

# COMMUNITY-DRIVEN DEVELOPMENT PROGRAM AND LONG-TERM SOCIAL CAPITAL: THE CASE OF INDONESIA KECAMATAN DEVELOPMENT PROGRAM AND URBAN POVERTY PROGRAM

**Lovina Aisha Malika Putri**

1706028461

Advisor: Rus'an Nasrudin, S.E., M.IDEC., Ph.D.



FACULTY OF  
ECONOMICS  
AND BUSINESS

# FEEDBACK SHPM

Feedback	Responses
<b>Chapter 4:</b> <ul style="list-style-type: none"><li>• Discussion regarding the difference in IFLS and Susenas dataset for urban vs. rural heterogeneous analysis.</li><li>• Measurement and concise definition of Bonding and Bridging Social Capital before the result analysis.</li></ul>	The thesis has included the additional discussion about result differences in both dataset (in terms of data characteristics and comparison).

# INTRODUCTION

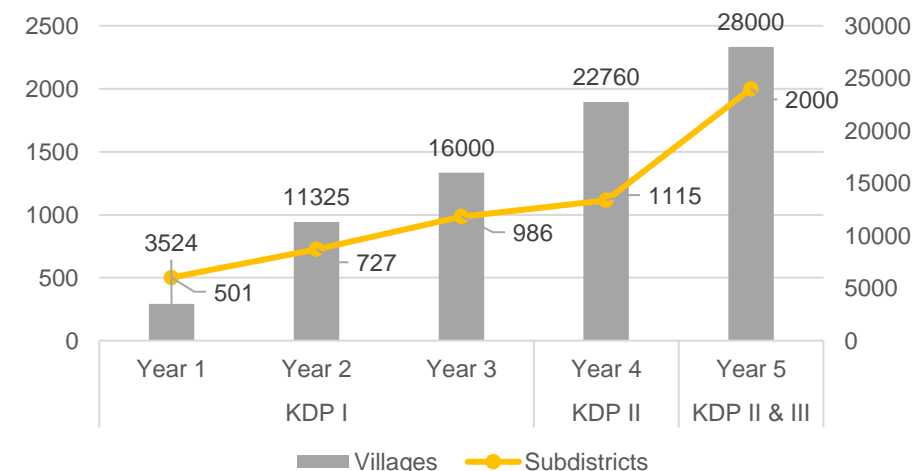
- CDD programs have been implemented in some developing countries to complement individual social assistance or as the final decentralisation stage (Wong, 2012), with **long-term goal to strengthen the community institution (ADB, 2016)**.
- **After the rapid increase in the poverty rate in 1998 (post-AFC), the Government of Indonesia launched two CDD programs: *Kecamatan Development Program (KDP)* and *Urban Poverty Program (UPP)*.**
- Social capital often considered as the "missing link" in the analysis, which can explain how development occurred and as the institution quality indicators (Grootaert, 1998; Knack, 2002).
- Communities with higher initial social capital tend to build more infrastructure projects in community-led programs and experience higher benefits when compared to communities with lower social capital (Cameron et al., 2015).
- **However, there are still mixed results within the studies of CDD intervention to social capital where some countries have an improvement, while others have no impact, or even deterioration in social capital. → long-term goal of CDD might not be achieved.**

**Why CDDs important:** Increasing the public goods provision and access to infrastructure

Area (Kecamatan)	Block Grant Per Capita (per project cycle)
Java-Bali Region	\$3 - \$6
Outside Java-Bali Region	\$6 - \$6.7
Maximum per 10,000 population	Rp100,000*

Source: Wong (2012)

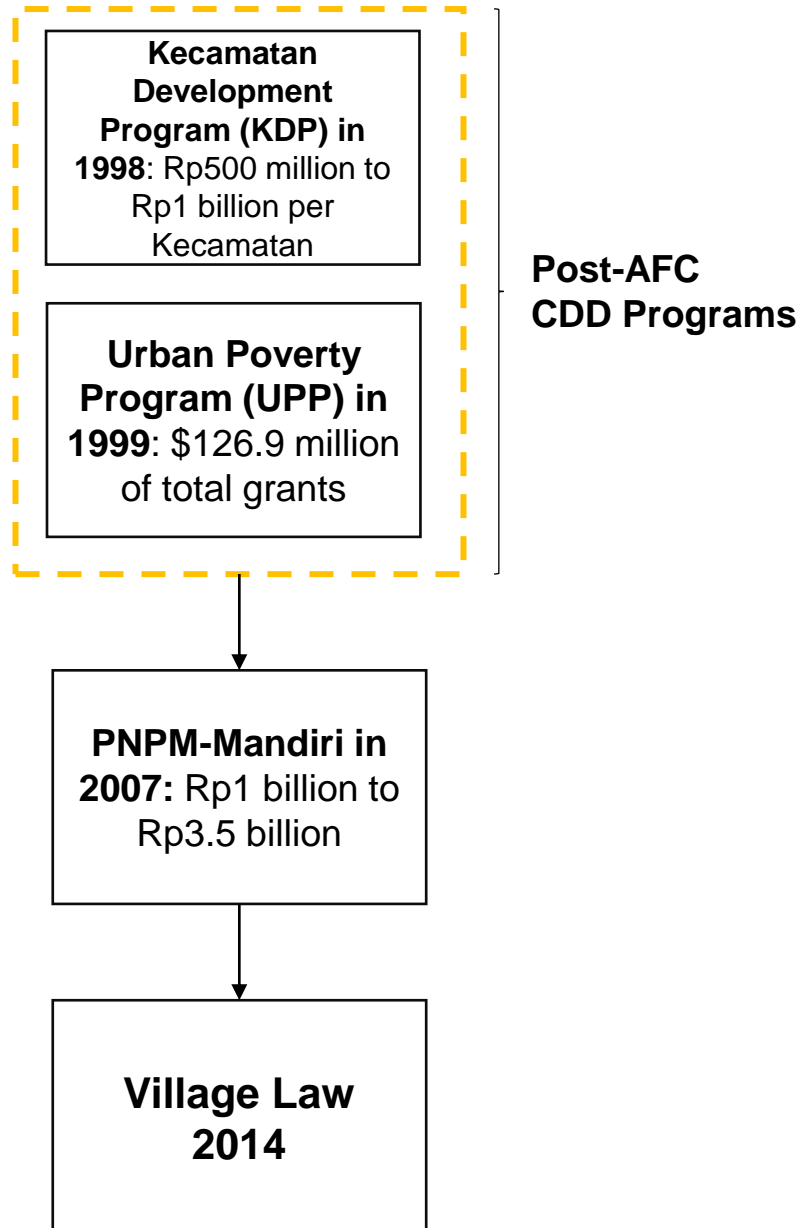
## KDP Village and Subdistrict Coverage (1998-2005)



Source: Prasta et al. (2004)

# CDD IN THE INDONESIA CONTEXT

4



Indicators	Kecamatan Development Program (KDP)	Urban Poverty Program (UPP)
<b>Project Period</b>	1998-2014	1999-2011
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• Support participatory planning &amp; management</li> <li>• Support construction and social economic infrastructure in poor village</li> <li>• <b>Strengthen local, formal, and informal institution</b></li> <li>• Targeted for Rural Village</li> </ul>	<ul style="list-style-type: none"> <li>• Establish community organization to provide services &amp; increase the voice of the urban poor in decision making</li> <li>• <b>Increase cooperation between govt &amp; community</b></li> <li>• Improve services for the urban poor</li> </ul>
<b>Total Grant</b>	\$421.5 million	\$126.9 million
<b>Block Grant Size</b>	\$75,000- \$150,000 per subdistrict annually (based on population & region)	\$15,000-\$45,000 per kelurahan (based on population)
<b>Subprojects</b>	<ul style="list-style-type: none"> <li>• Village infrastructure: roads, bridges, irrigation, and water and sanitation) (&gt;70%)</li> <li>• Microcredits &amp; social services (&lt;30%)</li> </ul>	<ul style="list-style-type: none"> <li>• Infrastructure improvement</li> <li>• Microcredits</li> </ul>
<b>Critics</b>	<ul style="list-style-type: none"> <li>• <b>KDP project failed to reduce the “grant leakage”</b> (Olken, 2007).</li> <li>• <b>Most village-level leaders were unresponsive, needs help from external parties</b> (Wetterberg et al., 2014).</li> <li>• <b>CDD process has increased village head and elites' domination in project planning and execution</b> (TNP2K, 2014).</li> </ul>	

## Research Questions

1. Do CDD Programs in Indonesia have an impact on social capital and participation in the long-term?
2. In what direction the impact of CDD programs on social capitals took place?
3. In what direction the impact of CDD programs on participation took place?

## Research Gap

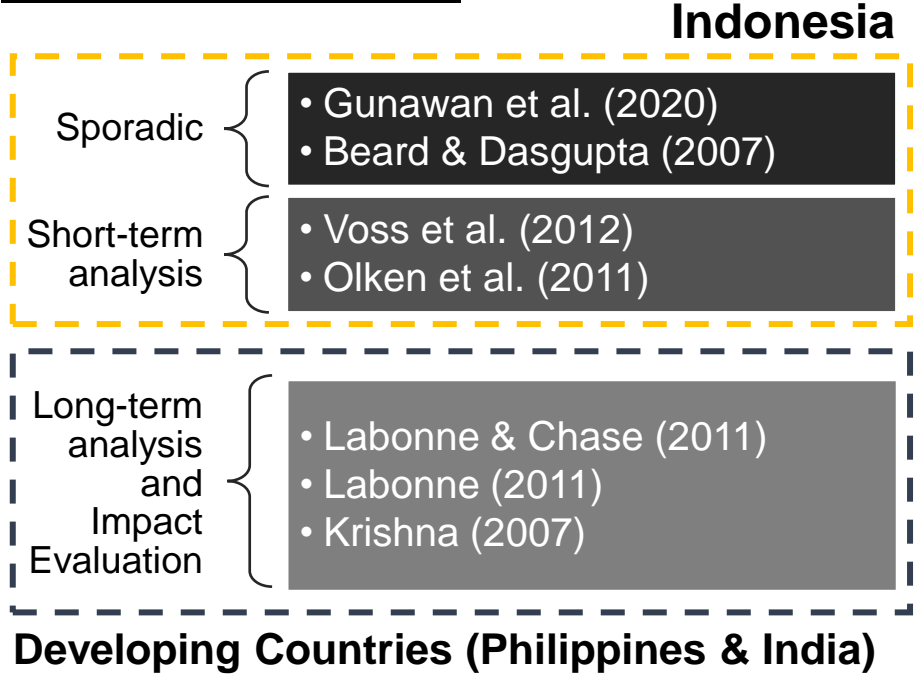
- Studies related to the impact of CDD and social capital in Indonesia still **limited**, where the analysis is more sporadic and limited to few areas or only short-term analysis.
- The **external intervention's impact on social capital might be accumulated, and it is better to be observed after a more extended period (Wong, 2012).**
- Impact evaluations related to CDD in Indonesia still focus on the leading indicators: economic, health, and education.
- **In the context of developing countries, only limited studies estimated the impact of changes in social capital in the longer term.**

## Research Contribution

This study would fill the literature gap by providing impact evaluation for CDD to social capital in Indonesia, with a focus on bonding social capital, bridging social capital, and participation indicators in the long term (seven years or more) by adopting the regression model from Labonne & Chase (2011) and Sparrow et al. (2013).

However, this study will focus on the impact of CDD on bridging and bonding social capital in the long term to clarify the CDD impact in the community, **in contrast to the previous study (Labonne & Chase, 2011), which did not separate the dichotomy of bridging and bonding social capital, which included in the informal social capital.**

## Previous Study



## Four Views of Social Capital

Communitarian View

Network View

Institutional View

Synergy View

The **Network View** stresses the social network and relationship between people within and among the community and **there are two types of capital: bonding and bridging social capital**. Bonding social capital occurred between intracommunity ties with common socioeconomic characteristics and shared purpose (Granovetter, 1973; Astone et al., 1999). On the other hand, bridging social capital emphasizes the relationship between people with different socioeconomic characteristics (Woolcock & Narayan, 2000), which occurs within overlapping networks or cross-cutting society (Putnam, 2000; Paxton, 2002).

### Bonding Social Capital

- **Helping other neighbors** in the community
- **Trust neighbors** to take care of children
- Trust neighbors to watch the house

### Bridging Social Capital

- **Feeling towards other religions** who live in the neighborhood
- **Feeling towards and trust to other ethnicities** who live in the neighborhood

### Participation

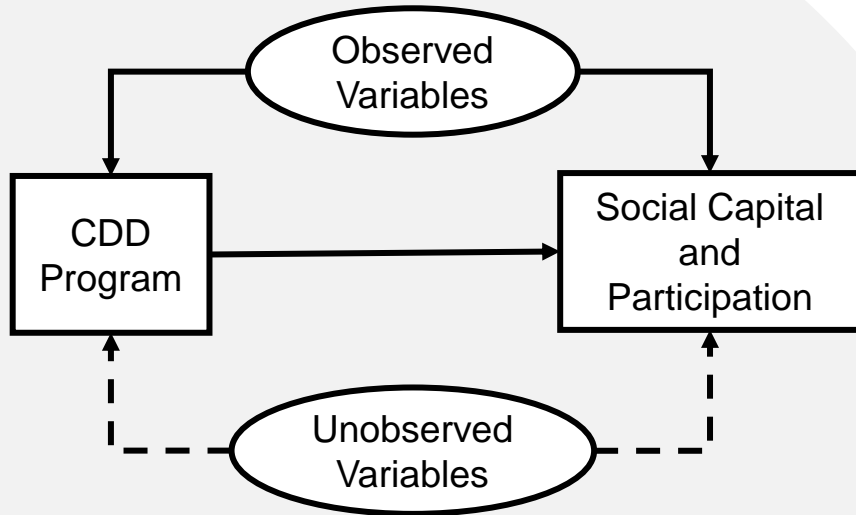
- **Number of participations in community organizations or collective action**
- Participation in *arisan* or **social activities**

## CDD & Social Capital Argument

Community development built from state and community synergy can significantly improved by external interventions which reduce power inequality within communities, such as land and tenancy reform. **Those interventions will cut down the poor household dependence on local elites, increase collective action, and improve collaboration between citizens and government (Das Gupta et al., 2004).**

# LITERATURE REVIEW: PREVIOUS RESEARCH

Author	Method	Result	Findings
Labonne & Chase (2011)	PSM-DID	+/-	<u>Philippines CDD Program KALAHI-CIDSS</u> increased participation in local community activities such as village activities participation, an increment increases in generalized trust, <b>but lower collective action</b>
Sheikh (2009)	Descriptive Statistics	+	<u>Community-based initiatives in Iran</u> improved social capital in treatment areas: higher affiliation percentage, trust reciprocity, and collective action rather than areas with no program.
Parajuli et al. (2012)	DID	Not significant	<u>Nepal Poverty Alleviation Fund</u> <b>did not positively and significantly impact the social capital indicators such as trust, respect, and the relationship between inter-ethnic groups</b>
Nguyen & Rieger (2016)	RDD	Not significant	A field experiment in <u>Morocco</u> also showed that <b>the CDD program has no impact on trust and altruism</b> , even though decentralized decision-making might improve citizens' responsibility and participation in their community.
Chase & Sherburne-Benz (2001)	PSM	+/-	In <u>Zambia</u> , CDD improved the community willingness to take other projects initiative significantly in rural areas, <b>but not in urban areas</b> because community participation in the project is higher in rural area.
World Bank (2013)		-	The UPP program did not positively impact community participation in village organizations and activities, <b>with a significant reduction in citizens' participation in village projects an low trust to government</b>
Voss (2012)	PSM-DID	+/-	After two years of PNPM implementation, PNPM increase collective action, participation in village meetings, perception of local government addressing community needs, access to grants information, but <b>negative impact on village government trust</b> .



## Observed Variables:

- Individual economics and demographic characteristics
- Community level economics and demographic characteristics

## Unobserved Variables:

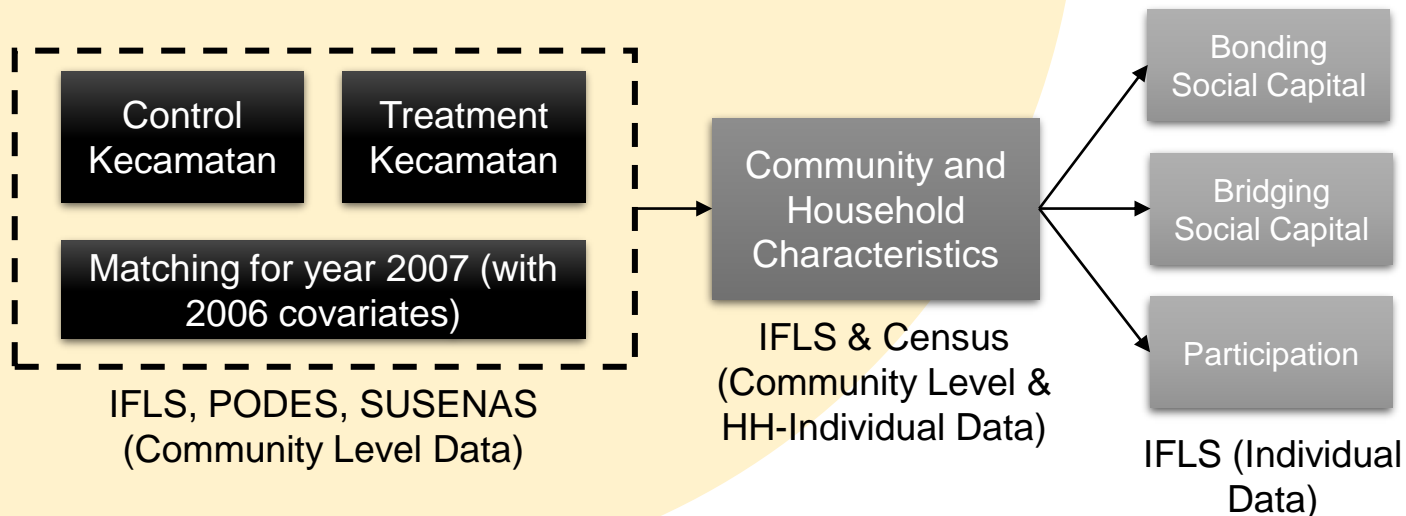
- Traditional network
- Elite capture
- Corruption
- Failed administration process
- Incompetent leader or officials

- **In general, CDD program might affect social capital through three main mechanisms** (Nguyen & Rieger, 2016):
  1. Increased household revenues and enhanced pro-social behaviors;
  2. Increase in the quantity and quality of interactions within community members;
  3. Positive citizen's perception toward authority.
- **However, there are two possible implications of CDD on social capital**
  1. **An increase in social capital and pro-social behavior** (Labonne, 2011; Chase, 2002; Chase & Sherburne-Benz, 2001) especially in areas with low social capital (Khwaja, 2009)
  2. **Decreasing social capital in communities that have established traditional networks** (Avdeenko & Gilligan, 2015; Ostrom, 1994).
- **In the Indonesian context**, communities tend to be heterogenous (Beard & Dasgupta, 2007), have customs laws (*hukum adat*), and traditional communities that have existed for generations.
- CDD can facilitate pro-social activities at the community level (*gotong royong* & *musyawarah*), participation in community organizations, and increased trust between residents and village leaders (ADB, 2016; Syukri & Mawardi, 2014).
- On the contrary, **in areas with existing networks and high social capital, there might be some risks that occurred** such as elite capture, corruption at certain government levels, failed administration process, and incompetent officials, which also affect the distribution of social assistance (Alatas et al., 2012; Olken, 2007)



# DATA AND UNIT ANALYSIS

- This study uses the Indonesia Family Life Survey (IFLS) Wave 4 and 5 data (Section TR Book 3A & PM Book 3B) and Susenas Social and Cultural Module 2009 & 2012 for bonding social capital, bridging social capital, and participation in community, as the dependent variable.
- This study also uses other data such as Nationally Representative Survey Data (SUSENAS), Village Potential (PODES), and Indonesia National Census Data.
- Unit analysis in this study is at the individual level** (adult in Book 3A and 3B), **but the matching procedure will be occurred on subdistrict (*kecamatan*) level based on subdistrict matching variables.**



1.

## IFLS 4 & 5:

- Social Capital
- Participation
- Individual Characteristics

2.

## Indonesia National Census Data:

- Ethnic Fractionalization Index
- Ethnic Polarization index

3.

## PODES:

Subdistrict Characteristics for Matching

4.

## SUSENAS:

- Social Capital
- Participation
- Individual Characteristics
- Relative Poverty
- Palma Index

# VARIABLE OPERATIONAL DEFINITION

Variable	Description	Source
<b>Dependent Variable:</b>		
Bonding Social Capital	The sum of Z score and latent variable from the intracommunity trust or common characteristics neighbour	IFLS 2007 & 2014; Susenas 2009 & 2012
Bridging Social Capital	The sum of Z score and latent variable from the intercommunity trust or different characteristics neighbour	IFLS 2007 & 2014; Susenas 2009 & 2012
Participation	The sum of Z score and latent variable from participation in community and arisan	IFLS 2007 & 2014; Susenas 2009 & 2012
<b>Independent Variable:</b>		
<b>Individual Characteristics</b>		
Age	Age of Respondent during Interview	IFLS 2007 & 2014; Susenas 2009 & 2012
Size of Household Member	Number of HH member	IFLS 2007 & 2014; Susenas 2009 & 2012
Education	Years of Schooling of individual	IFLS 2007 & 2014; Susenas 2009 & 2012
PCE	Per capita expenditure in form of natural logarithms	IFLS 2007 & 2014; Susenas 2009 & 2012
<b>District Control Variable:</b>		
Ethnic Fractionalization Index (EFI)	The probability that two individuals, randomly selected from the population, belong to the different ethnic groups.	Indonesia Census 2000 & 2010
Ethnic Polarization Index (EPI)	The probability that two ethnic group shared the equal size.	Indonesia Census 2000 & 2010
Palma Index	Ratio of 10% richest to 40% poorest share.	Susenas 2000 & 2010
<b>PSM Variable:</b>		
Relative Poverty	Percentage of the lowest 40% population from expenditure decile, by subdistrict	Susenas 2006
Population	Number of populations in the subdistrict	PODES 2006
Region Jawa-Bali	Dummy variable of Jawa-Bali region. 1 = Jawa-Bali 0 = Outside Jawa-Bali	PODES 2006
Number of Village/Kelurahan	Number of Village or Kelurahan in a subdistrict	PODES 2006
Percentage of Individual with Access to Clean Water	Percentage of the individual having access to clean water	Susenas 2006

## 1. Dependent Variables: Bonding and Bridging Social Capital

### 1. Simple sum of Z-Score

$$\sum z_i = \sum \frac{x_i - \bar{x}}{s}$$

All questions regarding bonding & bridging social capital are transformed into Z-scores and then sum up all the values.

### 2. Item Response Theory – Rating Scale Model (IRT-RSM)

Probability of observing the results k in item i and individual j:

$$Pr(Y_{ij} = k | a_i, b_i, d, \theta_j) = \frac{\exp \left[ \sum_{t=1}^k a \{ \theta_j - (b_i + d_t) \} \right]}{1 + \sum_{t=1}^K \exp \left[ \sum_{t=1}^s a \{ \theta_j - (b_i + d_t) \} \right]}$$

$a$  = discrimination for all item

$b_i$  is the overall difficulty for item i,

$d_t$  represents the threshold of outcome t to all item

$\theta_j$  = the latent trait of person j

(Raykov & Marcoulides, 2018).

## 2. Dependent Variables: Participation

### 1. Simple sum of Z-Score

$$\sum z_i = \sum \frac{x_i - \bar{x}}{s}$$

All questions regarding participation (collective actions and social activities) are transformed into Z-scores and then sum up all the values.

### 2. Item Response Theory – One Parameter Logistic (IRT – 1PL) Model

The probability of person j providing a positive answer to item i is given by:

$$Pr(Y_{ij} = 1 | a, b_i, \theta_j) = \frac{\exp \{ a(\theta_j - b_i) \}}{1 + \exp \{ a(\theta_j - b_i) \}}$$

$a_i$  = discrimination of item i

$b_i$  = represents the difficulty of item i

$\theta_j$  = latent trait of person j

(Raykov & Marcoulides, 2018).

## 1. Propensity Score Matching Model:

$$\Pr(CDD = 1|X_i) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 Relpov + \beta_2 Population + \beta_3 Region + \beta_4 Village + \beta_5 Water)}} \quad (1)$$

In order to control the time variant and unobserved time invariant variables, difference regressions will be conducted:

## 2. Propensity Score Matching and Difference Regression (For IFLS Dataset, Panel Respondent):

$$\Delta y_{ikt} = \beta_{DD} \Delta CDD_{ikt} + \gamma \Delta X_{kt} + \delta \Delta X_{ikt} + \Delta \varepsilon_{ikt} \quad (2)$$

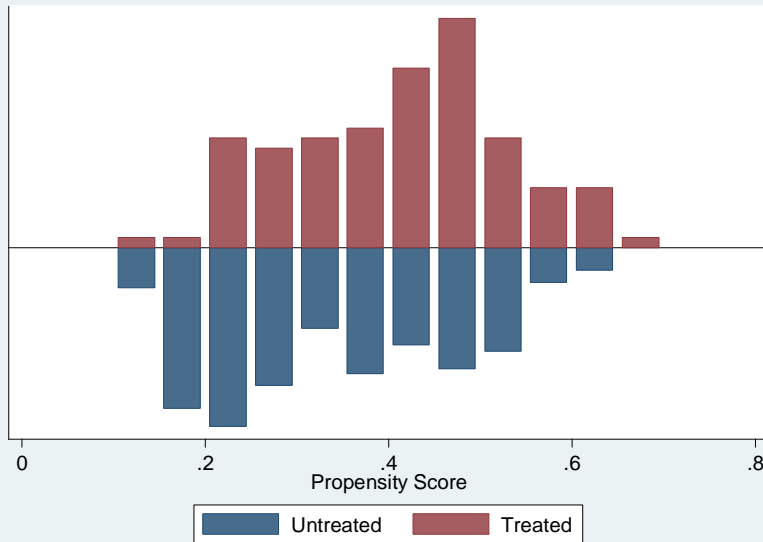
In equation (2), the treatment variable  $CDD_{ikt} = 1$  if individual  $i$  in kecamatan  $k$  received CDD (KDP or UPP) in year  $t$ , and  $CDD_{ikt} = 0$  if otherwise. There are district control variable ( $X_{kt}$ ) and individual control variable ( $X_{ikt}$ )

## 3. Propensity Score Matching and Difference-in-Difference (For Susenas Dataset, Pooled Respondent):

$$\beta_{PSM} = E(y_{ik,2014} - y_{ik,2007} | CDD = 1, S_{ik} = 1) - E(W_{ik}(y_{ik,2014} - y_{ik,2007} | CDD = 0, S_{ik} = 1)) \quad (3)$$

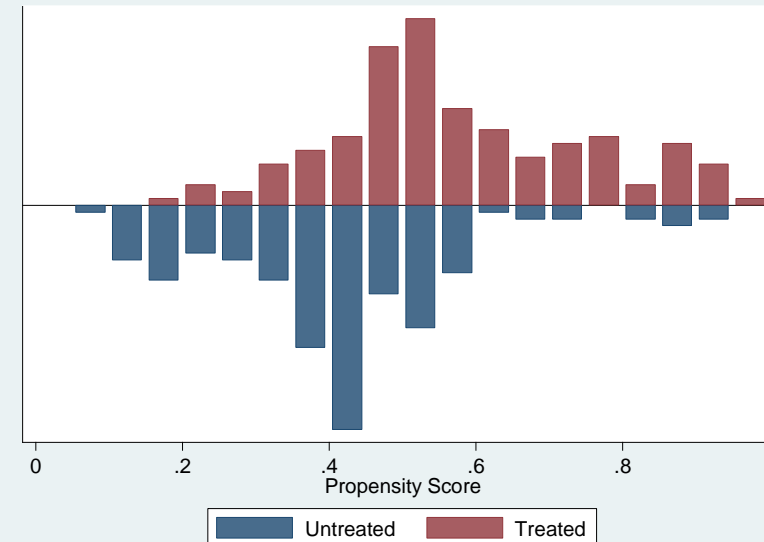
Where  $W_{ik} = W(P(X_{ik}))$  which is a weight based on the estimated propensity score  $P(X_{ik})$  and matching method,  $S$  is common support.

## Baseline PSM for KDP Program



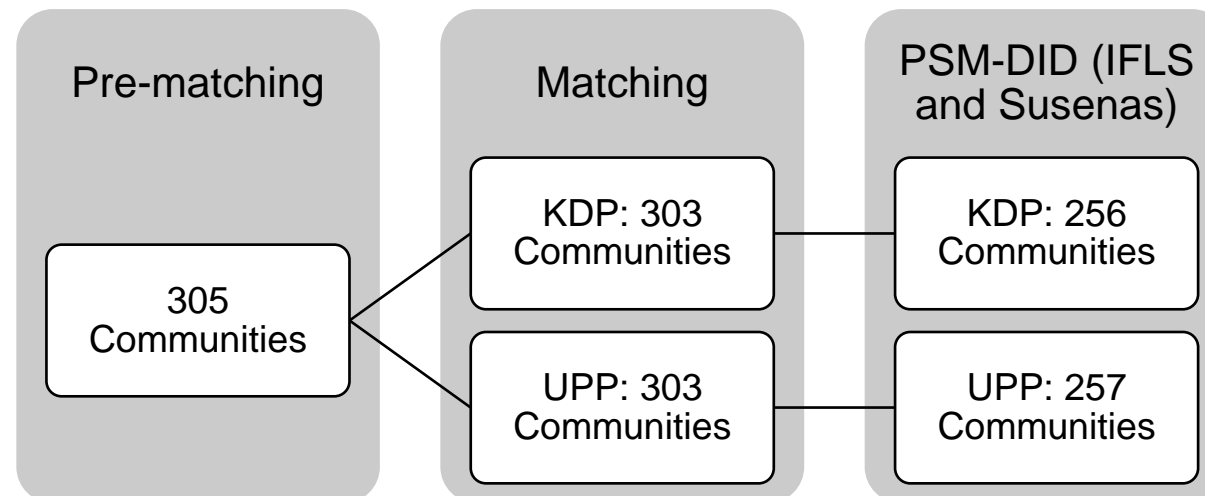
- **Common support:** 99.34 communities
- **Treated:** 36.64% & Control: 64.37%
- **Probability of receiving KDP Program:** 0.099 – 0.746

## Baseline PSM for UPP Program



- **Common support:** 99.34 communities
- **Treated:** 49.50% & Control: 50.50%
- **Probability of receiving UPP Program:** 0.044 – 0.977

### Community Sample Selection Process



# DESCRIPTIVE STATISTICS: IFLS DATASET

Total Sample		Baseline = 2007			Post-treatment = 2014		
Variable		Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<b>KDP Program</b>							
Bonding Social Capital (Z-score)		8054	0.121	2.082	8054	-0.003	1.976
Bonding Social Capital (Latent)		8054	0.041	0.672	8054	-0.001	0.613
Bridging Social Capital (Z-score)		8054	-0.034	1.292	8054	-0.016	1.5
Bridging Social Capital (Latent)		8054	0	0	8054	-0.005	0.49
Participation (Z-score)		8054	0.268	1.493	8054	0.038	1.477
Participation (Latent)		8054	0.081	0.446	8054	0.012	0.457
KDP Treatment		8054	0	0	8054	0.431	0.495
Age		8054	40.523	14.779	8054	47.383	14.821
Years of Education		8054	7.021	4.32	8054	7.225	4.644
Household Size		8054	6.733	2.786	8054	7.512	3.05
ln(PCE)		8054	12.841	0.65	8054	13.587	0.645
Ethnic Fractionalization		8054	0.242	0.255	8054	0.248	0.259
Ethnic Polarization		8054	0.505	0.353	8054	0.522	0.332
Palma Index		8054	0.885	0.158	8054	0.836	0.128
<b>UPP Program</b>							
Bonding Social Capital (Z-score)		8076	0.115	2.078	8076	-0.017	1.973
Bonding Social Capital (Latent)		8076	0.039	0.671	8076	-0.005	0.612
Bridging Social Capital (Z-score)		8076	-0.047	1.289	8076	-0.002	1.49
Bridging Social Capital (Latent)		8076	0	0	8076	-0.001	0.486
Participation (Z-score)		8076	0.263	1.491	8076	0.044	1.481
Participation (Latent)		8076	0.08	0.445	8076	0.014	0.459
UPP Treatment		8076	0	0	8076	0.41	0.492
Age		8076	40.5	14.739	8076	47.357	14.775
Years of Education		8076	7.045	4.319	8076	7.249	4.644
Household Size		8076	6.736	2.788	8076	7.517	3.055
ln(PCE)		8076	12.845	0.646	8076	13.591	0.641
Ethnic Fractionalization		8076	0.241	0.253	8076	0.25	0.259
Ethnic Polarization		8076	0.506	0.353	8076	0.527	0.333
Palma Index		8076	0.886	0.157	8076	0.835	0.128

- **KDP Program:** 8,054 panel respondents
- **UPP Program:** 8,076 panel respondents
- Most of the **social capital components** shows the **declining trend** between the baseline and post-treatment period (on average)
- Ethnic Fractionalization & Polarization tend to increase (**rising diversity**)
- Palma Index slightly lower (**declining inequality**)
- However, **treatment group data shows the higher social capital score in the baseline period**, compared to control group (Appendix 1)
- **The top five districts with the highest social capital score (sum of Z-score) in 2014:**
  1. Magelang City - Central Java (2.51)
  2. Mojokerto City - East Java (1.96)
  3. Labuhan Batu - North Sumatera (1.88)
  4. Salatiga City - Central Java (1.76)
  5. Gunung Kidul – Central Java (1.73)
- Respondents have more positive responses in bonding social capital than bridging social capital since **over 98% of samples are willing to help their neighbor.**

# DESCRIPTIVE STATISTICS: SUSENAS DATASET

15

Variable	Baseline = 2007			Post-treatment = 2014		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<b>KDP Program</b>						
Bonding Social Capital (Z-score)	55958	-0.352	2.139	12417	-0.207	2.143
Bonding Social Capital (Latent)	55958	-0.119	0.694	12417	-0.074	0.714
Bridging Social Capital (Z-score)	55958	0.058	1.698	12417	0.066	1.731
Bridging Social Capital (Latent)	55958	0.03	0.792	12417	0.04	0.789
Participation (Z-score)	55958	-0.021	1.588	12417	0.091	1.588
Participation (Latent)	55958	-0.005	0.552	12417	0.038	0.632
KDP Treatment	55958	0.307	0.461	12417	0.329	0.47
Age	55958	38.466	16.162	12417	39.914	16.335
Years of Education	52693	8.248	3.679	11788	9.787	3.777
Household Size	55958	4.397	1.826	12417	4.267	1.768
ln(PCE)	55958	13.107	0.629	12417	13.422	0.738
Urban	55958	0.752	0.432	12417	0.798	0.402
Ethnic Fractionalization	55958	0.62	0.311	12417	0.341	0.299
Ethnic Polarization	55958	0.857	0.131	12417	0.598	0.303
Palma Index	55958	0.752	0.432	12417	0.876	0.135
<b>UPP Program</b>						
Bonding Social Capital (Z-score)	55230	-0.357	2.142	12374	-0.211	2.143
Bonding Social Capital (Latent)	55230	-0.121	0.695	12374	-0.075	0.714
Bridging Social Capital (Z-score)	55230	0.052	1.697	12374	0.063	1.732
Bridging Social Capital (Latent)	55230	0.028	0.792	12374	0.038	0.79
Participation (Z-score)	55230	-0.02	1.586	12374	0.096	1.587
Participation (Latent)	55230	-0.004	0.551	12374	0.04	0.631
UPP Treatment	55230	0.629	0.483	12374	0.596	0.491
Age	55230	38.488	16.174	12374	39.913	16.33
Years of Education	51973	8.225	3.67	11747	9.778	3.773
Household Size	55230	4.399	1.83	12374	4.27	1.769
ln(PCE)	55230	13.101	0.627	12374	13.418	0.736
Urban	55230	0.751	0.432	12374	0.797	0.402
Ethnic Fractionalization	55230	0.365	0.301	12374	0.34	0.3
Ethnic Polarization	55230	0.617	0.312	12374	0.598	0.303
Palma Index	55230	0.858	0.132	12374	0.876	0.134

- **KDP Program:** 68,375 pooled cross-section respondents
- **UPP Program:** 67,604 pooled cross-section respondents
- Most of the **social capital components tend to have increasing trend** between the baseline and post-treatment period (on average)
- Ethnic Fractionalization, Polarization, and Palma Index have the opposite direction from IFLS data
- **Treatment group data also shows the higher social capital score in the baseline period**, compared to control group (Appendix 2)
- **The top five districts with the highest social capital score (sum of Z-score) in 2012:**
  - Central Lombok – Nusa Tenggara Barat (4.50)
  - Semarang City - Central Java (3.71)
  - Purbalingga – Central Java (3.40)
  - Dharmas Raya – West Sumatera (3.29)
  - Ngawi – East Java (3.26)



# PROPENSITY SCORE MATCHING: COMMUNITY LEVEL

Propensity Score Matching Average Treatment Effect on the Treated(ATT) Result

	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital 2014 (Z- score)	Bonding Social Capital 2014 (Latent)	Bridging Social Capital 2014 (Z- score)	Bridging Social Capital 2014 (Latent)	Participation 2014 (Z- score)	Participation 2014 (Latent)
ATT (KDP Program)	0.0698 (0.94)	0.0226 (1.06)	-0.183** (-2.15)	-0.0621** (-2.28)	-0.133* (-1.66)	-0.0416 (-1.62)
ATT (UPP Program)	-0.0614 (-0.77)	-0.0187 (-0.69)	0.173** (2.04)	0.0592** (2.13)	-0.123 (-1.49)	-0.0362 (-1.22)
Transformed Control Group Mean (KDP)	1.961	0.626	1.806	0.606	1.589	0.474
Transformed Control Group Mean (UPP)	2.097	0.671	1.461	0.496	1.538	0.455
Observations	303	303	303	303	303	303

Note: *t* statistics in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%.

- **The sum of the Z-score coefficient tends to have upward bias**, since the variables are not adjusted by "difficulty" and "discrimination" between social capital items, unlike the latent variable estimate from IRT.
- **KDP Program**
  - Average differences for bridging social capital Z-score (latent variable) = -18.3 (-6.21) percentage point between treatment and control group, with magnitude about 10% of the control group mean.
  - Participation in Z-score = -13.3 percentage point (8.37% of the control group mean).
- **UPP Program**
  - Bridging Social Capital in Z-score (latent variable) is 17.3 (5.92) percentage point higher between treatment and control group, with magnitude about 12% of the control group mean.



# DIFFERENCE-IN-DIFFERENCE PARALLEL TREND ASSUMPTION

17

VARIABLES	(1) Years of Education	(2) Years of Education	(3) Household Size	(4) Household Size
KDP Treatment = 1	-0.0405 (0.0390)		-0.00712 (0.0287)	
Year = 2014	0.221*** (0.0256)	0.183*** (0.0250)	0.781*** (0.0189)	0.768*** (0.0186)
UPP Treatment = 1		0.0517 (0.0390)		0.0337 (0.0291)
Constant	7.021*** (0.0137)	7.045*** (0.0136)	6.733*** (0.0101)	6.736*** (0.0101)
Observations	16,108	16,152	16,108	16,152
R-squared	0.014	0.014	0.271	0.270
Number of pidlink2	8,054	8,076	8,054	8,076

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10%, 5% and 1%

VARIABLES	(1) Years of Education	(2) Years of Education	(3) Household Size	(4) Household Size
KDP Treatment = 1	0.313*** (0.0644)		0.0815*** (0.0315)	
Year = 2012	1.624*** (0.0444)	1.524*** (0.0597)	-0.127*** (0.0219)	-0.0911*** (0.0289)
KDP * Year	-0.0421 (0.0797)		0.0117 (0.0386)	
UPP Treatment = 1		0.294*** (0.0587)		0.0739*** (0.0285)
UPP * Year		0.151** (0.0758)		-0.0469 (0.0370)
Constant	8.142*** (0.0246)	8.027*** (0.0404)	4.370*** (0.0124)	4.351*** (0.0194)
Observations	64,481	63,720	68,375	67,604
R-squared	0.114	0.114	0.049	0.049

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%

- **Main limitation to test the parallel trend: the datasets only have two period (baseline and post-treatment).**
- Parallel trend assumption can be estimated by Placebo Test with Fake Outcome, where we run DID regression towards other outcome variables which did not affected by the KDP or UPP Program (Gertler et al., 2016).
- **There is no significant impact of CDD programs to years of education and household size in both dataset, except for UPP and years of education in Susenas dataset.** These estimates might indicate that the parallel trend assumption holds.
- The pre and post-treatment graph also shows parallel trend for some outcomes, but for some outcomes we do not. Consequently, the non-parallel trend outcomes could still have bias (Appendix 3).
- In summary, **the use of Propensity Score Matching weighting and resampling is expected to minimise the bias, if there were any.**

# MAIN RESULT: PSM & DID ESTIMATES ON KDP PROGRAM

18

Panel A: IFLS	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z- score)	Bridging Social Capital (Latent)	Participation (Z-score)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	-0.0493 (0.0612)	-0.0195 (0.0192)	-0.176*** (0.0456)	-0.0804*** (0.0109)	-0.131*** (0.0373)	-0.0453*** (0.0114)
Year = 2014	0.675*** (0.209)	0.190*** (0.0655)	0.412*** (0.156)	0.105*** (0.0373)	-0.126 (0.127)	-0.0311 (0.0387)
Transformed Control						
Group Mean	10.548	3.028	4.578	1.419	2.94	0.863
Observations	16,108	16,108	16,108	16,108	16,108	16,108
R-squared	0.007	0.006	0.025	0.033	0.025	0.025
Number of pidlink	8,054	8,054	8,054	8,054	8,054	8,054
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. All estimates are the Fixed Effect model. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index

Panel B: Susenas	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z-score)	Bridging Social Capital (Latent)	Participation (Z-score)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	0.145*** (0.0369)	0.0439*** (0.0120)	-8.09e-05 (0.0290)	-0.00706 (0.0135)	-0.0918*** (0.0270)	-0.0398*** (0.00962)
Year = 2012	0.275*** (0.0265)	0.0877*** (0.00861)	-0.00792 (0.0208)	-0.00466 (0.00968)	0.0442** (0.0194)	0.0167** (0.00690)
KDP * Year	-0.100** (0.0461)	-0.0324** (0.0150)	0.0370 (0.0363)	0.0395** (0.0168)	-0.100*** (0.0337)	-0.0321*** (0.0120)
Transformed Control						
Group Mean	9.75	2.71	4.217	1.868	3.823	1.29
Observations	64,941	64,941	64,941	64,941	64,941	64,941
R-squared	0.107	0.111	0.121	0.121	0.136	0.139
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. All estimates are the Linear Regression with a large dummy-variable set. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index

- **KDP significantly decrease the social capitals and participation in both datasets.** Except for bridging social capital in Susenas data.
- The magnitude of KDP program impact on bridging social capital is about 3.8-5.7%, meanwhile for participation is about 4.5-5.2% of the control group mean (in IFLS dataset).
- The magnitude of KDP program impact compared to the control group mean is about 1-1.1% on bonding social capital, about 2.1% in bridging social capital, and about 2.4-2.6% on participation (in Susenas dataset).
- Interestingly, KDP increase the bridging social capital in Susenas dataset.
- Individual factors such as age and years of education also have significant and positive impact on social capitals (Appendix 4).

# MAIN RESULT: PSM & DID ESTIMATES ON UPP PROGRAM

19

Panel A: IFLS	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z- score)	Bridging Social Capital (Latent)	Participatio n (Z-score)	Participation (Latent)
VARIABLES						
UPP Treatment = 1	-0.0166 (0.0634)	-0.00889 (0.0199)	0.370*** (0.0469)	0.109*** (0.0112)	-0.0712* (0.0387)	-0.0119 (0.0118)
Year = 2014	0.534*** (0.205)	0.161** (0.0644)	0.158 (0.152)	0.00487 (0.0365)	-0.158 (0.126)	-0.0484 (0.0383)
Transformed Control						
Group Mean	10.703	3.077	4.444	1.376	2.874	0.842
Observations	16,152	16,152	16,152	16,152	16,152	16,152
R-squared	0.006	0.006	0.031	0.036	0.023	0.022
Number of pidlink	8,076	8,076	8,076	8,076	8,076	8,076
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. All estimates are the Fixed Effect model. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index

Panel B: Susenas	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z- score)	Bridging Social Capital (Latent)	Participatio n (Z-score)	Participation (Latent)
VARIABLES						
UPP Treatment = 1	-0.178*** (0.0338)	-0.0585*** (0.0110)	-0.142*** (0.0265)	-0.0669*** (0.0123)	0.0292 (0.0246)	0.00924 (0.00878)
Year = 2012	0.245*** (0.0347)	0.0797*** (0.0113)	-0.0941*** (0.0273)	-0.0265** (0.0127)	0.116*** (0.0253)	0.0467*** (0.00904)
UPP * Year	-0.0153 (0.0440)	-0.00715 (0.0143)	0.159*** (0.0345)	0.0562*** (0.0160)	-0.155*** (0.0321)	-0.0597*** (0.0115)
Transformed Control						
Group Mean	10.163	2.847	4.059	1.795	3.924	1.325
Observations	64,180	64,180	64,180	64,180	64,180	64,180
R-squared	0.109	0.113	0.123	0.122	0.136	0.139

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. All estimates are the Linear Regression with a large dummy-variable set. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index

- **UPP significantly increase the bridging social capital in both datasets. This might be indication of more heterogeneous characteristics and higher bridging trust and social adaptation in urban area.**
- The magnitude of UPP program impact compared to the control group mean is about 7.9-8.3% in bridging social capital (IFLS Dataset).
- For the Susenas dataset, the magnitude of UPP program impact is higher than the IFLS dataset: impact of bridging social capital is 3.1-3.9% and participation 3.9-4.5% of the control group mean.
- However, UPP still have significant and negative impact on participation but have higher magnitude in impact, compared to KDP.

# HETEROGENEOUS IMPACT ON URBAN VS RURAL AREA (IFLS DATASET)

20

Panel A. Urban	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	-0.0253 (0.0296)	-0.0467*** (0.0169)	-0.0542*** (0.0178)			
Year = 2014	0.249** (0.123)	0.118* (0.0703)	0.0488 (0.0741)	0.174 (0.119)	0.0516 (0.0671)	0.0404 (0.0722)
UPP Treatment = 1				-0.00822 (0.0290)	0.0740*** (0.0163)	-0.0269 (0.0176)
Constant	0.989 (0.805)	0.201 (0.459)	0.336 (0.484)	0.659 (0.768)	0.0172 (0.432)	0.151 (0.465)
Transformed Control						
Group Mean	2.995	1.458	0.888	3.021	1.418	0.883
Observations	8,068	8,068	8,068	8,098	8,098	8,098
R-squared	0.006	0.065	0.020	0.004	0.074	0.015
Number of pidlink2	4,316	4,316	4,316	4,331	4,331	4,331
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

Panel B. Rural	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	-0.00427 (0.0293)	-0.0317* (0.0163)	2.03e-05 (0.0171)			
Year = 2014	0.134 (0.0837)	0.0113 (0.0466)	-0.146*** (0.0487)	0.140* (0.0810)	-0.0217 (0.0452)	-0.140*** (0.0474)
UPP Treatment = 1				-0.0510 (0.0364)	-0.00437 (0.0203)	-0.0309 (0.0213)
Constant	1.119** (0.564)	0.650** (0.314)	-0.807** (0.328)	1.053* (0.562)	0.483 (0.314)	-0.909*** (0.329)
Transformed Control						
Group Mean	3.074	1.364	0.828	3.103	1.355	0.823
Observations	8,040	8,040	8,040	8,054	8,054	8,054
R-squared	0.011	0.065	0.042	0.012	0.059	0.041
Number of pidlink2	4,302	4,302	4,302	4,309	4,309	4,309
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

- In Urban Area, UPP Program increase the bridging social capital by 7.4 p.p. with magnitude of 5.2% of the control group mean (even though it smaller than the estimates and magnitude on main result).
- However, KDP Program decrease the social capital and participation in both urban and rural area.
- Both programs did not have significant impact on rural area

# HETEROGENEOUS IMPACT ON URBAN VS RURAL AREA (SUSENAS DATASET)

21

Panel A. Urban	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)
VARIABLES						
Year = 2012	0.113*** (0.00990)	0.0589*** (0.0107)	0.0126 (0.00805)			
KDP	0.0468*** (0.0141)	-0.0253* (0.0152)	-0.0324*** (0.0114)			
KDP * Year	0.104*** (0.0185)	0.137*** (0.0200)	-0.0423*** (0.0150)			
Year = 2012				0.132*** (0.0148)	0.104*** (0.0160)	0.0442*** (0.0121)
UPP				-0.0580*** (0.0135)	-0.138*** (0.0146)	-0.00863 (0.0110)
UPP * Year				0.0193 (0.0157)	-0.0560*** (0.0169)	-0.0114 (0.0127)
Constant	1.793*** (0.105)	-0.380*** (0.114)	-0.770*** (0.0853)	1.837*** (0.105)	-0.200* (0.114)	-0.744*** (0.0855)
Transformed Control Group						
Mean	2.669	1.898	1.275	2.827	1.805	1.42
Observations	50,306	50,306	50,306	49,663	49,663	49,663
R-squared	0.078	0.089	0.132	0.078	0.092	0.131
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

Panel B. Rural	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)
VARIABLES						
Year = 2012	0.136*** (0.0242)	-0.322*** (0.0303)	0.00994 (0.0182)			
KDP	0.0507* (0.0294)	0.0357 (0.0369)	-0.00199 (0.0222)			
KDP * Year	0.0781** (0.0338)	-0.276*** (0.0424)	-0.0350 (0.0255)			
Year = 2012				0.0467** (0.0184)	-0.282*** (0.0230)	0.0381*** (0.0138)
UPP				-0.0347 (0.0235)	0.215*** (0.0295)	0.0698*** (0.0177)
UPP * Year				0.119*** (0.0356)	-0.199*** (0.0446)	-0.101*** (0.0267)
Constant	-0.538*** (0.193)	-2.255*** (0.242)	-1.449*** (0.145)	-0.386** (0.190)	-2.405*** (0.238)	-1.459*** (0.143)
Transformed Control Group Mean						
Mean	2.919	1.708	1.37	2.867	1.783	1.222
Observations	14,175	14,175	14,175	14,057	14,057	14,057
R-squared	0.152	0.225	0.196	0.155	0.229	0.203
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

- In Susenas dataset, KDP increase the bonding (magnitude = 3.9%) and bridging (magnitude = 7.21%) social capital in urban area, but decrease the bridging social capital in urban area (magnitude = 3.1%). This estimates shows opposite result from IFLS dataset.
- Both KDP and UPP Program increase bonding social capital in rural area.
- Heterogeneous impact in urban vs rural area remain inconclusive.

# HETEROGENEOUS IMPACT ON LOW VS. HIGH SOCIAL CAPITAL (IN BASELINE PERIOD)

22

Panel A: High SC	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	-0.0138 (0.0152)	-0.0789*** (0.0165)	-0.105*** (0.0118)			
Year = 2012	0.0896*** (0.0114)	0.0492*** (0.0124)	0.000724 (0.00887)	0.145*** (0.0156)	0.0511*** (0.0172)	0.0637*** (0.0122)
KDP * Year	-0.000743 (0.0187)	0.0704*** (0.0204)	0.0260* (0.0145)			
UPP Treatment = 1				-0.0771*** (0.0163)	-0.0225 (0.0179)	-0.0176 (0.0128)
UPP * Year				-0.107*** (0.0184)	0.0317 (0.0202)	-0.0734*** (0.0144)
Constant	1.434*** (0.118)	-0.557*** (0.128)	-0.748*** (0.0915)	1.148*** (0.121)	-0.583*** (0.133)	-0.815*** (0.0944)
Transformed Control						
Group Mean	2.68	1.862	1.345	2.827	1.805	1.42
Observations	41,286	41,286	41,286	39,355	39,355	39,355
R-squared	0.094	0.100	0.123	0.094	0.104	0.120
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

Panel B: Low SC	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)	Bonding Social Capital (Latent)	Bridging Social Capital (Latent)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	0.156*** (0.0265)	0.0828*** (0.0311)	-0.0156 (0.0222)			
Year = 2012	0.0920*** (0.0147)	-0.0473*** (0.0173)	0.0426*** (0.0123)	-0.00673 (0.0177)	-0.0657*** (0.0204)	0.00913 (0.0146)
KDP * Year	-0.112*** (0.0257)	-0.0506* (0.0302)	-0.122*** (0.0215)			
UPP Treatment = 1				-0.0716*** (0.0227)	-0.229*** (0.0261)	0.0265 (0.0188)
UPP * Year				0.132*** (0.0252)	0.0230 (0.0289)	-0.0350* (0.0208)
Constant	0.998*** (0.143)	-0.925*** (0.168)	-1.008*** (0.120)	1.869*** (0.143)	-0.402** (0.165)	-0.735*** (0.118)
Transformed Control						
Group Mean	2.76	1.876	1.2	2.867	1.783	1.222
Observations	23,655	23,655	23,655	24,825	24,825	24,825
R-squared	0.139	0.173	0.155	0.145	0.166	0.147
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

- In Susenas dataset, KDP increase the bridging social capital and participation for individual who lived in the community with high baseline social capital. On the other hand, KDP decrease social capitals and participation in community with low baseline social capital.
- However, UPP decrease the bonding social capital and participation in community with high baseline social capital but increase the bonding social capital in community with low baseline social capital. (opposite result)
- This shows the negative social turn for community with low social capital (for KDP Program) and higher magnitude of impact for UPP Program.
- IFLS dataset did not shows heterogeneous impact of CDD Programs in different community based on social capital score at the baseline period.



# CDD PROGRAMS IN AGRICULTURE SOCIETY & MODERN IRRIGATION SYSTEM

- **KDP and UPP Program significantly improved the social capital in the agriculture community, even with or without the modern irrigation system.**
- **The coefficient and magnitude are higher than the main result.**
- **However, UPP Program give negative and significant impact to bonding social capital.**
- **KDP improve the bridging social capital and participation as much as 22.1 p.p. and 31.8 p.p. (12.5% and 23.3% of the control mean) respectively, compared to the community without a modern irrigation system.**
- KDP program itself also increase the bonding (20.5 p.p. with magnitude = 7.19% of the control mean) and bridging social capital (15.8 p.p. with magnitude = 8.93% of the control mean)
- **UPP have positive impact:**
  - Bridging social capital (25.3 p.p. with magnitude = 15.6% of the control mean)
  - Participation (19.2 p.p. with magnitude = 14.25% of the control mean)
- **However, UPP have negative impact to bonding social capital (-10.5 p.p. with magnitude = 3.55% of the control mean), compared to the agricultural community with no modern irrigation system.**

VARIABLES	(1) Bonding Social Capital (Latent)	(2) Bridging Social Capital (Latent)	(3) Participation (Latent)	(4) Bonding Social Capital (Latent)	(5) Bridging Social Capital (Latent)	(6) Participation (Latent)
Irrigation	-0.0797** (0.0315)	0.240*** (0.0405)	-0.0127 (0.0254)			
Year	0.0432 (0.0345)	-0.245*** (0.0443)	-0.0482* (0.0278)			
Year*Irrigation	-0.0155 (0.0484)	0.150** (0.0621)	0.0809** (0.0390)			
KDP	0.207*** (0.0644)	0.204** (0.0826)	0.0563 (0.0519)			
KDP*Irrigation	0.00800 (0.0468)	-0.0390 (0.0601)	0.226*** (0.0378)			
KDP*Year	0.205*** (0.0680)	0.158* (0.0872)	0.0411 (0.0548)			
KDP*Year*Irrigation	0.0759 (0.0512)	0.221*** (0.0657)	0.318*** (0.0413)			
Irrigation				-0.0652* (0.0375)	0.0972** (0.0484)	0.173*** (0.0302)
Year				0.00383 (0.0256)	-0.165*** (0.0330)	0.0575*** (0.0206)
Year*Irrigation				0.0378 (0.0456)	0.249*** (0.0587)	0.181*** (0.0367)
UPP				-0.316*** (0.0559)	0.373*** (0.0719)	-0.0182 (0.0449)
UPP*Irrigation				-0.158*** (0.0339)	0.120*** (0.0437)	0.0217 (0.0273)
UPP*Year				-0.265*** (0.0713)	0.335*** (0.0918)	-0.442*** (0.0573)
UPP*Year*Irrigation				-0.105** (0.0459)	0.253*** (0.0591)	0.192*** (0.0369)
Constant	-0.296 (0.208)	-1.230*** (0.268)	-1.536*** (0.168)	-0.145 (0.208)	-1.273*** (0.268)	-1.610*** (0.168)
Transformed Control						
Group Mean	2.851	1.768	1.361	2.959	1.679	1.347
Observations	11,030	11,030	11,030	11,048	11,048	11,048
R-squared	0.135	0.193	0.182	0.137	0.190	0.189
Individual Control	YES	YES	YES	YES	YES	YES
District Control	YES	YES	YES	YES	YES	YES

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%. Individual control includes: Age, Household Size, Years of Education, Per Capita Expenditure. District control include: Ethnic Fractionalization Index, Ethnic Polarization Index, Palma Index.

# DISCUSSION

- CDD Programs in Indonesia had a mixed results regarding changes the outcome of social capital and participation over time, but general result is negative.
- Some of the possible mechanisms why most of the social capital outcomes were negative: elite capture (Friedman, 2012) or institutional factors (Wetterberg et al., 2014).
- **In the UPP Program, bridging social capital might be increased because of the characteristics of urban population:** heterogeneous, high education level, so people might have higher tolerance and become more accepting towards strangers from other ethnicities or religion (Sorensen, 2012).
- However, using the urban and rural subsample regression, we did not find strong evidence on UPP positive impact in urban area since both dataset shows opposite result.
- **We found heterogeneous impact for KDP where the program improved social capital in the community with high baseline social capital** but deterioration of social capital for community with low baseline social capital in Susenas dataset.

- CDD programs became one of the financial and resource supports in providing their demand for agriculture pre- or post-harvest infrastructures through the project, so it will increase the social capital in agriculture area even though the development might not be “organic” (Shrestha, 2015).
- **Program mechanisms that might caused the negative social turn:** geo-administrative targeting, “one size fits all” policy, and “picking the winner”.
- **The result in rural and urban subsample regression shows a different sign caused by the difference in sample size, characteristics, and measurement method.** IFLS dataset has a smaller sample size and tends to be urban-biased, while Susenas have more sample size within subdistricts which capture rural characteristics better.
- **IFLS dataset result tend to be overestimated since the enumerator areas are in Western Indonesia.** Compared to IFLS East data, social capital score in IFLS 2014 is higher than IFLS East 2012 (on average).



## CONCLUDING REMARKS

- **We found mixed result of CDD Programs impact on long-term social capital:** UPP Program have a more substantial magnitude in increasing the bridging social capital; meanwhile, the community with KDP Program shows the deterioration of all social capital.
- **IFLS and Susenas Dataset both shows consistent overall result.**
- **Possible mechanisms for overall deterioration in social capital:** elite capture, obstructive institutional factors, and economic-driven motives
- **CDD Program did not disrupt traditional network in agricultural society,** since they need more supporting infrastructure other than irrigation for their farm activities (contrary to Avdeenko & Gilligan, 2015; Ostrom, 1994).

## RESEARCH LIMITATION

- **Matching process were pooled in 2007** (might not describing the real baseline condition)
- **Only used fewer indicators of social capital** since we should match the IFLS and Susenas dataset questions
- Elite capture variable did not available explicitly in IFLS/Susenas
- **Sample selection:** not capturing program impact on East Indonesia (since treatment variable based on IFLS data) and loss of sample because of merging procedure between BPS and IFLS dataset.
- **This study has attempted to address several data and sample selection issues through PSM method before estimating the first difference and DID regressions.**

## POLICY IMPLICATION

- Need to provide more detailed supervisor, predefined administrative, reporting, evaluation process, alongside with the leader capacity building to reduce the risk of elite capture.
- Policy adjustment based on socioeconomic, geographic, and people characteristics.

# REFERENCES

- Asian Development Bank. (2016). Toward mainstreaming and sustaining community-driven development in Indonesia: understanding local initiatives and the transition from the national rural community empowerment program to the village law.
- Astone, N. M., Constance, A. N., Schoen, R., & Kim, Y. J. (1999). Family Demography, Social Theory, and Investment in Social Capital. *Population and Development Review*, 25(1), 1–31. <https://www.jstor.org/stable/172370>
- Avdeenko, A., & Gilligan, M. J. (2015). International Interventions to Build Social Capital: Evidence from a Field Experiment in Sudan. *American Political Science Review*, 109(3), 427–449. <https://doi.org/10.1017/S0003055415000210>
- Beard, V. A., & Dasgupta, A. (2007). Community Driven Development, Collective Action and Elite Capture in Indonesia. *Development and Change*, 38(2), 229–249. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1467-7660.2007.00410.x>
- Bhuiyan, S. H. (2011). Social capital and community development: An analysis of two cases from India and Bangladesh. *Journal of Asian and African Studies*, 46(6), 533–545. <https://doi.org/10.1177/0021909611401511>
- Cameron, L. A., Olivia, S., & Shah, M. (2015). Initial Conditions Matter: Social Capital and Participatory Development. In *IZA Discussion Papers*. <https://doi.org/10.2139/ssrn.2704614>
- Casey, K., Glennerster, R., & Miguel, E. (2011). *The GoBifo project evaluation report: Assessing the impacts of community driven development in Sierra Leone* (Issue June). [http://cega.berkeley.edu/assets/cega\\_research\\_projects/25/The\\_GoBifo\\_Project\\_Evaluation\\_Report.pdf](http://cega.berkeley.edu/assets/cega_research_projects/25/The_GoBifo_Project_Evaluation_Report.pdf)
- Chase, R., & Sherburne-Benz, L. (2001). Household effects of African community initiatives: evaluating the impact of the Zambia Social Fund. *World Bank*.
- Chase, R. S. (2002). Supporting communities in transition: The impact of the Armenian Social Investment Fund. *World Bank Economic Review*, 16(2), 219–240. <https://doi.org/10.1093/wber/16.2.219>
- Chase, R. S., Christensen, R. N., & Thongyou, M. (2006). *Picking Winners or Making Them? Evaluating the Social Capital Impact of CDD in Thailand*.
- Das Gupta, M., Grandvoinnet, H., & Romani, M. (2004). State-community synergies in community-driven development. *Journal of Development Studies*, 40(3), 27–58. <https://doi.org/10.1080/0022038042000213193>
- Evans, P. (1996). Government Action, Social Capital and Development: Reviewing the Evidence on Synergy. *World Development*, 24(6), 1119–1132.
- Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360–1380.
- Grootaert, C. (1998). *Social capital: The missing Link?* (Issue Social Capital Initiative Working Paper No. 3).
- Gunawan, W., Zakaria, S., Humaedi, S., & Nurdin, M. F. (2020). Poor community empowerment: A study on social capital in majalengka district. *Humanities and Social Sciences Reviews*, 8(3), 1166–1176. <https://doi.org/10.18510/HSSR.2020.83119>
- Khwaja, A. I. (2009). Can good projects succeed in bad communities? *Journal of Public Economics*, 93(7–8), 899–916. <https://doi.org/10.1016/j.jpubeco.2009.02.010>
- Krishna, A. (2007). How does social capital grow? A seven-year study of villages in India. *Journal of Politics*, 69(4), 941–956. <https://doi.org/10.1111/j.1468-2508.2007.00600.x>
- Knack, S. (2002). Social Capital and the Quality of Government: Evidence from the States. *American Journal of Political Science*, 46(4), 772. <https://doi.org/10.2307/3088433>
- Labonne, J. (2011). *The KALAH!-CIDSS Impact Evaluation: A Synthesis Report*.
- Labonne, J., & Chase, R. S. (2011). Do community-driven development projects enhance social capital? Evidence from the Philippines. *Journal of Development Economics*, 96(2), 348–358. <https://doi.org/10.1016/j.jdeveco.2010.08.016>
- Narayan, D. (1999). *Bonds and bridges: Social capital and poverty* (Vol. 2167). Washington DC: World Bank, Poverty Reduction and Economic Management Network, Poverty Division.
- Nguyen, T. C., & Rieger, M. (2016). Community-Driven Development and Social Capital: Evidence from Morocco. *World Development*, 91, 28–52. <https://doi.org/10.1016/j.worlddev.2016.10.013>
- Olken, B. A. (2007). Monitoring corruption: Evidence from a field experiment in Indonesia. *Journal of Political Economy*, 115(2), 200–249. <https://doi.org/10.1086/517935>
- Olken, B. A., Onishi, J., & Wong, S. (2011). *Indonesia's PNPM Generasi Program Final Impact Evaluation Report* (Issue June).
- Ostrom, E. (1994). Constituting Social Capital and Collective Action. *Journal of Theoretical Politics*, 6(4), 527–562.

# REFERENCES

- Paxton, P. (2002). Social capital and democracy. *American Sociological Review*, 67(2), 254–277. <http://www.jstor.org/stable/3088895>
- Parajuli, D., & Acharya, G. (2012). Impact of social fund on the welfare of rural households: evidence from the Nepal poverty alleviation fund. In *World Bank Policy Research Working Paper* (Vol. 6042, Issue April). [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2043470](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2043470)
- Prasta, Y., Guggenheim, S., Wong, S., & Wiranto, T. (2004). Indonesia's Kecamatan development program: a large-scale use of community development to reduce poverty. *Scaling Up Poverty Reduction: A Global Learning Process and Conference*, 1–27.
- Putnam, R. D. (2000). Bowling alone: America's declining social capital. In *Culture and politics* (pp. 223-234). Palgrave Macmillan, New York.
- Raykov, T., & Marcoulides, G. A. (2018). *A course in item response theory and modeling with Stata*. College Station, TX: Stata Press.
- Sheikh, M. R., Ali, S. Z., Hussain, A., Shehzadi, R., & Afzal, M. M. (2009). Measurement of social capital as an indicator of community-based initiatives (CBI) in the Islamic Republic of Iran. *Journal of Health, Organisation and Management*, 23(4), 429–441. <https://doi.org/10.1108/14777260910979317>
- Sparrow, R., Suryahadi, A., & Widyanti, W. (2013). Social health insurance for the poor: targeting and impact of Indonesia's Askeskin programme. *Social science & medicine*, 96, 264-271.
- Syukri, M., & Mawardi, M. S. (2014). *Sharing Knowledge on Community-Driven Development in Indonesia: An Assessment of the Neighborhood Upgrading and Shelter Sector Project | The SMERU Research Institute*. <http://www.smeru.or.id/en/content/sharing-knowledge-community-driven-development-indonesia-assessment-neighborhood-upgrading>
- TNP2K. (2014). *Studi Kelompok Masyarakat PNPM*.
- Voss, J. (2008). *Impact Evaluation of the Second Phase of the Kecamatan Development Program in Indonesia*
- Voss, J. (2012). PNPM Rural Impact Evaluation. In *PNPM Support Facility BAPPENAS* (Issue April). <http://documents.worldbank.org/curated/en/543401468259751080/PNPM-rural-impact-evaluation>
- Wetterberg, A., Jellema, J. R., & Dharmawan, L. (2014). *The local level institutions study 3: overview report* (Issue 3). <http://psflibrary.org/catalog/repository/30.LLI3Study-OverviewReportFINAL-small.pdf>
- Wong, S. (2012). *What have been the impacts of World Bank Community-Driven Programs?*
- Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *World Bank Research Observer*, 15(2), 225–249. <https://doi.org/10.1093/wbro/15.2.225>
- World Bank. (2013). *Indonesia - Evaluation of the urban community driven development program : Program Nasional Pemberdayaan Masyarakat Mandiri Perkotaan (PNPM-Urban)* (Issue January)

# APPENDIX 1: IFLS DATASET BY TREATMENT

Treatment Group	Baseline = 2007			Post-treatment = 2014		
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<b>KDP Program</b>						
Bonding Social Capital (Z-score)	3472	.202	2.149	3472	.069	1.925
Bonding Social Capital (Latent)	3472	.069	.702	3472	.021	.596
Bridging Social Capital (Z-score)	3472	-.066	1.326	3472	-.151	1.494
Bridging Social Capital (Latent)	3472	0	0	3472	-.049	.488
Participation (Z-score)	3472	.315	1.468	3472	.016	1.469
Participation (Latent)	3472	.096	.438	3472	.003	.455
KDP Treatment	3472	0	0	3472	1	0
Age	3472	41.133	14.975	3472	47.942	14.968
Years of Education	3472	6.677	4.393	3472	6.857	4.682
Household Size	3472	6.585	2.68	3472	7.359	2.93
ln(PCE)	3472	12.789	.646	3472	13.561	.654
Ethnic Fractionalization	3472	.18	.206	3472	.198	.228
Ethnic Polarization	3472	.449	.349	3472	.472	.324
Palma Index	3472	.867	.2	3472	.823	.129
<b>UPP Program</b>						
Bonding Social Capital (Z-score)	3312	-.047	2.067	3312	-.162	1.927
Bonding Social Capital (Latent)	3312	-.011	.67	3312	-.052	.599
Bridging Social Capital (Z-score)	3312	-.094	1.256	3312	.248	1.482
Bridging Social Capital (Latent)	3312	0	0	3312	.081	.485
Participation (Z-score)	3312	.398	1.529	3312	.129	1.499
Participation (Latent)	3312	.118	.455	3312	.044	.465
UPP Treatment	3312	0	0	3312	1	0
Age	3312	39.663	14.545	3312	46.505	14.572
Years of Education	3312	7.862	4.254	3312	8.097	4.604
Household Size	3312	7.114	3.026	3312	7.915	3.323
ln(PCE)	3312	12.941	.662	3312	13.661	.652
Ethnic Fractionalization	3312	.276	.271	3312	.279	.27
Ethnic Polarization	3312	.546	.352	3312	.565	.33
Palma Index	3312	.878	.145	3312	.889	.11

Control Group	Baseline = 2007			Post-treatment = 2014		
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<b>KDP Program</b>						
Bonding Social Capital (Z-score)	4582	.06	2.029	4582	-.057	2.012
Bonding Social Capital (Latent)	4582	.021	.648	4582	-.017	.626
Bridging Social Capital (Z-score)	4582	-.009	1.266	4582	.086	1.496
Bridging Social Capital (Latent)	4582	0	0	4582	.028	.489
Participation (Z-score)	4582	.232	1.51	4582	.055	1.483
Participation (Latent)	4582	.069	.452	4582	.018	.459
KDP Treatment	4582	0	0	4582	0	0
Age	4582	40.062	14.613	4582	46.959	14.695
Years of Education	4582	7.282	4.246	4582	7.503	4.596
Household Size	4582	6.846	2.859	4582	7.627	3.133
ln(PCE)	4582	12.88	.651	4582	13.606	.638
Ethnic Fractionalization	4582	.289	.278	4582	.287	.275
Ethnic Polarization	4582	.547	.351	4582	.56	.333
Palma Index	4582	.899	.114	4582	.846	.127
<b>UPP Program</b>						
Bonding Social Capital (Z-score)	4764	.228	2.078	4764	.085	1.998
Bonding Social Capital (Latent)	4764	.074	.67	4764	.028	.619
Bridging Social Capital (Z-score)	4764	-.015	1.311	4764	-.175	1.47
Bridging Social Capital (Latent)	4764	0	0	4764	-.057	.48
Participation (Z-score)	4764	.169	1.456	4764	-.015	1.465
Participation (Latent)	4764	.053	.436	4764	-.007	.453
UPP Treatment	4764	0	0	4764	0	0
Age	4764	41.082	14.846	4764	47.95	14.886
Years of Education	4764	6.476	4.272	4764	6.66	4.58
Household Size	4764	6.473	2.577	4764	7.241	2.821
ln(PCE)	4764	12.778	.626	4764	13.542	.629
Ethnic Fractionalization	4764	.216	.237	4764	.23	.248
Ethnic Polarization	4764	.478	.35	4764	.5	.333
Palma Index	4764	.891	.165	4764	.797	.126

# APPENDIX 2: SUSENAS DATASET BY TREATMENT

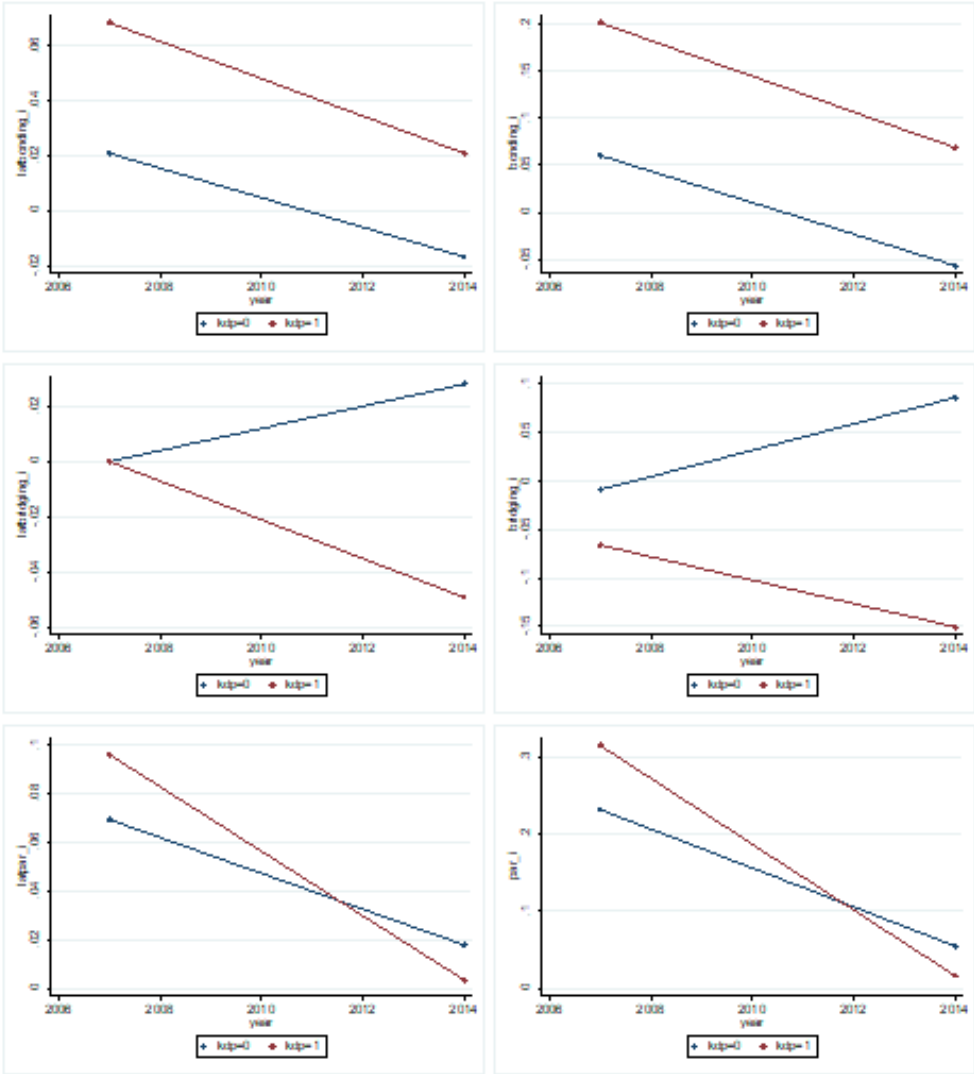
Treatment Group	Baseline = 2007			Post-treatment = 2014		
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<b>KDP Program</b>						
Bonding Social Capital (Z-score)	17197	-.041	2.062	4090	-.013	2.009
Bonding Social Capital (Latent)	17197	-.017	.678	4090	-.008	.672
Bridging Social Capital (Z-score)	17197	-.093	1.746	4090	-.143	1.929
Bridging Social Capital (Latent)	17197	-.042	.819	4090	-.04	.869
Participation (Z-score)	17197	.105	1.484	4090	.091	1.567
Participation (Latent)	17197	.039	.518	4090	.038	.623
KDP Treatment	17197	1	0	4090	1	0
Age	17197	39.556	16.604	4090	40.642	16.639
Years of Education	15471	7.88	3.709	3738	9.262	3.919
Household Size	17197	4.267	1.737	4090	4.131	1.685
ln(PCE)	17197	12.99	.618	4090	13.286	.707
Ethnic Fractionalization	17197	.258	.242	4090	.268	.263
Ethnic Polarization	17197	.559	.345	4090	.551	.325
Palma Index	17197	.867	.178	4090	.852	.144
<b>UPP Program</b>						
Bonding Social Capital (Z-score)	34757	-.533	2.153	7371	-.362	2.234
Bonding Social Capital (Latent)	34757	-.179	.693	7371	-.125	.741
Bridging Social Capital (Z-score)	34757	.09	1.619	7371	.159	1.63
Bridging Social Capital (Latent)	34757	.047	.753	7371	.077	.748
Participation (Z-score)	34757	-.047	1.606	7371	.052	1.613
Participation (Latent)	34757	-.013	.557	7371	.023	.641
UPP Treatment	34757	1	0	7371	1	0
Age	34757	37.869	15.86	7371	39.234	16.191
Years of Education	33290	8.583	3.688	7111	10.176	3.637
Household Size	34757	4.444	1.867	7371	4.317	1.805
ln(PCE)	34757	13.221	.637	7371	13.513	.752
Ethnic Fractionalization	34757	.421	.299	7371	.395	.298
Ethnic Polarization	34757	.681	.283	7371	.663	.284
Palma Index	34757	.859	.115	7371	.907	.123

Control Group	Baseline = 2007			Post-treatment = 2014		
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<b>KDP Program</b>						
Bonding Social Capital (Z-score)	38761	-.489	2.158	8327	-.302	2.2
Bonding Social Capital (Latent)	38761	-.165	.696	8327	-.107	.731
Bridging Social Capital (Z-score)	38761	.125	1.672	8327	.169	1.615
Bridging Social Capital (Latent)	38761	.062	.777	8327	.079	.743
Participation (Z-score)	38761	-.077	1.629	8327	.091	1.599
Participation (Latent)	38761	-.024	.565	8327	.038	.636
KDP Treatment	38761	0	0	8327	0	0
Age	38761	37.982	15.938	8327	39.556	16.173
Years of Education	37222	8.401	3.655	8050	10.03	3.684
Household Size	38761	4.455	1.86	8327	4.334	1.803
ln(PCE)	38761	13.158	.628	8327	13.489	.743
Ethnic Fractionalization	38761	.42	.312	8327	.376	.309
Ethnic Polarization	38761	.647	.291	8327	.622	.289
Palma Index	38761	.853	.104	8327	.887	.128
<b>UPP Program</b>						
Bonding Social Capital (Z-score)	20473	-.058	2.089	5003	.01	1.982
Bonding Social Capital (Latent)	20473	-.022	.687	5003	-.002	.665
Bridging Social Capital (Z-score)	20473	-.012	1.821	5003	-.079	1.865
Bridging Social Capital (Latent)	20473	-.005	.852	5003	-.018	.846
Participation (Z-score)	20473	.027	1.551	5003	.161	1.545
Participation (Latent)	20473	.011	.54	5003	.065	.616
UPP Treatment	20473	0	0	5003	0	0
Age	20473	39.539	16.642	5003	40.913	16.484
Years of Education	18683	7.587	3.549	4636	9.167	3.895
Household Size	20473	4.322	1.762	5003	4.201	1.713
ln(PCE)	20473	12.897	.552	5003	13.277	.688
Ethnic Fractionalization	20473	.269	.279	5003	.259	.283
Ethnic Polarization	20473	.509	.33	5003	.502	.305
Palma Index	20473	.857	.156	5003	.829	.137

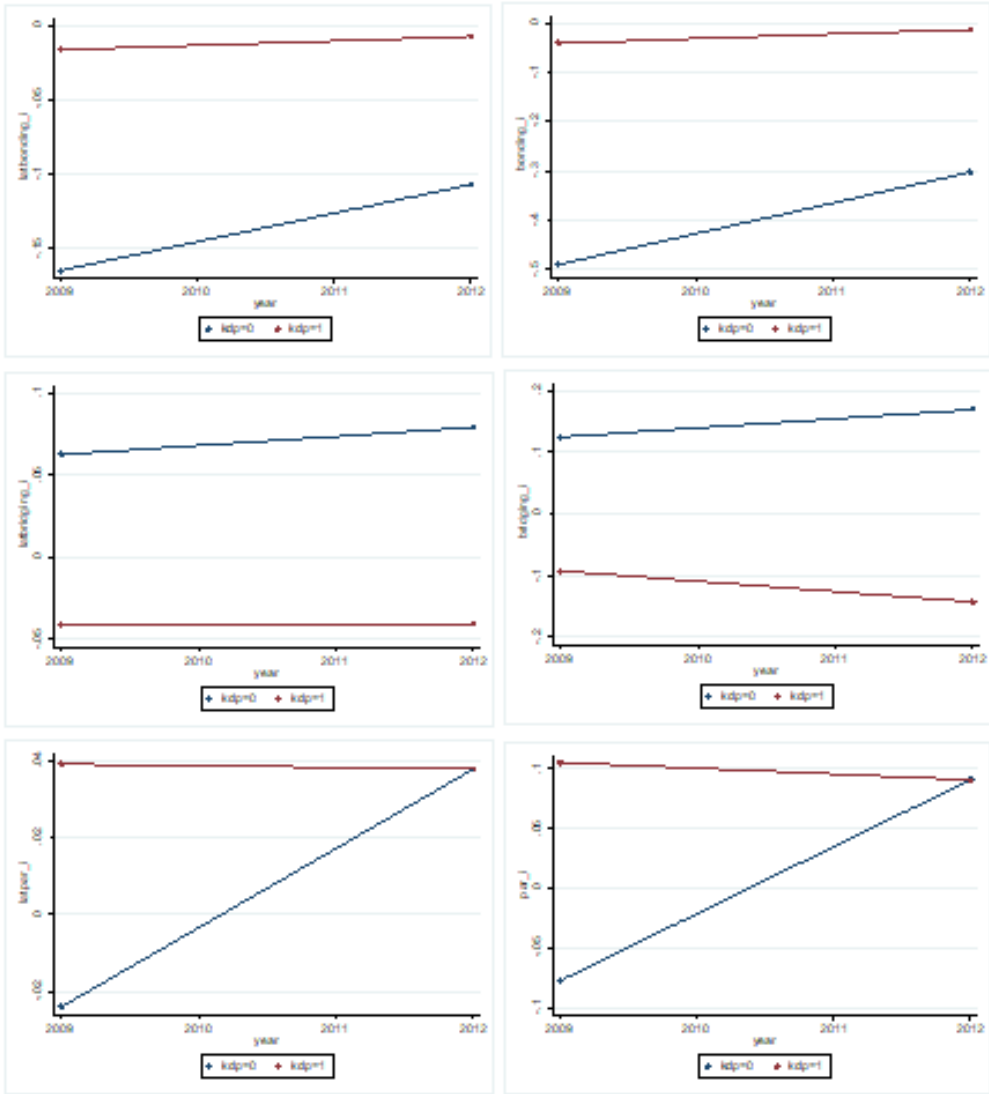


# APPENDIX 3: KDP PROGRAM

IFLS

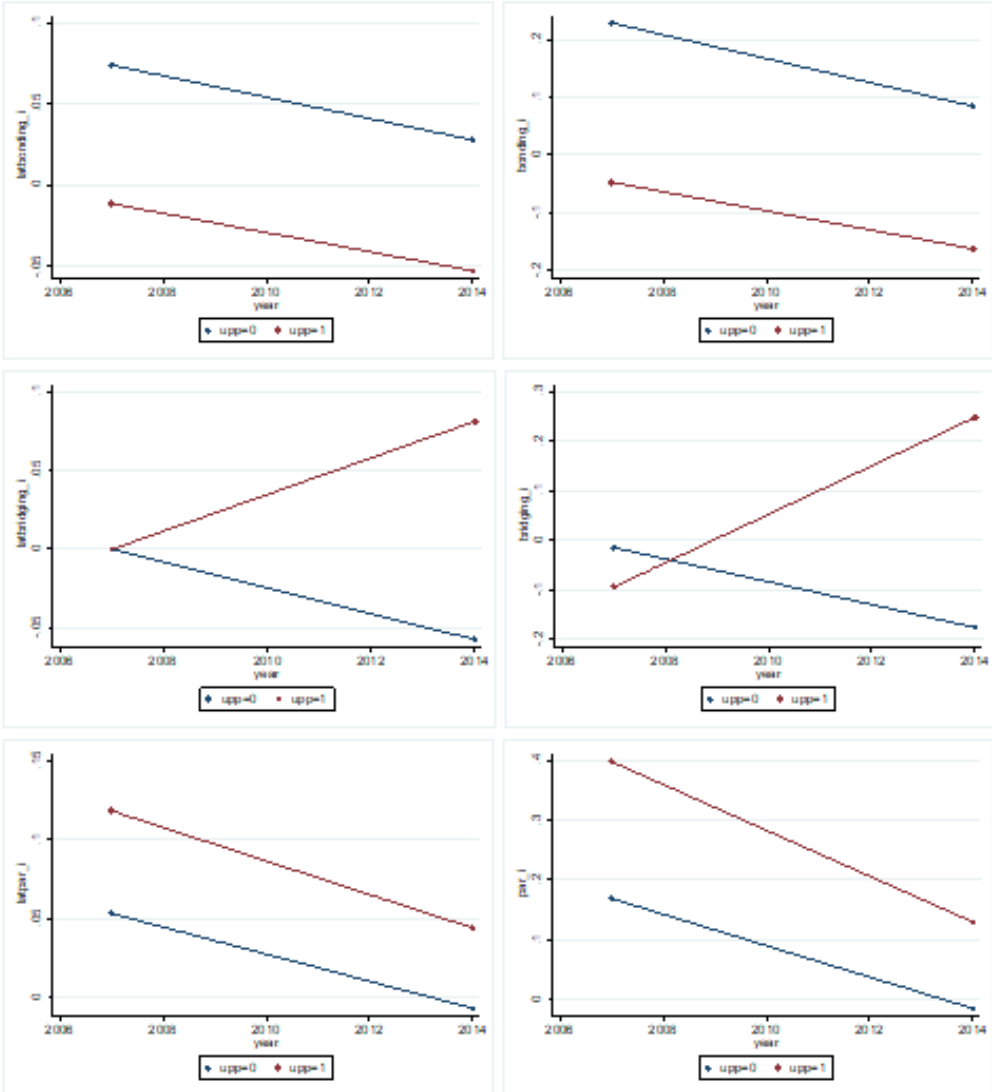


Susenas

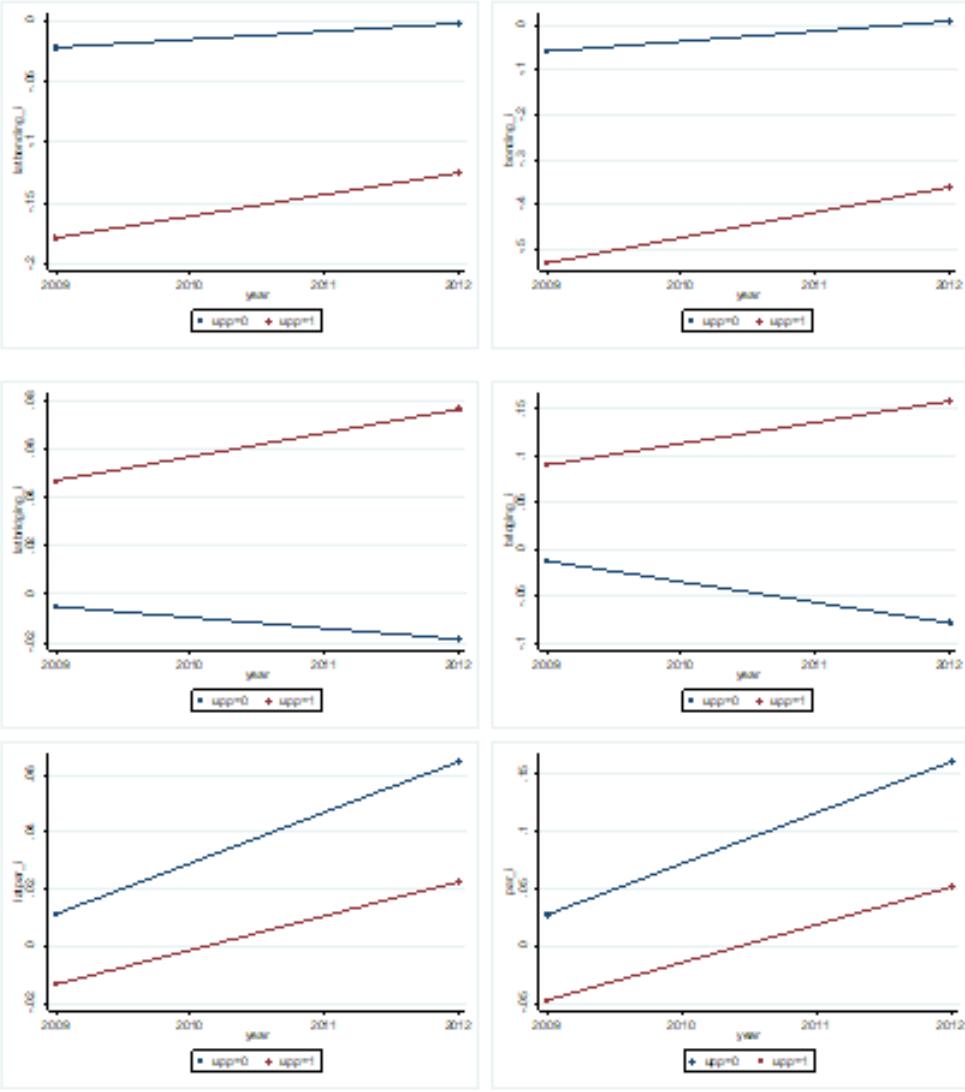


# APPENDIX 3: UPP PROGRAM

IFLS



Susenas



# APPENDIX 4: REGRESSION WITH FULL CONTROL VARIABLE (IFLS)

32

Panel A: KDP	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z- score)	Bridging Social Capital (Latent)	Participatio n (Z-score)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	-0.0493 (0.0612)	-0.0195 (0.0192)	-0.176*** (0.0456)	-0.0804*** (0.0109)	-0.131*** (0.0373)	-0.0453*** (0.0114)
Year = 2014	0.675*** (0.209)	0.190*** (0.0655)	0.412*** (0.156)	0.105*** (0.0373)	-0.126 (0.127)	-0.0311 (0.0387)
Age	-0.118*** (0.0289)	-0.0327*** (0.00907)	-0.00893 (0.0215)	-0.00187 (0.00516)	-0.0287 (0.0176)	-0.00928* (0.00536)
Years of Education	0.00342 (0.0173)	-0.000732 (0.00544)	0.0210 (0.0129)	0.0117*** (0.00310)	0.0231** (0.0106)	0.00688** (0.00322)
Household Size	-0.000929 (0.0242)	-0.000513 (0.00759)	-0.0696*** (0.0180)	-0.0130*** (0.00432)	0.0507*** (0.0147)	0.0154*** (0.00448)
ln(PCE)	0.0834* (0.0487)	0.0155 (0.0153)	-0.181*** (0.0363)	-0.0451*** (0.00870)	0.137*** (0.0297)	0.0423*** (0.00904)
Ethnic Fractionalization	1.022** (0.414)	0.333** (0.130)	-0.430 (0.309)	0.216*** (0.0741)	0.229 (0.252)	0.110 (0.0769)
Ethnic Polarization	-0.652* (0.354)	-0.231** (0.111)	0.0231 (0.264)	-0.243*** (0.0632)	-0.188 (0.215)	-0.0549 (0.0656)
Palma Index	0.553*** (0.160)	0.157*** (0.0503)	1.408*** (0.119)	0.362*** (0.0286)	-0.112 (0.0975)	-0.00362 (0.0297)
Constant	3.394** (1.396)	1.075** (0.438)	1.814* (1.041)	0.410 (0.250)	-0.696 (0.850)	-0.234 (0.259)
Transformed Control Group						
Mean	10.548	3.028	4.578	1.419	2.94	0.863
Observations	16,108	16,108	16,108	16,108	16,108	16,108
R-squared	0.007	0.006	0.025	0.033	0.025	0.025
Number of pidlink	8,054	8,054	8,054	8,054	8,054	8,054

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%.

Panel B: UPP	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z- score)	Bridging Social Capital (Latent)	Participation (Z-score)	Participation (Latent)
VARIABLES						
UPP Treatment = 1	-0.0166 (0.0634)	-0.00889 (0.0199)	0.370*** (0.0469)	0.109*** (0.0112)	-0.0712* (0.0387)	-0.0119 (0.0118)
Year = 2014	0.534*** (0.205)	0.161** (0.0644)	0.158 (0.152)	0.00487 (0.0365)	-0.158 (0.126)	-0.0484 (0.0383)
Age	-0.102*** (0.0285)	-0.0299*** (0.00895)	-0.00552 (0.0211)	0.000627 (0.00506)	-0.0276 (0.0174)	-0.00874 (0.00532)
Years of Education	0.00417 (0.0174)	0.000255 (0.00545)	0.0156 (0.0129)	0.0111*** (0.00308)	0.0232** (0.0106)	0.00696** (0.00324)
Household Size	0.0115 (0.0240)	0.00349 (0.00752)	-0.0653*** (0.0178)	-0.0128*** (0.00425)	0.0539*** (0.0147)	0.0161*** (0.00447)
Ln(PCE)	0.0770 (0.0486)	0.0134 (0.0152)	-0.159*** (0.0360)	-0.0407*** (0.00862)	0.138*** (0.0297)	0.0420*** (0.00906)
Ethnic Fractionalization	0.737* (0.416)	0.227* (0.130)	-0.462 (0.308)	0.186** (0.0738)	0.121 (0.254)	0.0726 (0.0776)
Ethnic Polarization	-0.504 (0.338)	-0.172 (0.106)	0.206 (0.250)	-0.170*** (0.0599)	0.122 (0.206)	0.0380 (0.0630)
Palma Index	0.497*** (0.166)	0.146*** (0.0522)	1.175*** (0.123)	0.282*** (0.0295)	-0.0923 (0.102)	-0.00605 (0.0310)
Constant	2.779** (1.377)	0.957** (0.432)	1.515 (1.020)	0.298 (0.244)	-0.923 (0.842)	-0.295 (0.257)
Transformed Control Group						
Mean	10.703	3.077	4.444	1.376	2.874	0.842
Observations	16,152	16,152	16,152	16,152	16,152	16,152
R-squared	0.006	0.006	0.031	0.036	0.023	0.022
Number of pidlink	8,076	8,076	8,076	8,076	8,076	8,076

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%.



# APPENDIX 4: REGRESSION WITH FULL CONTROL VARIABLE (SUSENAS)

Panel A: KDP	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z-score)	Bridging Social Capital (Latent)	Participation (Z-score)	Participation (Latent)
VARIABLES						
KDP Treatment = 1	0.145*** (0.0369)	0.0439*** (0.0120)	-8.09e-05 (0.0290)	-0.00706 (0.0135)	-0.0918*** (0.0270)	-0.0398*** (0.00962)
Year = 2012	0.275*** (0.0265)	0.0877*** (0.00861)	-0.00792 (0.0208)	-0.00466 (0.00968)	0.0442** (0.0194)	0.0167** (0.00690)
1.kdp#2012.year	-0.100** (0.0461)	-0.0324** (0.0150)	0.0370 (0.0363)	0.0395** (0.0168)	-0.100*** (0.0337)	-0.0321*** (0.0120)
Age	-0.000453 (0.000549)	-0.000198 (0.000178)	0.00113*** (0.000432)	0.000544*** (0.000200)	0.00601*** (0.000401)	0.00214*** (0.000143)
Years of Education	0.00368 (0.00249)	0.000876 (0.000809)	0.0160*** (0.00196)	0.00735*** (0.000909)	0.0275*** (0.00182)	0.00993*** (0.000649)
Household Size	0.0109** (0.00477)	0.00585*** (0.00155)	0.00682* (0.00375)	0.00258 (0.00174)	0.0958*** (0.00349)	0.0344*** (0.00124)
Ln(PCE)	-0.316*** (0.0165)	-0.0986*** (0.00535)	0.122*** (0.0129)	0.0543*** (0.00601)	0.0689*** (0.0120)	0.0283*** (0.00429)
Ethnic Fractionalization	0.739** (0.292)	0.268*** (0.0948)	0.534** (0.229)	0.253** (0.106)	-0.714*** (0.213)	-0.359*** (0.0759)
Ethnic Polarization	-0.672*** (0.226)	-0.223*** (0.0734)	0.234 (0.178)	0.118 (0.0825)	-0.0976 (0.165)	1.01e-05 (0.0589)
Palma Index	-0.843*** (0.120)	-0.292*** (0.0389)	-0.116 (0.0941)	-0.0864** (0.0437)	0.768*** (0.0874)	0.253*** (0.0312)
Constant	4.549*** (0.268)	1.423*** (0.0871)	-1.964*** (0.211)	-0.855*** (0.0978)	-2.096*** (0.196)	-0.758*** (0.0698)
Transformed Control Group Mean	9.75	2.71	4.217	1.868	3.823	1.29
Observations	64,941	64,941	64,941	64,941	64,941	64,941
R-squared	0.107	0.111	0.121	0.121	0.136	0.139

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%.

Panel B: UPP	(1)	(2)	(3)	(4)	(5)	(6)
	Bonding Social Capital (Z- score)	Bonding Social Capital (Latent)	Bridging Social Capital (Z-score)	Bridging Social Capital (Latent)	Participation (Z-score)	Participation (Latent)
VARIABLES						
UPP Treatment = 1	-0.178*** (0.0338)	-0.0585*** (0.0110)	-0.142*** (0.0265)	-0.0669*** (0.0123)	0.0292 (0.0246)	0.00924 (0.00878)
Year = 2012	0.245*** (0.0347)	0.0797*** (0.0113)	-0.0941*** (0.0273)	-0.0265** (0.0127)	0.116*** (0.0253)	0.0467*** (0.00904)
1.upp#2012.year	-0.0153 (0.0440)	-0.00715 (0.0143)	0.159*** (0.0345)	0.0562*** (0.0160)	-0.155*** (0.0321)	-0.0597*** (0.0115)
Age	-0.000514 (0.000553)	-0.000223 (0.000180)	0.00130*** (0.000434)	0.000626*** (0.000202)	0.00593*** (0.000403)	0.00211*** (0.000144)
Years of Education	0.00417* (0.00251)	0.00102 (0.000816)	0.0166*** (0.00197)	0.00765*** (0.000915)	0.0280*** (0.00183)	0.0101*** (0.000653)
Household Size	0.0118** (0.00480)	0.00611*** (0.00156)	0.00670* (0.00376)	0.00252 (0.00175)	0.0930*** (0.00350)	0.0334*** (0.00125)
Ln(PCE)	-0.308*** (0.0166)	-0.0962*** (0.00538)	0.117*** (0.0130)	0.0520*** (0.00604)	0.0611*** (0.0121)	0.0255*** (0.00431)
Ethnic Fractionalization	0.560** (0.268)	0.202** (0.0871)	1.079*** (0.210)	0.512*** (0.0977)	-0.630*** (0.195)	-0.330*** (0.0697)
Ethnic Polarization	-0.630*** (0.216)	-0.206*** (0.0702)	-0.0431 (0.170)	-0.0143 (0.0788)	-0.163 (0.158)	-0.0230 (0.0562)
Palma Index	-0.877*** (0.121)	-0.302*** (0.0394)	-0.195** (0.0952)	-0.120*** (0.0442)	0.885*** (0.0885)	0.297*** (0.0316)
Constant	4.663*** (0.270)	1.460*** (0.0877)	-1.794*** (0.212)	-0.775*** (0.0983)	-2.122*** (0.197)	-0.771*** (0.0702)
Transformed Control Group Mean	10.163	2.847	4.059	1.795	3.924	1.325
Observations	64,180	64,180	64,180	64,180	64,180	64,180
R-squared	0.109	0.113	0.123	0.122	0.136	0.139

Notes: standard error in parentheses with \*, \*\*, and \*\*\* denotes statistical significance at 10, 5 and 1%.

# APPENDIX 5: SOCIAL CAPITAL QUESTIONS

NO.	CATEGORY	COMPONENT	IFLS 2007	SUSENAS 2009	IFLS 2014	SUSENAS 2012
1	Bonding	Helping other neighbor in the community	<i>Ibu/Bapak/Sdr bersedia membantu warga di desa/kelurahan ini jika dibutuhkan</i>	<i>9. Kesiapan membantu apabila ada rumah tangga lain meminjam uang untuk kebutuhan mendesak (seperti sekolah atau berobat)</i>	<i>Ibu/Bapak/Sdr bersedia membantu warga di desa/kelurahan ini jika dibutuhkan</i>	<i>8. Apakah Anda siap membantu orang lain yang tidak berdaya (butuh pertolongan) di lingkungan tempat tinggal?</i>
2	Bonding	Trust neighbor to take care of children	<i>I/B/S bisa menitipkan anak Ibu/Bapak/Sdr dengan tetangga jika Ibu/Bapak/Sdr harus pergi beberapa jam dan tidak dapat membawa serta anak Ibu/Bapak/Sdr</i>	<i>3. Percaya menitipkan anak (usia 0 – 12 tahun) pada tetangga jika harus keluar rumah</i>	<i>I/B/S bisa menitipkan anak Ibu/Bapak/Sdr dengan tetangga jika Ibu/Bapak/Sdr harus pergi beberapa jam dan tidak dapat membawa serta anak Ibu/Bapak/Sdr</i>	<i>5. Apakah Anda percaya menitipkan anak (usia 0 – 12 tahun) pada tetangga jika tidak satupun ART dewasa ada di rumah?</i>
3	Bonding	Trust neighbor to watch the house	<i>Ibu/Bapak/Sdr bisa menitipkan rumah/tempat tinggal Ibu/Bapak/Sdr ke tetangga jika Ibu/Bapak/Sdr harus pergi beberapa hari?</i>	<i>4. Percaya menitipkan rumah pada tetangga jika harus bepergian atau menginap</i>	<i>Ibu/Bapak/Sdr bisa menitipkan rumah/tempat tinggal Ibu/Bapak/Sdr ke tetangga jika Ibu/Bapak/Sdr harus pergi beberapa hari?</i>	<i>4. Apakah Anda percaya menitipkan rumah pada tetangga ketika semua ART bepergian/menginap di tempat lain?</i>
4	Bridging	Feeling towards other religion who live in the neighborhood	<i>Bagaimana pendapat Ibu/Bapak/Sdr jika ada tetangga berbeda aliran kepercayaan/agama tinggal di dekat rumah Ibu/Bapak/Sdr?</i>	<i>10. Perasaan kalau bertetangga dengan orang lain dari: b. Agama Lain</i>	<i>Bagaimana pendapat Ibu/Bapak/Sdr jika ada tetangga berbeda aliran kepercayaan/agama tinggal di dekat rumah Ibu/Bapak/Sdr?</i>	<i>6. Bagaimana tanggapan Anda terhadap kegiatan di lingkungan tempat tinggal oleh sekelompok orang dari: b. Agama Lain</i>
5	Bridging	Feeling / trust towards other ethnicities who live in the neighborhood	<i>Dengan memperhatikan keanekaragaman suku yang ada, Ibu/Bapak/Sdr lebih mempercayai orang dari suku yang sama dengan Ibu/Bapak/Sdr.</i>	<i>10. Perasaan kalau bertetangga dengan orang lain dari: a. Suku Bangsa Lain</i>	<i>Dengan memperhatikan keanekaragaman suku yang ada, Ibu/Bapak/Sdr lebih mempercayai orang dari suku yang sama dengan Ibu/Bapak/Sdr.</i>	<i>6. Bagaimana tanggapan Anda terhadap kegiatan di lingkungan tempat tinggal oleh sekelompok orang dari: a. Suku Bangsa Lain</i>
6	Participation	Number of participations in organization or collective action	<i>Jumlah Program atau Kegiatan Masyarakat</i>	<i>16. Banyaknya perkumpulan dimana responden menjadi anggota: ..... perkumpulan</i>	<i>Jumlah Program atau Kegiatan Masyarakat</i>	<i>10. Banyaknya organisasi/kelompok (ada pengurusnya) yang Anda ikuti?</i>
7	Participation	Participation in arisan / social activities	<i>Partisipasi dalam Arisan</i>	<i>5. Kebiasaan bersilaturahmi dengan anggota sebatas RW/dusun (seperti pengajian, arisan, olahraga, dan lain-lain)</i>	<i>Partisipasi dalam Arisan</i>	<i>13. Apakah Anda biasa berpartisipasi dalam kegiatan sosial di lingkungan tempat tinggal: b. Kemasyarakatan (seperti arisan, olahraga, kesenian dll)</i>