1. Introduction

Conditional Cash Transfers (CCTs) have become an important anti-poverty policy globally in recent decades by aiming to alleviate poverty through financial incentives tied directly to human capital investments (namely primary and secondary schooling and maternal and child health). In Peru, the CCT program JUNTOS targeting poor families was established in 2005. By 2017, it has covered 693 thousand families in 1,305 1,943 districts. [1] Official sources estimate that 72% of all potential household beneficiaries were already covered by the program by 2015.[2]

In order to select its beneficiaries, JUNTOS implemented a two-stage procedure. The first stage involves geographic targeting by selecting districts in need. The second stage then selects households in the targeted districts. In both cases the program follows an eligibility rule. Like most large-scale anti-poverty programs, JUNTOS was rolled out in several phases. However, despite considerable work evaluating JUNTOS, to our knowledge the various phases and changes observed in the eligibility rule over these phases have not yet

decree D.S. 062-2005-PCM [6] release
and included additional commitments

The program was initially ascribed to
Peru prior to the creation of the MIDIS
ascribed to it   D.S
important reference as they explain t
geographic target. However, they do
For the first phase of expansion (2005
document from JUNTOS that reports
document this process we use as prim
and Finance (MEF, n.d.) and Linares G

Table 3. Sources of infor

Expansion period	Source of information
2005-2007	MEF (n.d.)
	Linares Garcia (2009)
2010	RE-043-2010-PCM/PNADP-DE ; DU-N°094-2009
2011-2017	2011 Operation Manual
	N° 009-2012-MIDIS
	2015 Operational and Budgetary Institutional Plan
	2016 Operational and Budgetary Institutional Plan

Authors elaboration.

For the second phase of expansion (2010), the main source of information is the Executive -043-2010-PCM/PNADP- [9] from PCM. Finally, for the third phase of expansion (2011-2017) we use as a reference the 2011 Operation Manual (approved by legal decree -2011-PCM/PNADP- [10] which provides specific information of the eligibility rule, the 2012 legal 9-2012- [11], and the 2015 and 2016 Operational and Budgetary Institutional Plan. A summary of the sources of information used is provided in Table 3.

Finally, Table 4 describes the main datasets used in this document. This will be developed in the following sections.

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Ejecutiva N° 043-2010-PCM/PNADP-DE para formalizar la aprobación del "Plan de Intervención Integral del Programa Juntos en el ámbito del Valle de los Ríos Apurímac y Ene (VRAE) en el Marco del Decreto de Urgencia N° 094-2009".

[10] Presidencia del Consejo de Ministros (PCM). 2011. Resolución de Dirección Ejecutiva N° 039-2011-PCM/PNADP-DE "Aprobacion del Manual de Operaciones del Programa Nacional de Apoyo Directo a los

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No.009-2012-

4. Selection rule of JUNTOS at the district level

The main objective of social program targeting is to reach poor families living in poor districts. However, other factors played a role in determining which districts or regions were selected first. For instance, some very poor districts are located in very remote and isolated regions. Conversely, some mostly affluent regions included few very poor districts. Both situations presented challenges for implementation, either logistical or budgetary. Consequently, the initial roll-out prioritized districts located in regions with a high concentration of poor districts. Beyond the initial (pilot) prioritization, it is unclear from existing documentation whether the remaining phases followed any specific prioritization, with the exception of the VRAEM in 2010, which we also describe below. One important feature of the roll-out to bear in mind in this section is that a district remains permanently enrolled in the program once it enters of the program.

a. First expansion of JUNTOS: 2005-2007

Between 2005 and 2007 the program incorporated 638 districts: 110 as part of the pilot phase (70 in 2005 and 40 in the first quarter of 2006), 211 districts in 2006 (between the second and fourth quarter), and 317 in 2007.

Year 2005

In 2005, the first 70 districts were incorporated into the program as part of the pilot phase. For the selection process the following characteristics were considered (MEF, n.d.; Linares Garcia, 2009): (1) the total poverty gap, (2) the percentage of chronically malnourished children aged 6 to 9,[12] (3) the percentage of population centers highly affected by political violence, and (4) the percentage of households with two or more unsatisfied basic needs (UBN). The most updated sosion of JUNTOS: 2005

excluded. Four districts were excluded by this arbitrary criterion and they were replaced by the next four districts in the ranking, which belong to Apurimac, Ayacucho and Huancavelica (see MEF, n.d.; Linares Garcia, 2009).

Table 5. Variables used for geographic targeting in 2005*

Number	Criteria	Variable	Source	Label
1	Total poverty gap	Mapa de pobreza, 2000	Foncodes	fgt12000
2	Chronic malnutrition of children from 6 to 9 years old	II Censo escolar de peso y talla, 1999	Minedu	

See Table 7 for the sources of information used by JUNTOS. It is worth to mention that neither MEF (n.d.) nor Linares García (2009) mentions the source of the extreme poverty rate utilized for the algorithm. We assume calculations are based on the extreme poverty rate reported in the MEF report (*Transparencia fiscal-informe especial*) available at the time (Ministerio de Economia y Finanzas, n.d.)[15]

Table 7. Variables used for geographic targeting in 2006*

Number	Criteria	Variable	Source	Label
1	Total poverty gap	Mapa de pobreza, 2000	Foncodes	fgt12000
2	Chronic malnutrition of children from 6 to 9 years old[16]	II Censo escolar de peso y talla, 1999	Minedu	malnutrition1999
3	Percentage of population centers very affected by political violence	Censo del Programa de Apoyo al Repoblamiento (PAR)[17]	Mimdes	porc_cp
4	Percentage of households with two or more unsatisfied basic needs (UBN)	Censo de Población y Vivienda 2007	INEI	UBN93
5	Extreme poverty rate	ENAHO 1997; Censo de Población y Vivienda 1993 and Population projection for 2001**	INEI	extreme93

* Used by JUNTOS. ** Used by the authors.

Based on this rule, 40 new districts located in Apurímac, Ayacucho, Huancavelica, and Huánuco were added to the 70 districts selected in the 2005 pilot phase. In addition, using the same rule (MEF, n.d.; Linares Garcia, 2009) be7q0.00000887 0 595.25 842 reW* nBT/F4 10 Tf1 0 0

Table 8. Number of selected districts by department (2006)

Departments	2006 (Pilot-1st quarter)	2006 (2nd 4th quarter)
Apurimac	11	32
Ayacucho	8	16
Huancavelica	10	36
Huanuco	11	31
Ancash	0	14
Cajamarca	0	22
Junin	0	7
La Libertad	0	17
Puno	0	36
Total	**40**	**211**

Source: MEF (n.d.) and Linares Garcia (2009)

Year 2007

In 2007, 317 additional districts were selected as follows. First, some variables were updated thanks to new census data and the publication of new poverty maps. According to MEF (n.d., p. 12) and Linares Garcia (2009, p. 7-8), the monetary poverty indicators (total poverty gap and extreme poverty rate, constructed with data from 1993 and 1997, respectively) were replaced by those provided by the map of poverty of INEI 2004 (incidence of monetary poverty (FGT(0)) and severity of monetary poverty (FGT(2))). One key limitation is that to our knowledge this map is not publicly available, an aspect to be dealt with in Section 5.

In addition, chronic malnutrition information from the 1999 School Census was updated with information of the 2005 School Census (carried out by the Ministry of Education). Finally, average UBN from the 1993 census was updated using the 2005 Population Census (INEI).

In that way, the five following variables were considered: incidence of monetary poverty, chronic malnutrition of children aged 6 to 9, percentage of population centers very affected by political violence, average of unsatisfied basic needs (UBN) and severity of monetary poverty. See Table 9 for details.

Table 9. Variables used for geographic targeting in 2007*

Number	Criteria	Variable	Source	Label
1	Incidence of monetary poverty	Mapa de pobreza, 2004	INEI	incidence2005
2	Chronic malnutrition of children from 6 to 9 years old	Censo escolar de peso y talla, 2005	Minedu	malnutrition2005
3	Percentage of population centers very affected by political violence	Censo del Programa de Apoyo al Repoblamiento (PAR)	Mimdes	porc_cp
4	Average of Unsatisfied Basic Needs (UBN)	Censo de Población y Vivienda, 2005	INEI	avubn05inei
5	Severity of monetary poverty	Mapa de pobreza, 2004	INEI	severity2005

* Used by JUNTOS.

Second, the weighting used for the poverty index to identify targeted districts changed as follows:

Table 10. District Roll-out between 2005 and 2007

Departments	2005 (Pilot)	2006 (Pilot)	2006	2007
Apurimac	13	11	32	4
Ayacucho	26	8	16	19
Huancavelica	19	10	36	11
Huánuco	12	11	31	13
Ancash	0	0	14	

c. Third expansion of JUNTOS: 2011-2017

The program incorporated 659 new districts between 2011 and 2017. We have found only three sources of information to describe this third expansion. The first is an official document of 2011 that reports an eligibility rule based upon four criteria. The second one is a legal norm of 2012 that changes the required level of one of the four previous criteria. The third source is an official document of 2015 (latter updated in the following year)

Table 11. Variables used for geographic targeting in 2011

Number	Criteria	Variable	Source	Label
1	Incidence of monetary poverty*	Mapa de pobreza, 2009**	INEI	incidence2009
2	Chronic malnutrition of children under 5 years*	Map of chronic malnutrition in children under 5 years, 2005**	INEI	malnut5years
3	Index of total number of children under 3 years*	Censo de Población y Vivienda, 2007**	INEI	indexchildren3

* Used by JUNTOS. ** Used by the authors.

Based on this rule, JUNTOS selected 54 additional districts located in Ayacucho, Apurimac, Huancavelica and Pasco in this year.

Year 2012-2014

A   -2012-MIDIS , the selection rule was expanded to include districts with poverty rates between 40% and 50% to incorporate more than 100 thousand households in conditions of poverty in rural areas.

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Table 12. Additional districts covered between 2011 and 2014

Departments	2011	2012	2013	2014
Ancash	0	51	0	0
Cajamarca	0	41	0	0
Cusco	0	36	4	0
Junín	0	36	0	0
Loreto	0	33	4	0
Puno	0	32	21	0
Piura	0	28	0	0
La Libertad	0	21	0	0
Pasco	1	14	0	0
Amazonas	0	10	45	0
Huánuco	0	6	0	0
Huancavelica	11	2	2	0
Ayacucho	24	1	10	0
San Martin	0	0	0	45
Apurimac	18	0	0	0
Total	**54**	**311**	**86**	**45**

Source: Ministerio de Desarrollo e Inclusión Social (MIDIS, n.d.).
Portal de Información del Programa Nacional de Apoyo Directo a los
Hogares abonados a nivel distrital z2005-

The index function used from 2012 to 2014 is not available from an official document. We then assume that the selection rule for 2011 is still applied for

articulada intersectorial e intergubernamental orientadas a reducir la

Table 16 shows considerable variation in how successfully we have been able to replicate the district roll out for the first expansion. On average, this success rate is 91. For Ucayali and San Martin, this can be simply explained by the minimum 7 district threshold. The replication had the lowest success rate in Huánuco and Loreto.

II)   Third expansion of JUNTOS (2011-2017)

2011-2014

As discussed above, the information available to undertake the replication exercise of the third phase of the program has five important limitations. First, we do not know whether the eligibility rule reported in the 2011 Operational Manual of the JUNTOS program was carried over to the period between 2012 and 2014. We assume this is the case. Second, the weights used to calculate weighted index are not reported. We assume that the index uses equal weights as follows:

Third, we do not have documentation about how the sequential criteria documented above was applied.[23] We assume it is as follows:

1) Select the three departments where JUNTOS intervened in 2011: Ayacucho, Apurimac and Huancavelica (Pasco is excluded because it has only one beneficiary district in this year)
2)
   .[24]
3) Prioritize the first 54 districts according to the geographically weighted index.

Fourth, a fourth criteria (iv) is reported, but based on the available information it cannot be replicated[25]. Fifth, none of the technical reports mentions how they construct the

the total number of children under three years per district

the department level as follows:

Where   is the total number of children under three years in district *i,* located in department d; and   is the number of districts in department d[26]. Based on the above

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[23]   -2010-PCM/PNADP-
operating plan in 2010 from PCM.
[24] If we assume the poverty level threshold of 40%, the success rate in terms of replication are reduced from

[25] The criterion is that once the district is selected, then the population centers that are within the influence areas of health establishments and educational institutions are identified.
[26] We obtain similar results using other methodologies for   .

Table 18 shows that the replication success for the third expansion, while still quite high at near 85%, is lower than for the first expansion. This is not surprising given the limitations discussed above.

2015-2017

As discussed in section 4, we note important limitations of the selection rule for this period. In that way, we assume the following:

1) Based on INEI   2013, rural districts with poverty rate 40% or greater are eligible.
2) Districts that are in the prioritized list published by   -2012-   are also eligible.

Based on the above assumptions, Table 19 reports the success rates for this period. We exclude 2017 because it is a very recent year.

Table 19. Replication results for the third expansion
(2015-2016)

Year	Sucess rate
2015	59%
2016	31%
Total	**45%**

Authors elaboration.

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Appendix 1.

List of Acronyms

JUNTOS	National Program to Support the Poorest
INEI	Institute of Statistics and Informatics
MEF	Ministry of Economy and Finance
MINEDU	Ministry of Education
MIDIS	Ministry of Development and Social Inclusion
MIMDES	Ministry of Women and Social Development (now MIMP: Ministry of Women and Vulnerable Population)
PCM	Presidency of the Council Ministers
PAR	Repopulation Support Program
FONCODES	Cooperation Fund for Social Development
ENAHO	Nacional Households Survey
SISFOH	Household Targeting System
POI	Operational and Budgetary Institutional Plan
VRAEM	Valley of the Rivers Apurimac, Ene y Mantaro
UBN	Unsatisfied Basic Needs
DU	Decree of Urgency
DS	Supreme Decree
RE	Executive Direction Resolution

Appendix 2.   **JUNTOS: Summary of main variables (2005-2017)**

Expansion	Year	Citeria	Dataset used for calculation	Source	Resolutions, laws & decrees
First					
Second					
Third					

*Only VRAEM Districts were selected (8), SISFOH.

Authors elaboration.