

Generational Accounting with NTA in Peru

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NTA in Peru

Started in August 2010:

First stage completed:

Full NTA for 2007

Second, third stage: Inequality? Time use?

Here:

i) Generational Accounting

ii) Effects of pensions (contributory & non-contrib.)

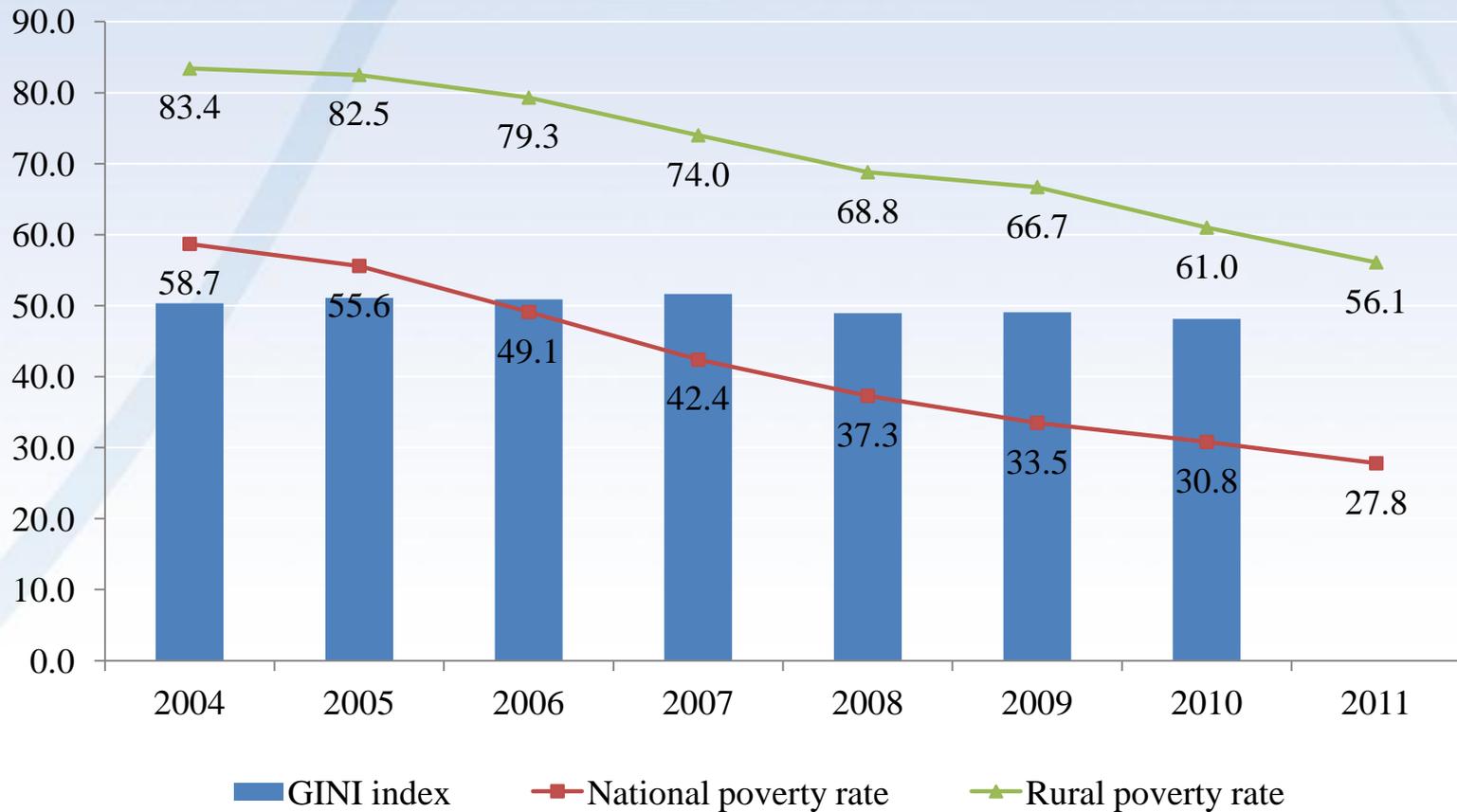
With:

NTA 2007 is adapted with 2010 macro-controls

Big differences between 2007 & 2010 macro variables

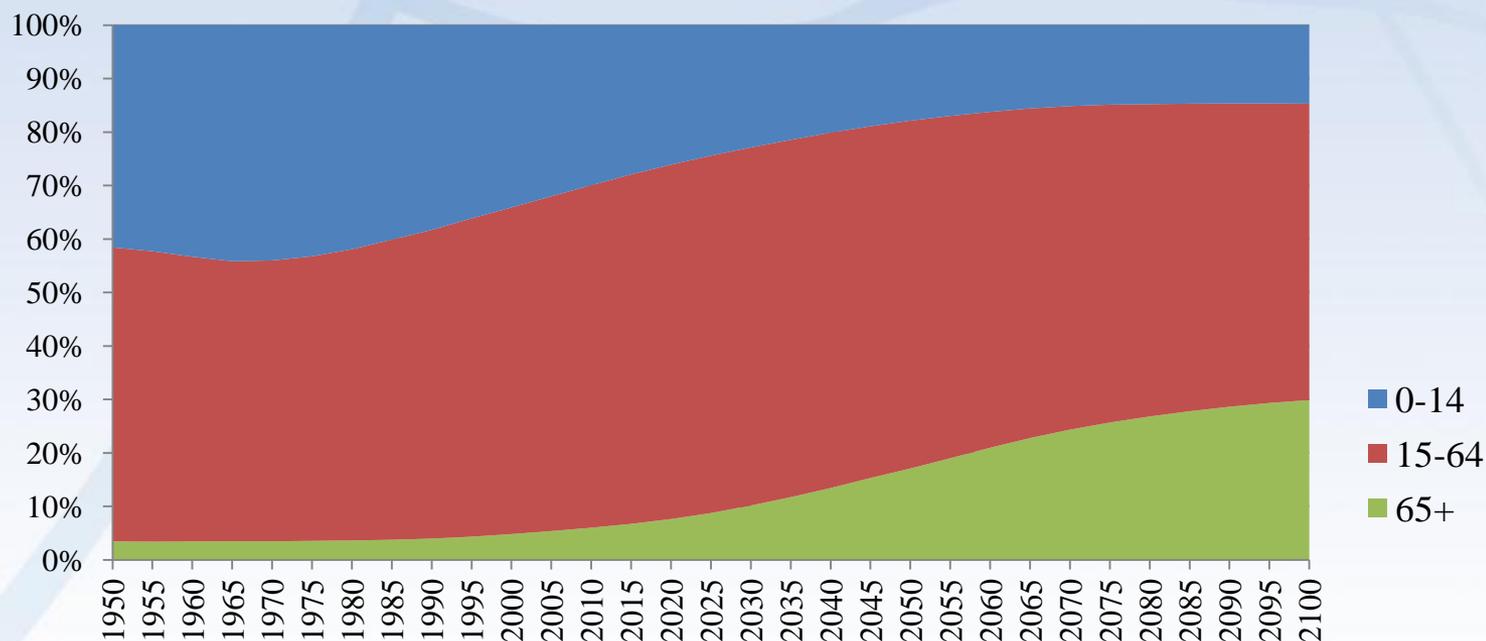
Peru background

Poverty & Inequality



Peru background

Population Projections in Peru (1950-2100)



	1950	1975	2000	2025	2050	2075	2100
Total Fertility Rate	6.85	5.38	2.80	2.05	1.75	1.79	1.89
Life Expectancy at Birth	43.90	58.53	71.61	76.33	79.68	82.44	84.27
% population 65+	3.46	3.56	4.83	8.76	17.10	25.70	29.89
% population 80+	0.33	0.34	0.78	1.87	4.67	9.23	12.45

Peru background

Public Expenditure (millions of Nuevos Soles and % of GDP)

	2006		2011	
	level	% GDP	level	% GDP
Total Social Expenditure	26,928	8.9	43,468	8.9
Universal Programs	11,800	3.9	20,694	4.3
Education	8,063	2.7	12,154	2.5
Health	3,737	1.2	8,540	1.8
Targeted Programs (fighting poverty)	3,856	1.3	7,384	1.5
Social Security	9,394	3.1	11,645	2.4
Others	1,878	0.6	3,745	0.8
Total Public Expenditures	48,617	16.1	87,364	18.0

Peru background

Social Public Expenditure (% of GDP)

	<u>Peru</u>	<u>L.A.</u>
Public social expenditure	1992: 4.1 % 2000: 8.6 % 2011: 8.9 %	15.4 %
Public expenditure in health	2011: 1.6 %	3.5 %
Public expend. in education	2011: 2.6 %	5.5 %

GDP growth rates

In average 6.4% for the period 2002-2011 and 5.4% for the period 1993-2011. Official estimates forecast a GDP growth rate between 6.0% and 6.5% for years 2012 to 2015

Peru background

General Government Finances (2004-2012)

	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Current Revenues	17.5	18.2	19.9	20.7	21.2	18.9	20.0	21.0	21.6
Tax Revenues	13.4	13.9	15.4	15.9	16.1	14.1	15.2	15.9	16.4
Contributions	1.6	1.5	1.5	1.5	1.8	1.9	1.8	1.9	2.0
Others	2.5	2.8	2.9	3.2	3.3	2.9	3.0	3.3	3.3
2. Non-financial Expenditure	16.7	17.0	16.1	16.3	17.4	19.2	19.2	18.1	18.7
Current Expenditure	14.0	14.2	13.0	13.0	13.2	13.6	13.1	13.0	13.1
Capital Expenditure	2.7	2.8	3.1	3.3	4.2	5.6	6.0	5.0	5.5
3. Capital Revenues	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1
4. Primary Balance (1+3-2)	0.8	1.3	3.9	4.5	4.0	-0.2	1.0	3.0	3.0
5. Interest Payments	2.0	1.9	1.8	1.8	1.5	1.3	1.1	1.2	1.0
6. Overall Balance (4-5)	-1.2	-0.6	2.1	2.7	2.4	-1.5	-0.2	1.8	1.9
7. Government Financial Assets	16.7	18.6	16.7	23.4	25.4	23.1	27.5	27.0	33.0
8. Public Debt	42.6	39.3	32.3	28.5	25.9	26.1	23.3	21.2	19.8
9. Net Financial Wealth (7-8)	-25.9	-20.6	-15.6	-5.1	-0.5	-2.9	4.2	5.8	13.2

Pension Schemes in Peru

Worker

→ **Private Pension System (SPP):** DC,
individual capitalization

→ **National Pension System (SNP):** DB,
PAYG

Law 20530 (*cédula viva*): DB, closed!

Others: Police and Army forces

→ **Non-Contributory Pensions (*Pensión 65*):**
Targeted to extreme poor without a pension

Pensioners 65+, 2012

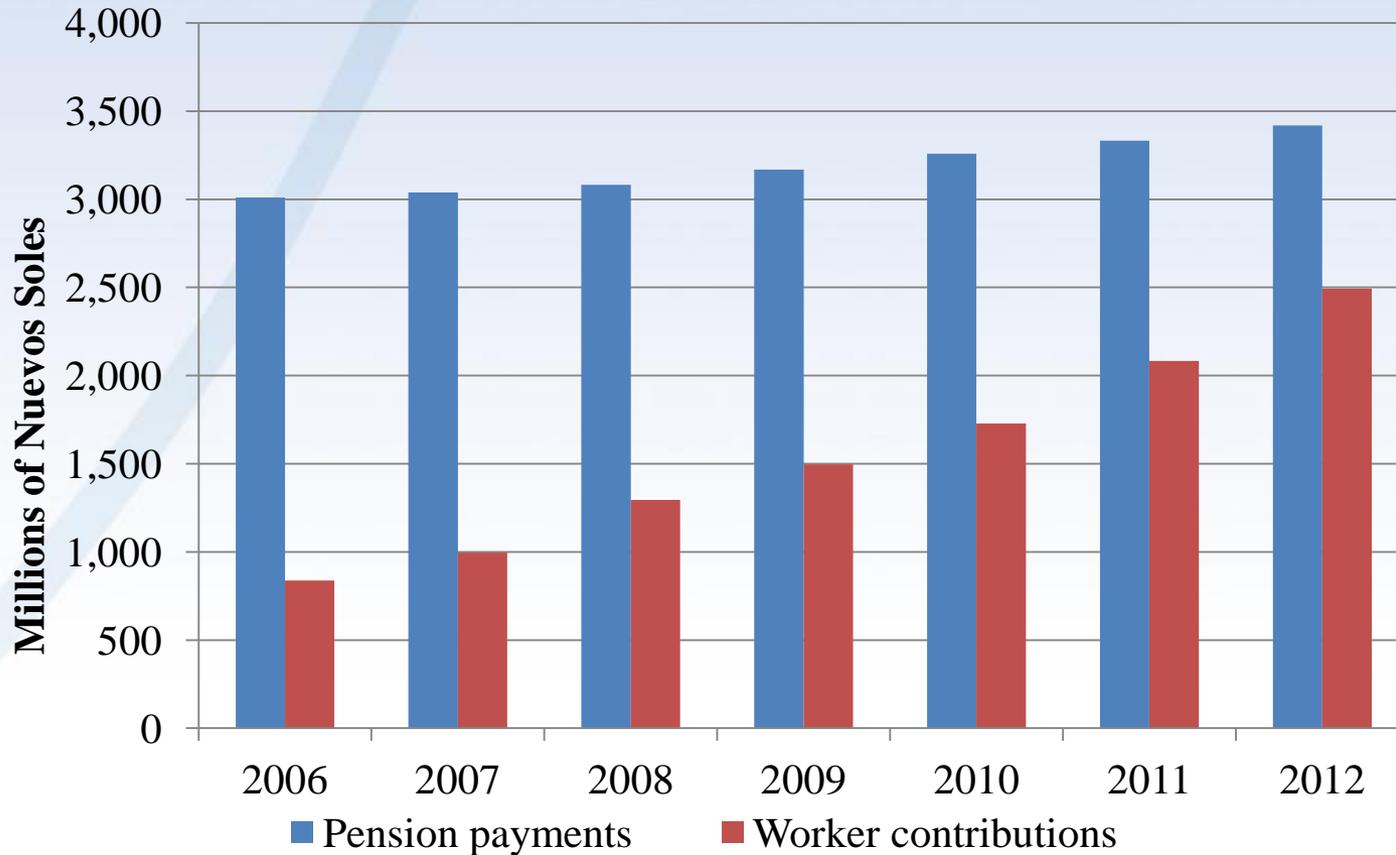
	65+	%
Private Pension System (SPP)	85,629	4.6
Public Pension System (SNP)	406,391	22.0
Public Pension System (Law 20530)	174,442	9.5
Non-Contributory System (Pensión 65)	247,673	13.4
Total of pensioners	914,135	49.5
People without a Pension	931,628	50.5
Total Population	1,845,763	100.0

Note: Based on administrative data

SNP's Actuarial Net Liability and Pension Funds (2006-2012)

	2006	2007	2008	2009	2010	2011	2012
SNP's Actuarial Net Liability							
Millions of US\$	21,045	26,243	27,883	32,264	35,603	39,283	44,007
% GDP	22.2	23.4	23.6	24.4	23.0	21.8	21.3
Pension Funds							
Millions of US\$	14,260	20,169	15,741	23,752	30,766	30,075	37,625
% GDP	15.1	18.0	13.3	17.9	19.9	16.7	18.2

Public Pension Payments and Revenues (SNP)



Generational Accounts (Nuevos Soles per capita)

Age	Net Payments	Public Pensions	Public Medical Insurance	Other Social Welfare Expenditure	Labour Income Tax	Capital Income Tax	Consumption Tax	Other Taxes
0	44,731	-5,239	-13,690	-4,644	6,494	16,778	42,754	2,277
5	52,451	-6,270	-11,533	-4,480	7,260	19,301	45,582	2,590
10	58,993	-7,154	-10,390	-4,288	8,071	22,011	47,818	2,927
15	65,019	-7,479	-9,218	-4,003	8,932	24,929	48,565	3,293
20	70,311	-7,892	-8,304	-3,744	9,960	28,421	48,126	3,744
25	73,422	-9,250	-7,674	-3,521	11,007	31,989	46,659	4,212
30	71,783	-11,762	-6,939	-3,215	11,192	34,203	43,797	4,508
35	68,947	-15,990	-6,513	-3,032	10,825	36,272	42,597	4,789
40	60,496	-20,743	-5,916	-2,750	9,652	35,637	39,904	4,712
45	48,192	-26,595	-5,373	-2,455	7,798	33,590	36,780	4,447
50	33,964	-34,054	-4,964	-2,197	5,885	31,196	33,961	4,137
55	17,351	-41,508	-4,446	-1,882	4,139	27,398	30,010	3,640
60	1,992	-49,319	-4,107	-1,623	2,665	24,479	26,633	3,263
65	-10,817	-54,070	-3,737	-1,356	1,193	21,464	22,813	2,876
70	-20,912	-55,384	-3,289	-1,079	307	17,480	18,698	2,355
75	-26,836	-53,295	-2,856	-841	107	13,246	15,010	1,794
90	-23,962	-35,805	-2,112	-514	0	4,029	9,886	553
95	-19,254	-29,011	-2,599	-492	0	1,923	10,660	265
Future Generations	-13,457							

Discount rate: 6.5%; technological progress: 1.5%; inflation rate: 3%



Generational Account Imbalances (Nuevos Soles per capita)

	Net Payments	Public Pensions	Public Medical Insurance	Other Social Welfare Expenditure	Labour Income Tax	Capital Income Tax	Consumption Tax	Other Taxes
<i>Global Imbalance:</i>								
absolute	-58,188							
%	-130.1							
<i>Generational imbalances:</i>								
Current Generations		-21,005	-9,573	-4,043	9,810	33,065	50,681	4,383
Future Generations		-1,396	-12,612	-4,047	4,311	9,064	28,694	1,279
<i>Sustainability Gap (%)</i>	-3.07							
<i>/a:</i>								

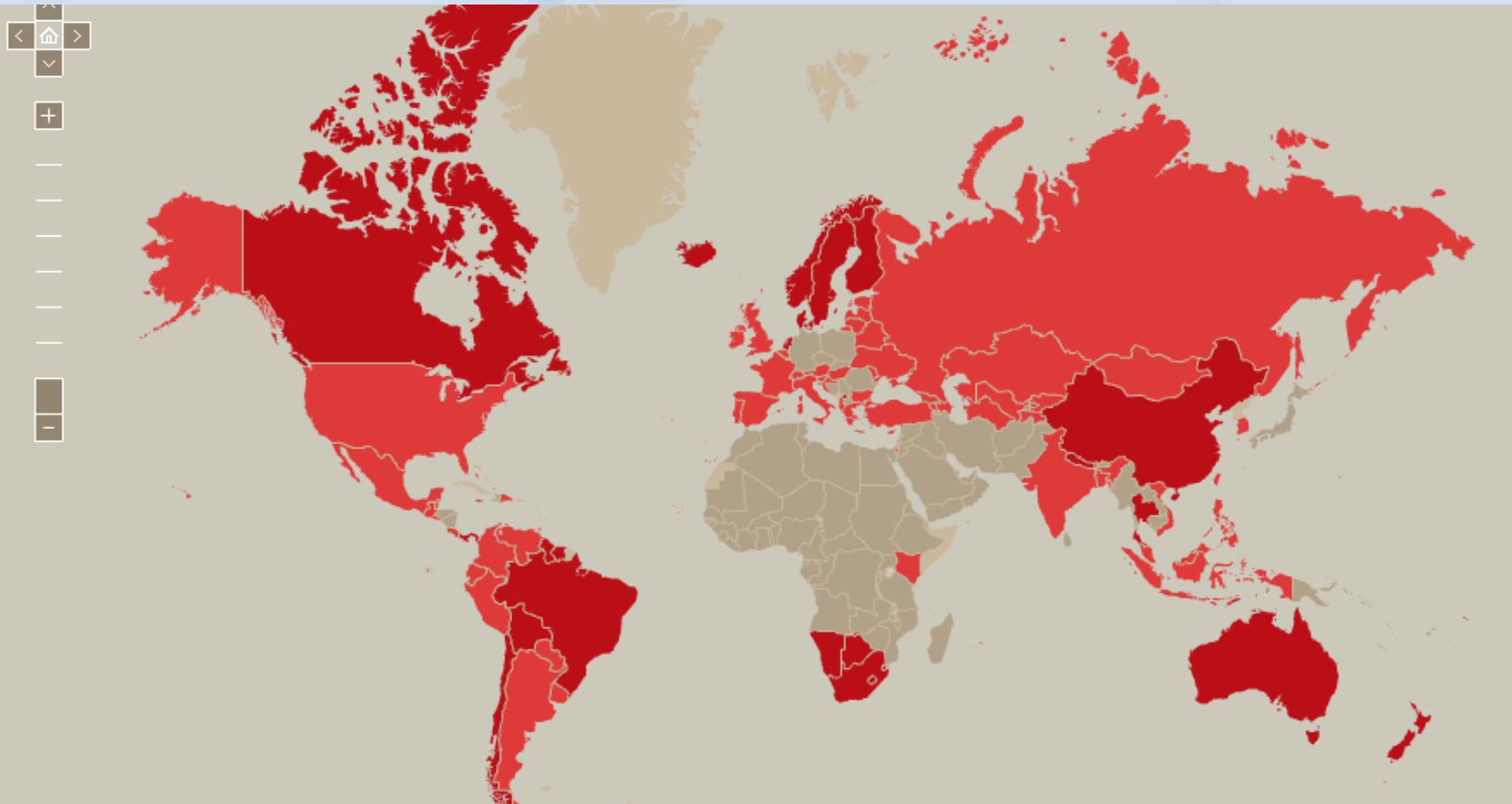
a/ Government gap as percentage of present value of future GDP.

Generational Account Imbalances in Other Countries

Auerbach, Alan J., Willi Leibfritz, and Laurence J. Kotlikoff (1998)
“Generational Accounting Around the World” IMES Discussion Paper
Series No. 98-E-2. Bank of Japan.

US	51%
Japan	169%
Germany	151%
Canada	0.2%
Thailand	-7.3%
Argentina	13%
Sweden	-41%
Brazil	13%
Peru	-130.1%

Non-contributory pensions, 2012



Key

- Social pension - high coverage
- Social pension - low coverage
- No social pension

High coverage social pensions are considered to be those which cover the majority of older people. For more information on the definitions in the map see our [FAQ](#).

Non-contributory pensions in LA, 2010

	Conditions	Amount	in US\$	%GDP pc
Peru	+65, no pensioner, extreme poor	125 soles (2011)	46,2	9%
Colombia	+52 (F) +57(M), Level 1 and 2 of SISBEN in 53 districts (over 1103)	60 mil pesos	31,4	5%
Brazil	+67, income < 0.25 minimum wage	545 reales	312	31%
Bolivia	Universal, +60	200 Bolivianos	28,5	16%
Chile	+65, no rights to have a pension, 60% of the poorest	75,000 pesos	150	14%
Costa Rica	Universal,	35mil colones (2006)	68	16%
Uruguay	+70 , income lower than pension. The benefit is equal to the difference between the pension and the income	4676,17 pesos	245,7	21%

Pension Policy Simulations (Nuevos Soles p.c.)

	Baseline	Including Pension 65 targeted to the extreme poor	Including Pension 65 targeted to the poor	Including Pension 65 targeted to the poor (transfer doubles to S/.250)	Increasing public pensions by S/. 250	Policy B and E	Policy D and E
	[A]	[B]	[C]	[D]	[E]	[F]	[G]
Global Imbalance:							
Absolute	-58,188	-55,559	-50,301	-42,414	-48,235	-45,606	-32,461
%	-130.1	-124.3	-112.7	-95.2	-113.1	-107.0	-76.4
Generational Pension Imbalances:							
Current Generations	-21,005	-25,007	-30,220	-38,039	-30,865	-33,471	-46,503
Future Generations	-1,396	-1,402	-1,415	-1,433	-1,994	-2,000	-2,032
ratio current to future generations	15	18	21	27	15	17	23
Sustainability Gap (%) a/:	-3.07	-2.86	-2.45	-1.83	-2.40	-2.19	-1.16

a/ Government gap as percentage of present value of future GDP.

Remarks

According to the GA approach adopted, it is found that Peru can afford its current public policies. The bottom line is that current generations will be more than proportionately benefited from public transfers than future generations.

Simulated policies on increasing generosity of pensions and pension coverage are affordable from a GA point of view, meaning that global imbalances are kept negative, though they face an important reduction.

The trade-off of these pension policies is that the Government favours the elderly over children and young (normative discussion?)

GA and NTA are a valuable tool to evaluate the increasingly popular social pensions in L.A. and other regions