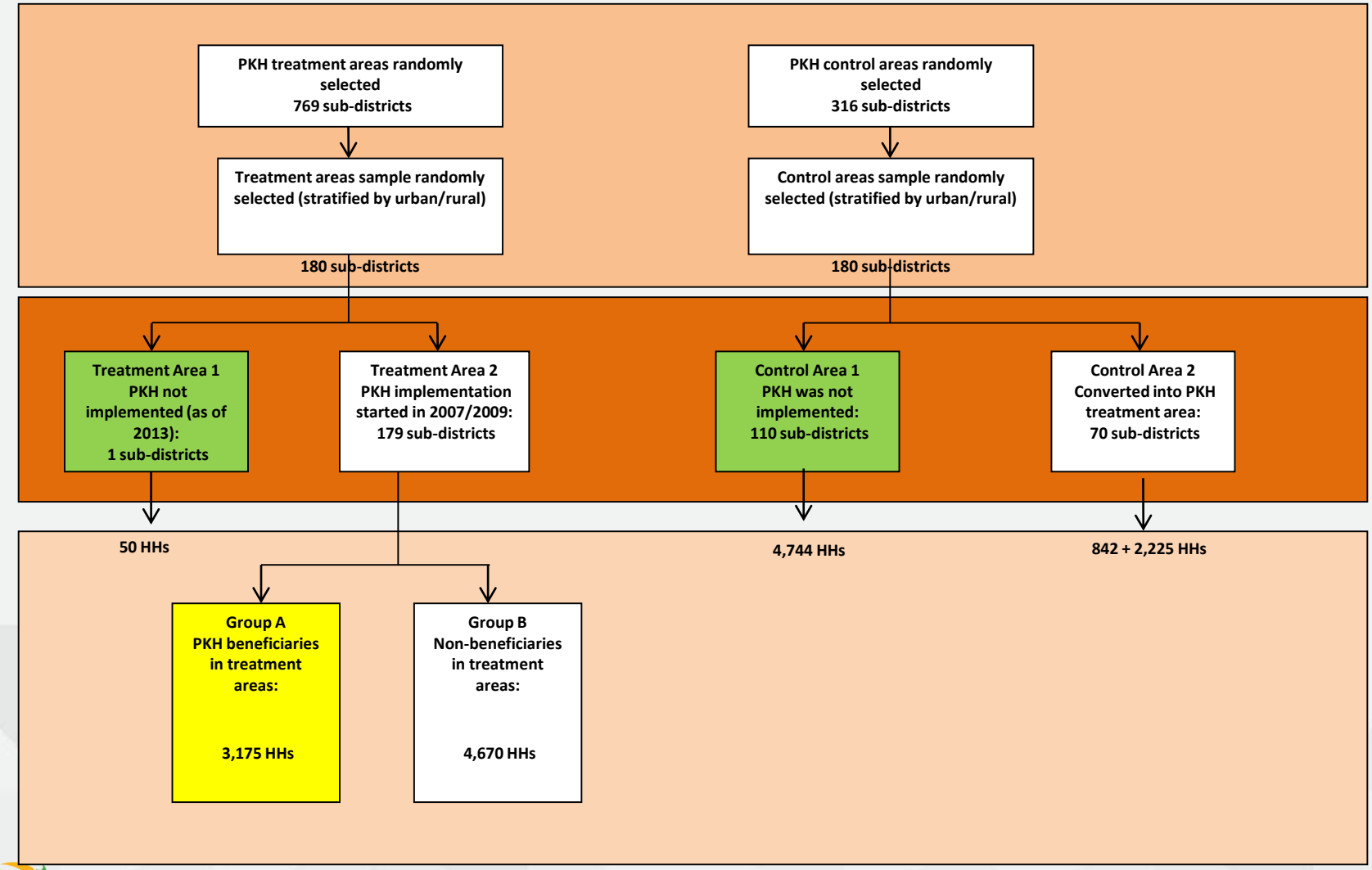
Estimation Strategy

- While RCT in ideal situation only call for the use of DiD, contamination requires additional effort to address endogeneity of conversion.
- We use Instrumental Variable (IV) technique as standard approach to deal with the issue:

$$y_{it} = \beta_0 + \delta_0 t_{it} + \beta_1 PKH_{it}^K + \delta_1 t_{it} * PKH_{it}^K + X_{it}'\gamma + \varepsilon_{it}$$

- As IV we use original lottery status of sampled sub-districts

Estimation Strategy: Participation Effect



Qualitative Study to Complement RCT

- Sampled villages was selected from among endline survey sample including: 22 villages in 6 PKH districts (cohort 2007) from 6 provinces PKH pilot.
- From control sub-districts was selected 2 villages in respectively 2 sampled sub-districts from 2 districts.
- Criteria for sampled households –information on welfare beneficiaries were obtained from recertification survey (2013):
  - Beneficiaries who remain poor
  - Better off beneficiaries
  - Worse off beneficiaries
- Used *Most Significance Change* (MSC) and *In-depth interview*.

Some Findings and Discussions

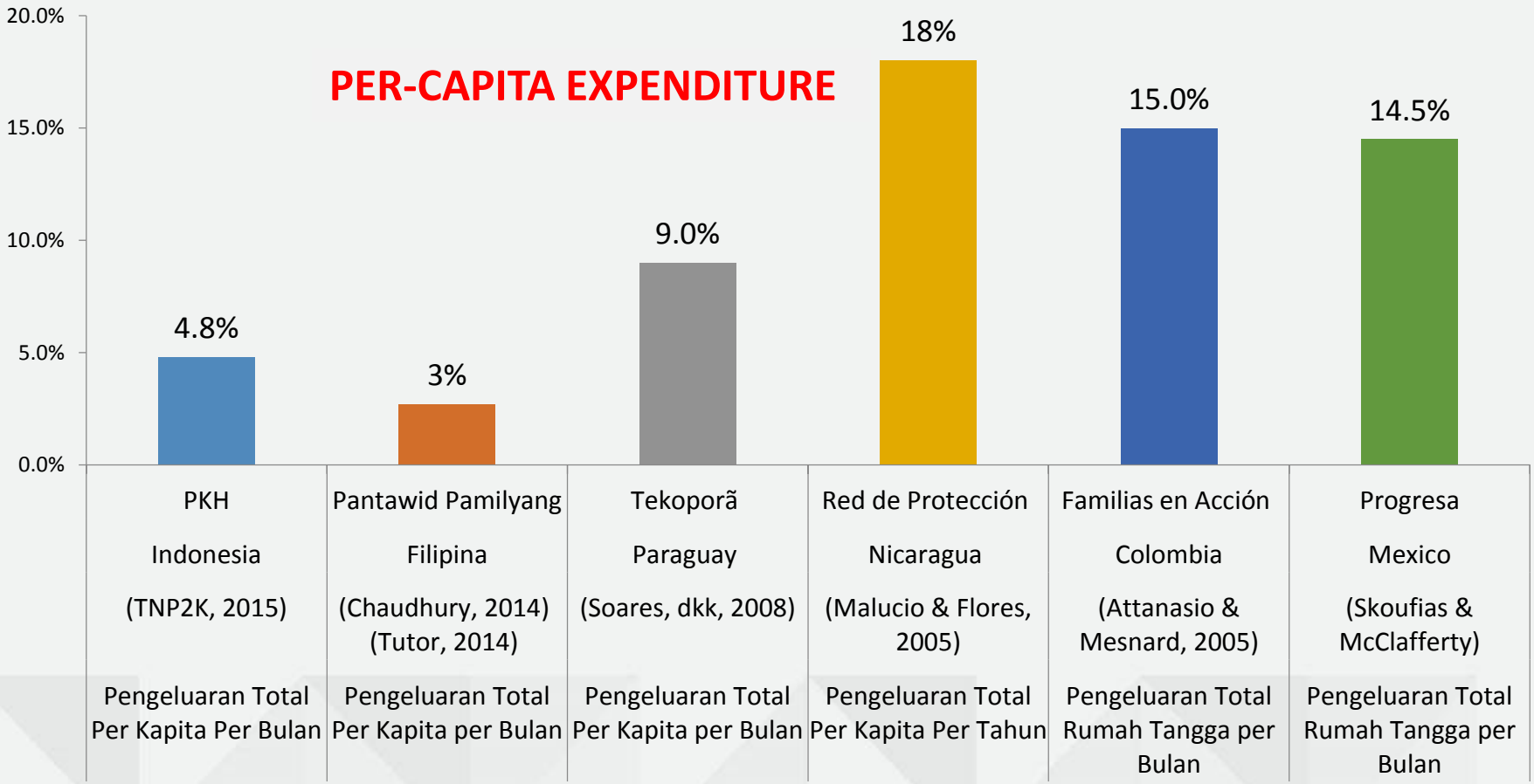
Per-capita Consumption (%)

Indicators	Estimated Impact
Total	0.048*** (0.017)
Non-food	0.122*** (0.025)
Education	0.154** (0.063)
Health	-0.100 (0.069)
Food	0.015 (0.018)
Alcoholic bev	-0.143 (0.192)
Tobacco	0.024 (0.040)

Note: Robust standard errors are in parentheses

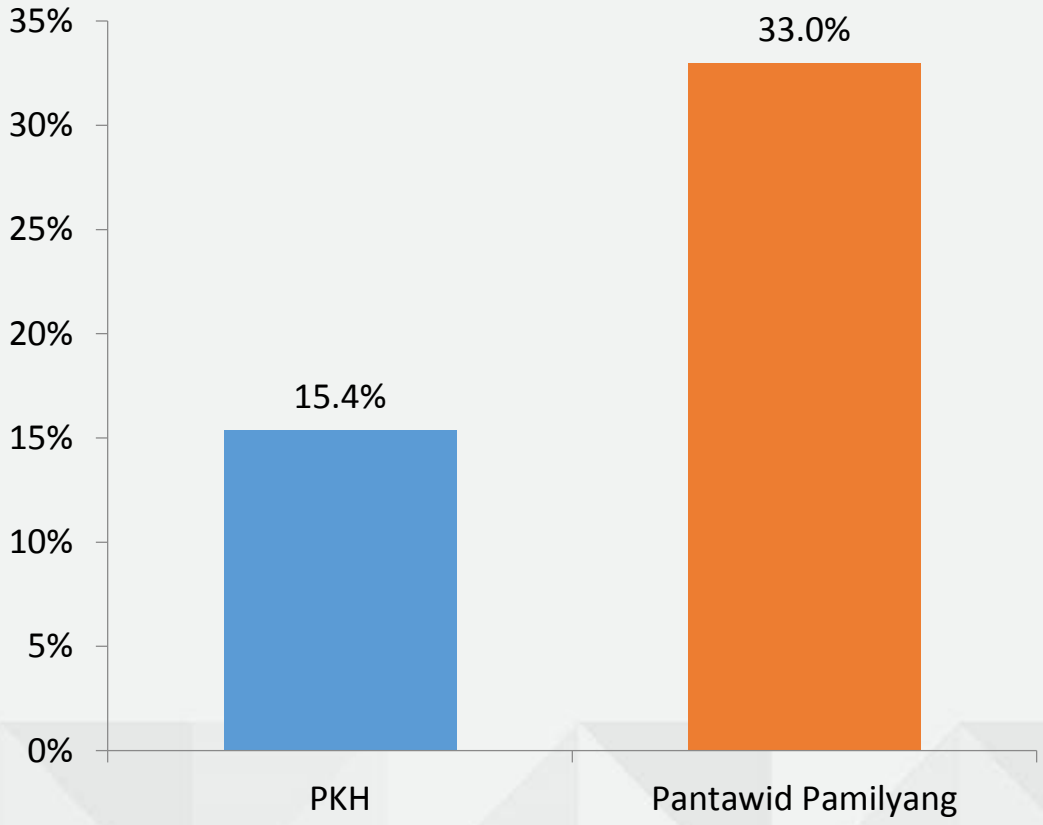
- PKH increase total PCE of the beneficiaries on average by 4.8%
- Increase in PCE is mainly explained by increase in per-capita non-food consumption and education expenditure
- We have little evidence on PKH impact on per-capita expenditure on health and food-related items
- Mixed consistencies compared to results from midline evaluation.

International Comparison of CCT Impact on Total PCE



International Comparison of CCT Impact on PCE Education

PROPORTION OF PC EDUCATION SPENDING ON TOTAL PCE



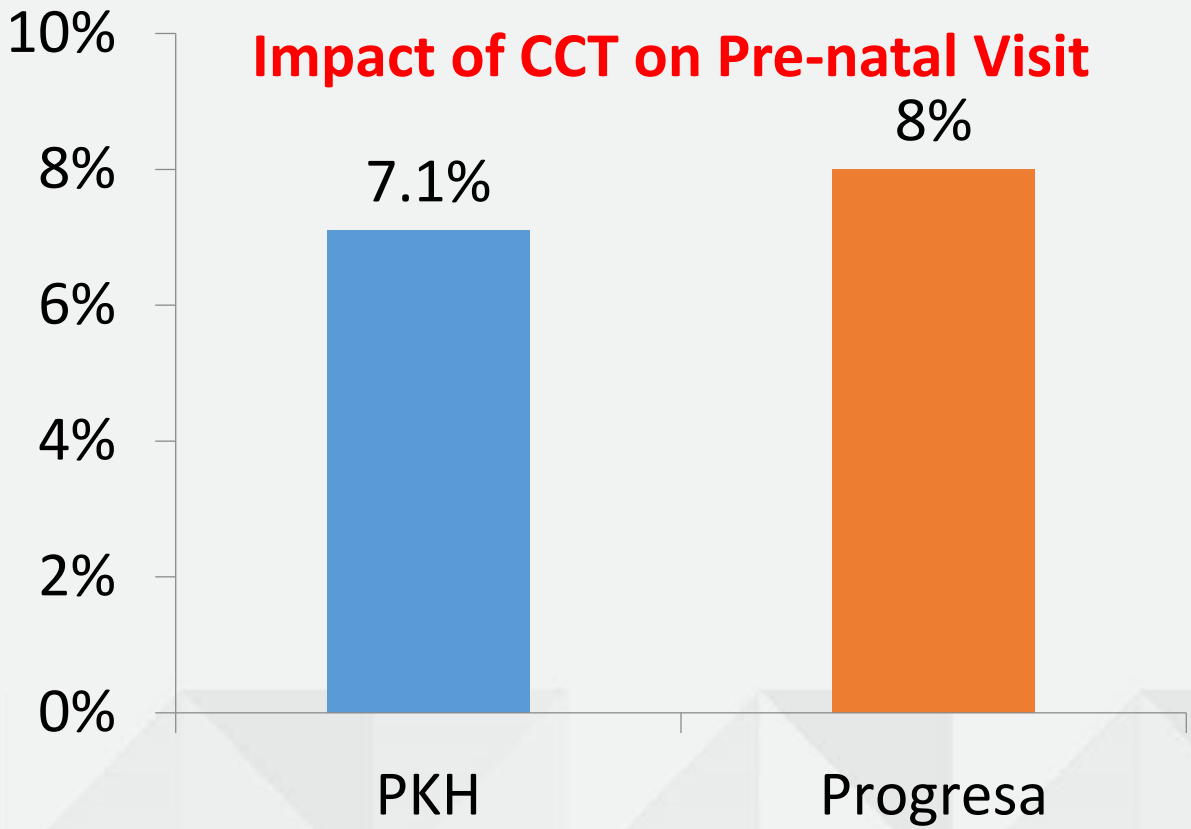
Health-related Outcomes

Indicators	Estimated Impact
Pre-natal visits	0.071** (0.031)
Assisted Delivery	0.068 (0.043)
Delivery at facility	0.039 (0.044)
Post-natal visits (1-40 days)	-0.053 (0.054)
Completed Immunization by schedule & age	0.077** (0.038)
Severe Stunting	-0.027 ** (0.013)

Note: Robust standard errors are in parentheses

- On health-related outcomes, impact PKH can be observed in improving pre-natal visits and completed immunization by schedule for age, as well as on reduction of severe
- However we do not see significant impact of PKH on assisted delivery, delivery at facility and post-natal visits.
- Compared to midline evaluation some results are consistent, some are not.

International Comparison of CCT Impact on Pre-natal Visit



Education-related Outcomes

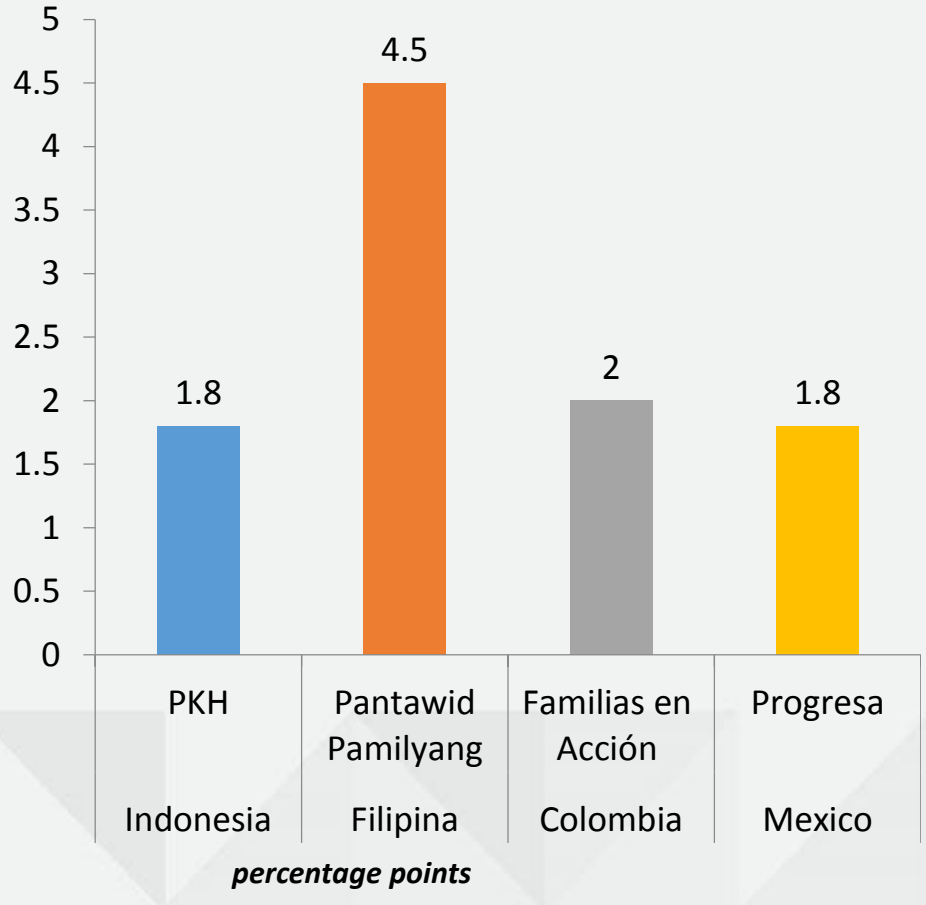
Indicators	Estimated Impact
Gross enrollment primary school (7-12 yo)	0.018* (0.011)
Attendance primary school > 85% (7-12 yo)`	0.013 (0.012)
Drop-out rate primary school	-0.009 (0.008)
Gross enrolment secondary school (13-15 yo)	0.095 *** (0.029)
Attend. secondary school > 85% (13-15 yo)	0.008 (0.020)
Transition rates (13-15 yo)	0.178 *** (0.066)
Drop-out rate secondary school	-0.007 (0.016)
Transition rates all (7-15 yo)	0.088 ** (0.045)

Note: Robust standard errors are in parentheses

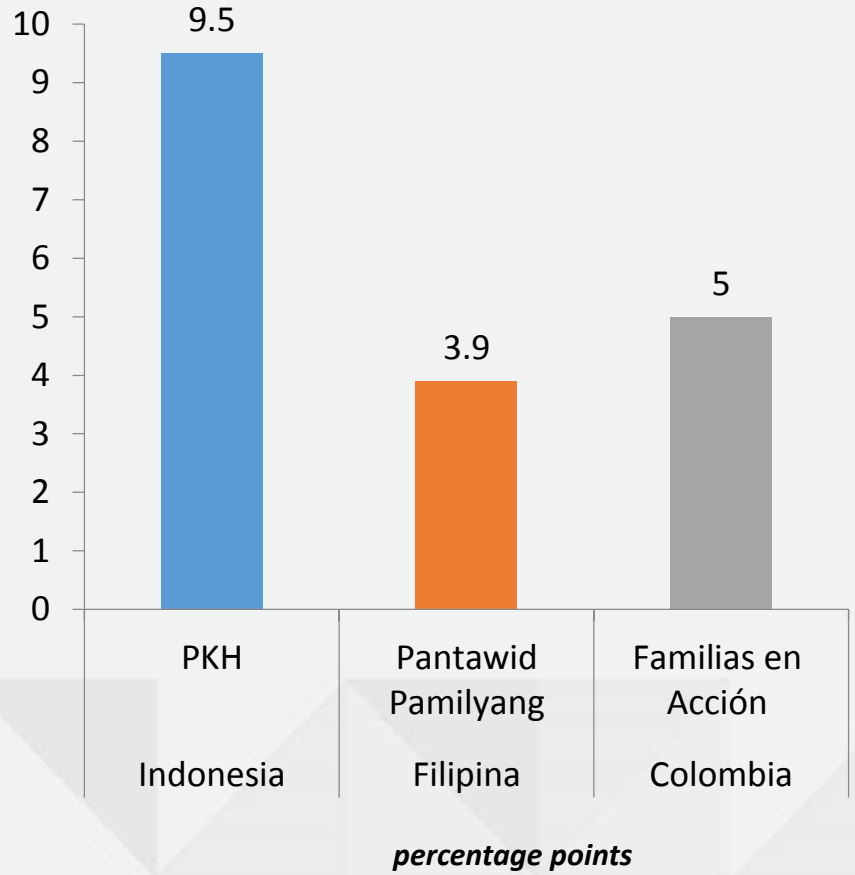
- On midline evaluation, impact of PKH on most, if not all, of education outcomes were insignificant
- On endline evaluation, impact PKH can be observed on gross enrollment for primary and secondary school and particularly on transition from 6^{th} to 7^{th} grade.
- We do not though find PKH impact insignificant on attendance both at primary and secondary school.

International Comparison of CCT Impact on Enrolment

PRIMARY SCHOOL ENROLMENT



JUNIOR SECONDARY ENROLMENT



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Child Labor

Indicators	Estimated Impact
Wage work during last month (7-12)	-0.014* (0.007)
Wage work during last month (13-15)	-0.026 (0.021)
Wage work (13-15) more than 20 hours a month	-0.051* (0.023)

Note: Robust standard errors are in parentheses

- Impact of PKH on increase of school enrolment seems to be consistent with impact PKH on reduction of child labor
- We find that PKH has significant impact on reduction of wage work during last months for age group 7-12 yo and wage work more than 20 hours per month for age group 13-15 yo
- On midline, as for education outcome, PKH seems have little impact on child labor

Some Discussions and Possible Explanations

- Consistent but relatively lower impact on some significant outcomes. Why?
  - Weak facilitation, and weak conditionality enforcement
  - Low and Stagnant benefits size
  - Supply side issues
- Significant PCE on education-related items, but not on health-related items. Why?
  - Qualitative: facilitator emphasized that benefits should be spent on child education
  - Complementarity of PKH and JKN
- Why PKH impact on post-natal visits disappears on endline evaluation?
  - Qualitative: role of traditional birth helper
  - Reversed behavior, birth order effect

Conclusions

Conclusions

- After 6 years of implementation, PKH remains to generate significant impacts on some main indicators
- Some of these are 'long-term' indicators…in which program impact could not be observed during midline evaluation in 2009.
- While significant, the impacts relatively lower relative to those from midline evaluation and compared to those from CCT in other countries.
- More concerning: 'reversed' impacts.

Sustaining the positive impact, improve the effectiveness.....

- Increase program benefits...along with strengthening the beneficiaries facilitation
- Enforce program conditionality to improve the compliance!
- Strengthen the implementation capacity and expand organization of the managing agency
- Somehow not related with this study but important for PKH: improve supply side!

Thank You

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