Comments for session 2.4: **Tax and benefit policies**

Think development – Think WIDER
WIDER Development Conference

Helsinki on 13-15 September 2018

Guillermo Cruces, CEDLAS-FCE-UNLP

Overview of papers/project

Praise

- A unified, coherent framework for analyzing tax and benefit systems, and comparing them between countries.
- Description and exploration of policy options.
- Considering **tax and benefits** together. Unfortunately, very uncommon in developing countries' policy making.
  - E.g. of powerful influence: Zambia's paper: Social development and Treasury working together.

The *MOD ecosystem

EuroMod -> Other MOD models

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Outputs:

Benchmarks:
6 models from African countries

The *MOD ecosystem

EuroMod -> Other MOD models

Outputs:

Counterfactual:
Colombia-Ecuador tax and benefit systems

The *MOD ecosystem

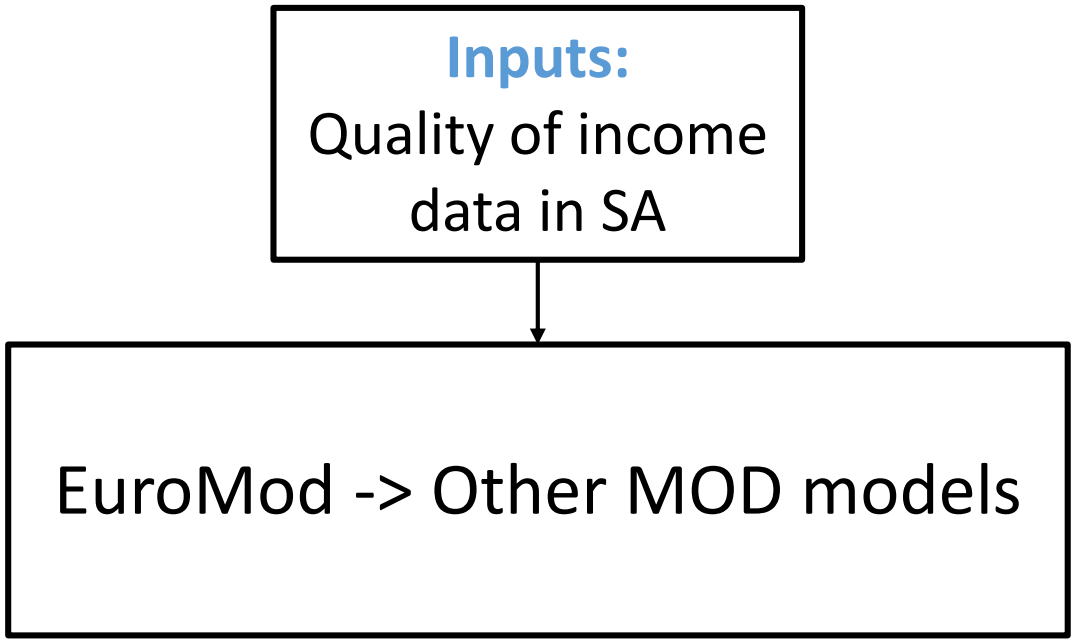
EuroMod -> Other MOD models

Outputs:

Implementation:
Zambia CCT:
impact, options

The *MOD ecosystem

Inputs:



The *MOD ecosystem

Inputs:

Inputs:
Quality of income data in SA

EuroMod -> Other MOD models

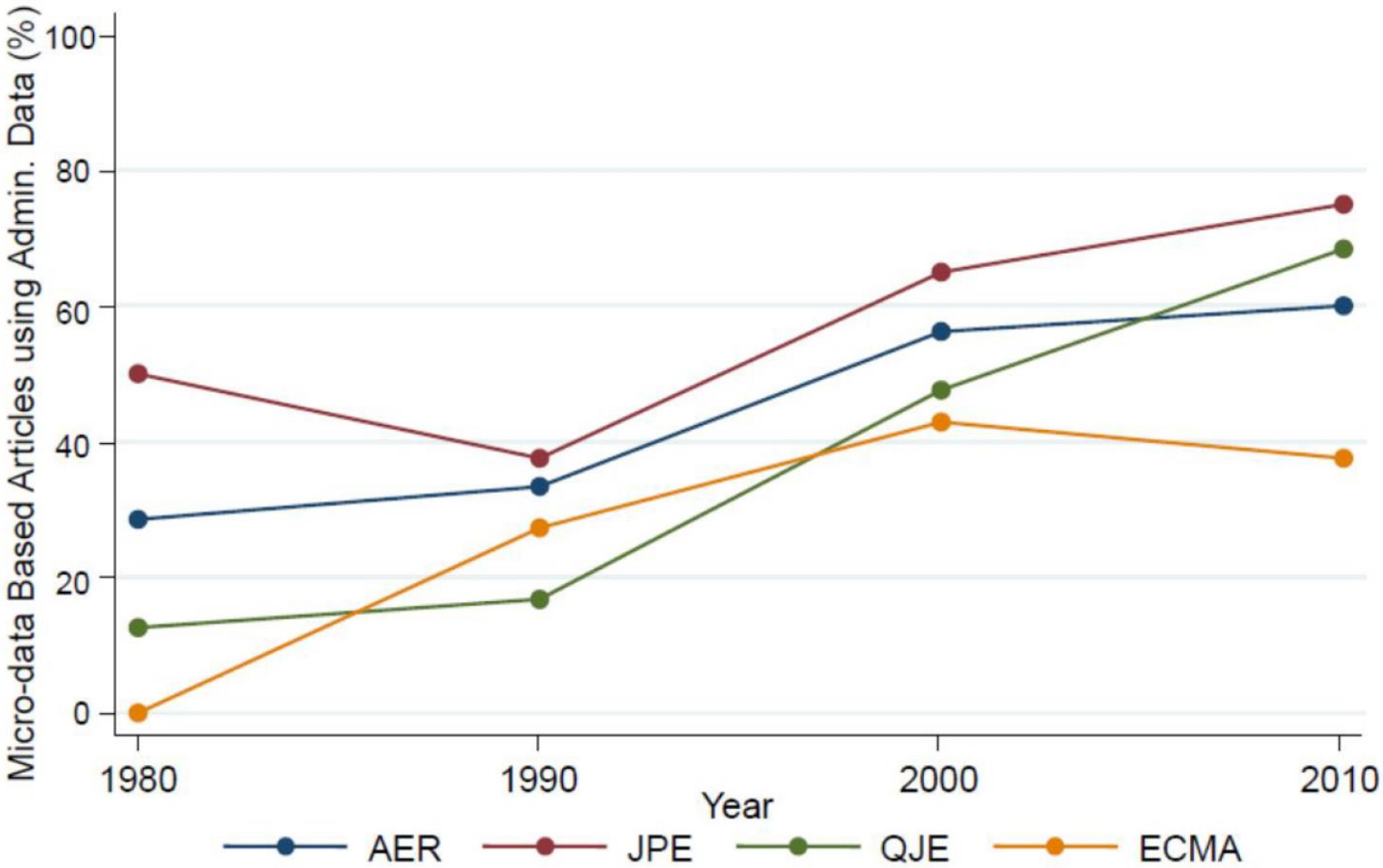
Outputs:

Benchmarks:
6 models from African countries

Counterfactual:
Colombia-Ecuador tax and benefit systems

Implementation:
Zambia CCT: impact, options

Use of Administrative Data in Publications in Leading Journals, 1980-2010



Note: "Administrative" datasets refer to any dataset that was collected without directly surveying individuals (e.g., scanner data, stock prices, school district records, social security records). Sample excludes studies whose primary data source is from developing countries.

Individual papers

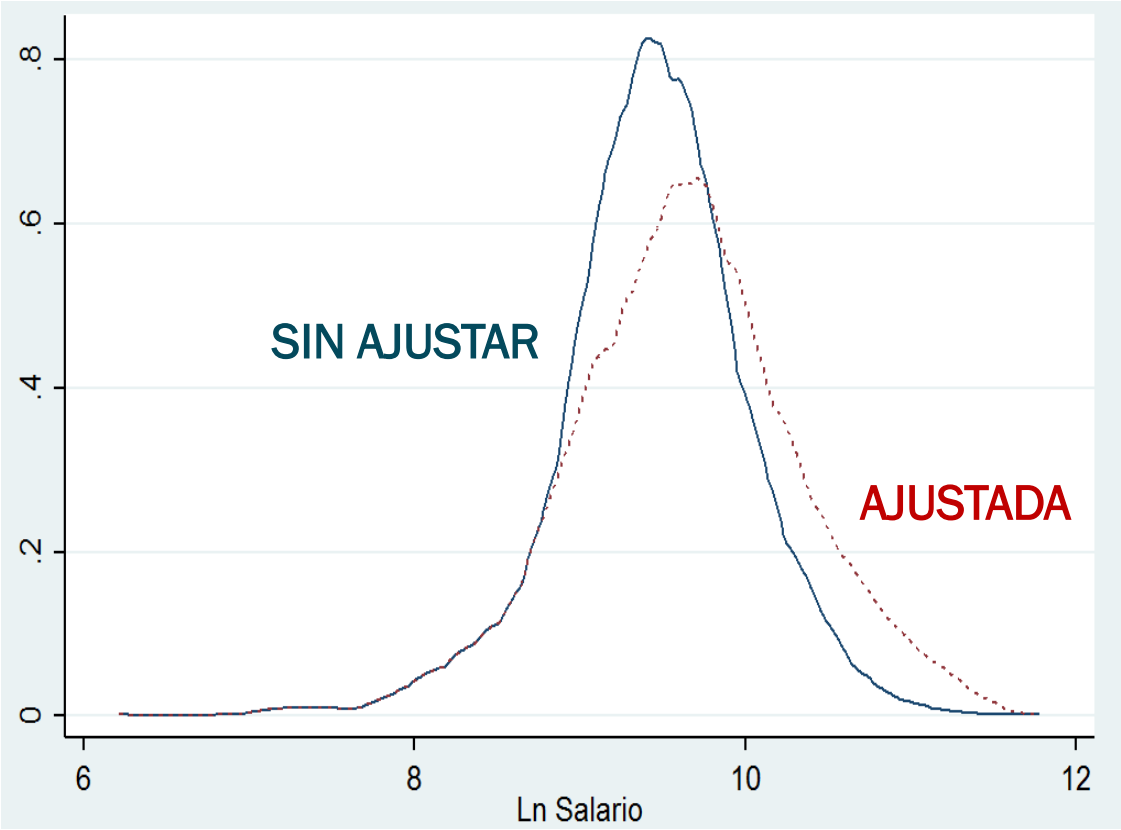
Shameless plug: Have you heard of JOEI?

South Africa

- Comprehensive and careful analysis of several alternative data sources.
- Insights from under-reporting, measurement error, missing data.
- Excellent work: how to deal with this – practical advice:
  - consistency,
  - adjustments,
  - Gross up tax collection and number of tax payers, etc.
- At the basis: combine survey and admin data.
- Binscatter for figure 1?
- Some examples from recent work on Argentina:

Resultados: Distribución del Ingreso de la Ocupación Principal para Asalariados Formales

Distribución de Salarios Formales

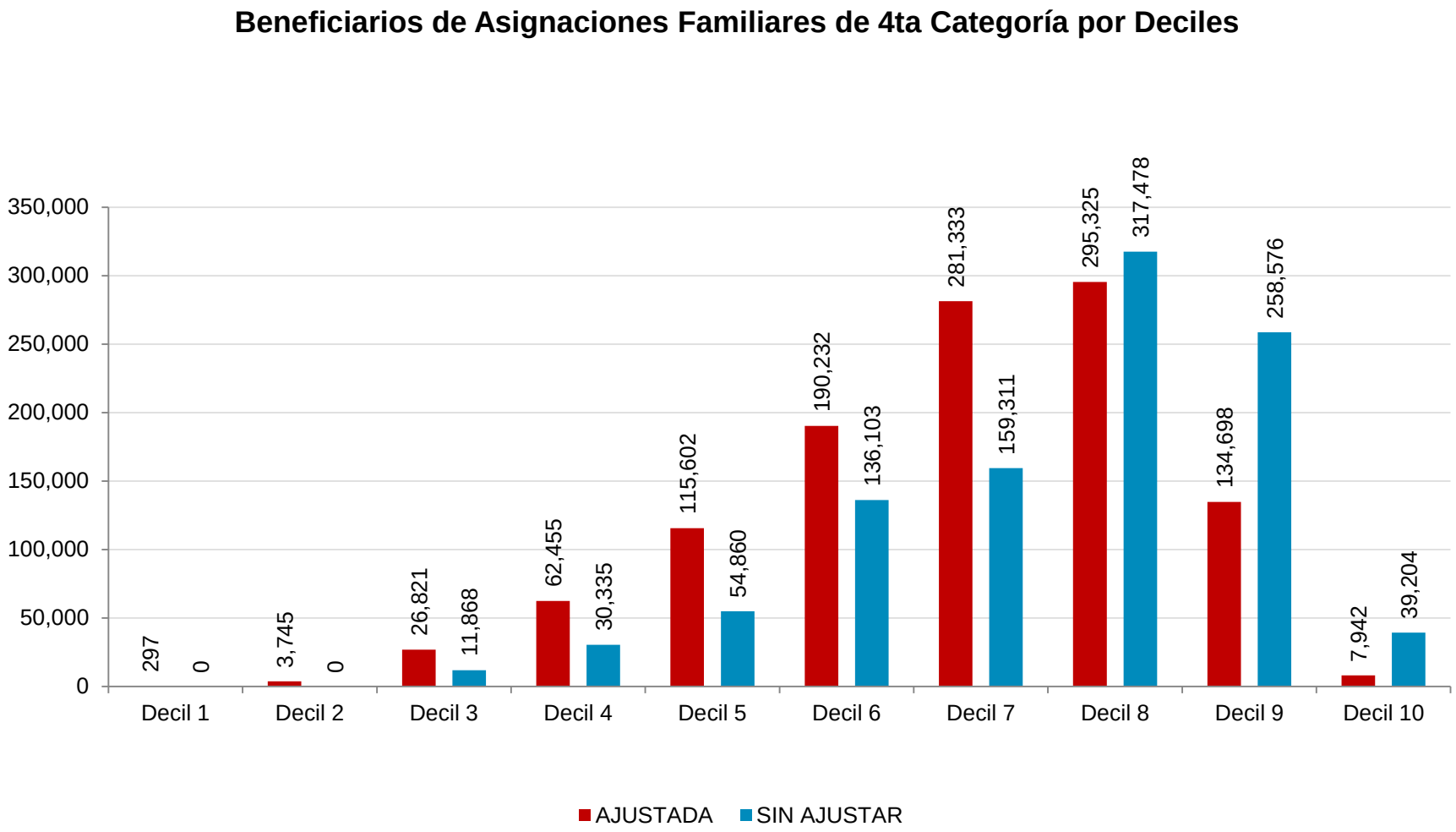


Variable	Sin Ajustar	Ajustada	Variación
Salario Medio	14.464,4	18.609,5	28,7%
Salario Mediano	12.400,0	14.688,2	18,5%
Desvío Estándar	8.954,2	13.959,5	55,9%

Fuente: Elaboración propia en base a microdatos de EPH IV-T de 2016 y datos administrativos de SIPA

Source: Cruces et al, 2018, Ministerio de Hacienda, Argentina. Preliminary – please do not quote or circulate.

Ejemplo de aplicación: Beneficiarios de Asignaciones Familiares Categoría 4



Fuente: Elaboración propia en base a microdatos de EPH y datos administrativos de SIPA y DDJJ*

Source: Cruces et al, 2018, Ministerio de Hacienda, Argentina. Preliminary – please do not quote or circulate.

Results: underreporting beyond the mean

PROMEDIO ITF SIN AJUSTE

Decil de IPCF de Hogar	Promedio ITF de EPH	Porcentaje del Ingreso Total
1	$ 6.054	2,9%
2	$ 11.107	5,4%
3	$ 13.328	6,5%
4	$ 13.080	6,4%
5	$ 16.840	8,2%
6	$ 18.780	9,1%
7	$ 22.117	10,8%
8	$ 24.942	12,1%
9	$ 30.610	14,9%
10	$ 49.060	23,8%
Total	$ 20.593	
Gini	**0,433**	

PROMEDIO ITF AJUSTADO

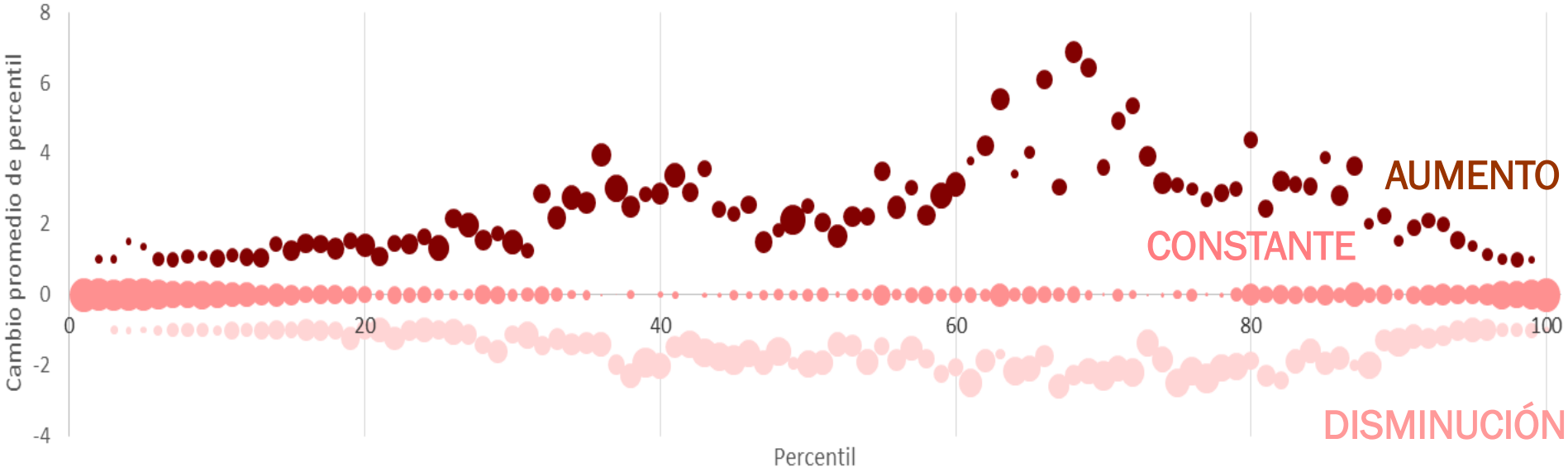
Decil de IPCF de Hogar	Promedio ITF de ajustado	Porcentaje del Ingreso Total
1	$ 6.149	3,0%
2	$ 11.562	5,6%
3	$ 14.301	7,0%
4	$ 14.100	6,8%
5	$ 18.771	9,1%
6	$ 21.364	10,4%
7	$ 25.929	12,6%
8	$ 30.135	14,6%
9	$ 38.775	18,8%
10	$ 74.456	36,2%
Total	$ 25.556	
Gini	**0,493**	

Source: Cruces et al, 2018, Ministerio de Hacienda, Argentina. Preliminary – please do not quote or circulate.

Resultados: Reordenamiento en la distribución del ingreso

- Los reordenamientos de 6 o más percentiles se producen por el ajuste de ingresos mayormente pertenecientes a cuentapropistas.
- La mayor parte de la población (42,7%) se reordena hacia abajo porque predominan los asalariados y jubilados, quienes ajustan menos que los cuentapropistas.

Densidad de reordenamiento de hogares luego de ajuste por subdeclaración



Reordenamiento	Movimiento Promedio	Observaciones	% Reordenamiento
Disminución	-1,5	6.051.159	42,7%
Constante	0,0	4.033.449	28,4%
Aumento	2,5	4.100.501	28,9%

Source: Cruces et al, 2018, Ministerio de Hacienda, Argentina. Preliminary – please do not quote or circulate.

Six African countries

- Cross country harmonized data already hard (SEDLAC) – harmonized data and tax system models is quite an accomplishment.
- Income vs consumption not such a hard issue in middle-income countries. Very well dealt with here.
- General comment: what is “accounting” (no disrespect) and what is microsimulation?
- Monetization of in kind benefits?
- Assumptions/robustness: all formal employees in two countries?
- Use more figures/graphs/charts as Fig. 2/3.

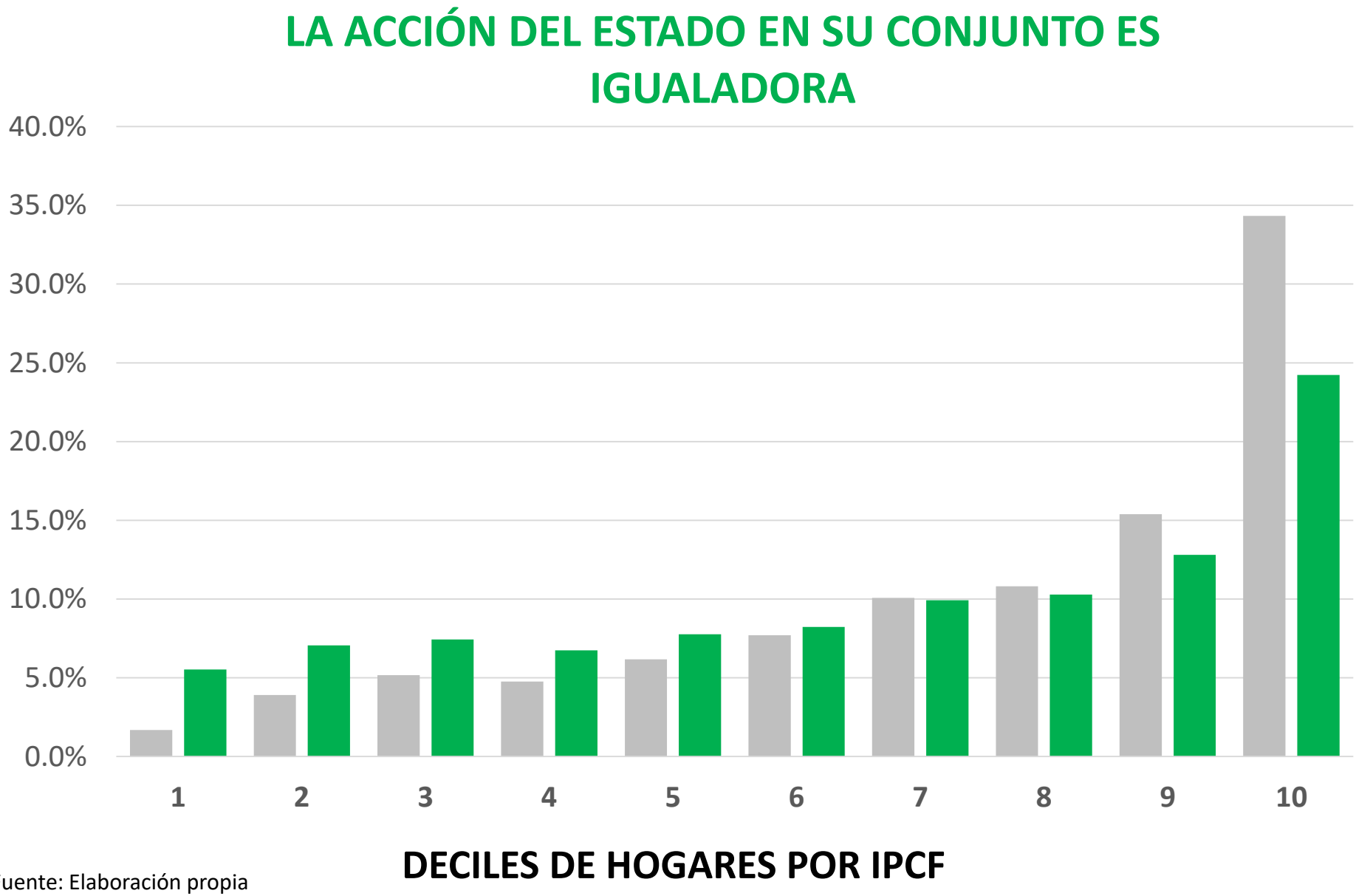
Tax, benefit and expenditure incidence analysis, Argentina 2016

	Deciles hogares de IPCF DISPONIBLE							Gini ó Concentracion	
Concepto	1	3	5	7	9	10	Promedio	Personas	Hogares
ITF	$ 6.054	$ 13.328	$ 16.840	$ 22.117	$ 30.610	$ 49.060	$ 20.593	0,433	0,310
ITF AJUSTADO	$ 6.149	$ 14.301	$ 18.771	$ 25.929	$ 38.775	$ 74.456	$ 25.556	0,493	0,378
ITF BRUTO DE MERCADO	$ 5.158	$ 14.310	$ 18.701	$ 27.634	$ 43.256	$ 90.882	$ 27.580	0,538	0,429
Subtotal impuestos directos	*$ 315*	*$ 2.163*	*$ 3.289*	*$ 5.085*	*$ 8.881*	*$ 21.465*	*$ 5.454*	*0,624*	*0,524*
ITF NETO DE MERCADO	$ 4.844	$ 12.147	$ 15.411	$ 22.549	$ 34.375	$ 69.417	$ 22.126	0,517	0,406
Subtotal transferencias	*$ 2.146*	*$ 3.752*	*$ 4.559*	*$ 4.268*	*$ 5.090*	*$ 6.692*	*$ 4.524*	*0,282*	*0,143*
ITF DISPONIBLE	$ 6.990	$ 15.898	$ 19.971	$ 26.817	$ 39.464	$ 76.109	$ 26.650	0,477	0,361
Subtotal impuestos indirectos	*$ 1.974*	*$ 2.486*	*$ 2.496*	*$ 3.200*	*$ 3.975*	*$ 6.501*	*$ 3.149*	*0,473*	*0,208*
ITF PRE CONSUMIBLE	$ 5.016	$ 13.412	$ 17.474	$ 23.616	$ 35.489	$ 69.608	$ 23.501	0,478	0,382
Subtotal subsidios	*$ 1.183*	*$ 1.173*	*$ 1.062*	*$ 996*	*$ 961*	*$ 986*	*$ 1.047*	*0,088*	*-0,047*
ITF CONSUMIBLE	$ 6.199	$ 14.585	$ 18.537	$ 24.613	$ 36.450	$ 70.594	$ 24.548	0,462	0,363
Subtotal Educacion + Salud	*$ 9.860*	*$ 7.645*	*$ 5.983*	*$ 4.820*	*$ 3.200*	*$ 2.626*	*$ 5.731*	*-0,083*	*-0,222*
ITF FINAL	$ 16.058	$ 22.230	$ 24.520	$ 29.433	$ 39.650	$ 73.220	$ 30.279	0,366	0,253

Source: Cruces et al, 2018, Ministerio de Hacienda, Argentina. Preliminary – please do not quote or circulate.

INCIDENCIA DE GASTOS E IMPUESTOS 2016

RESULTADOS PRINCIPALES – DECILES DE HOGARES POR IPCF

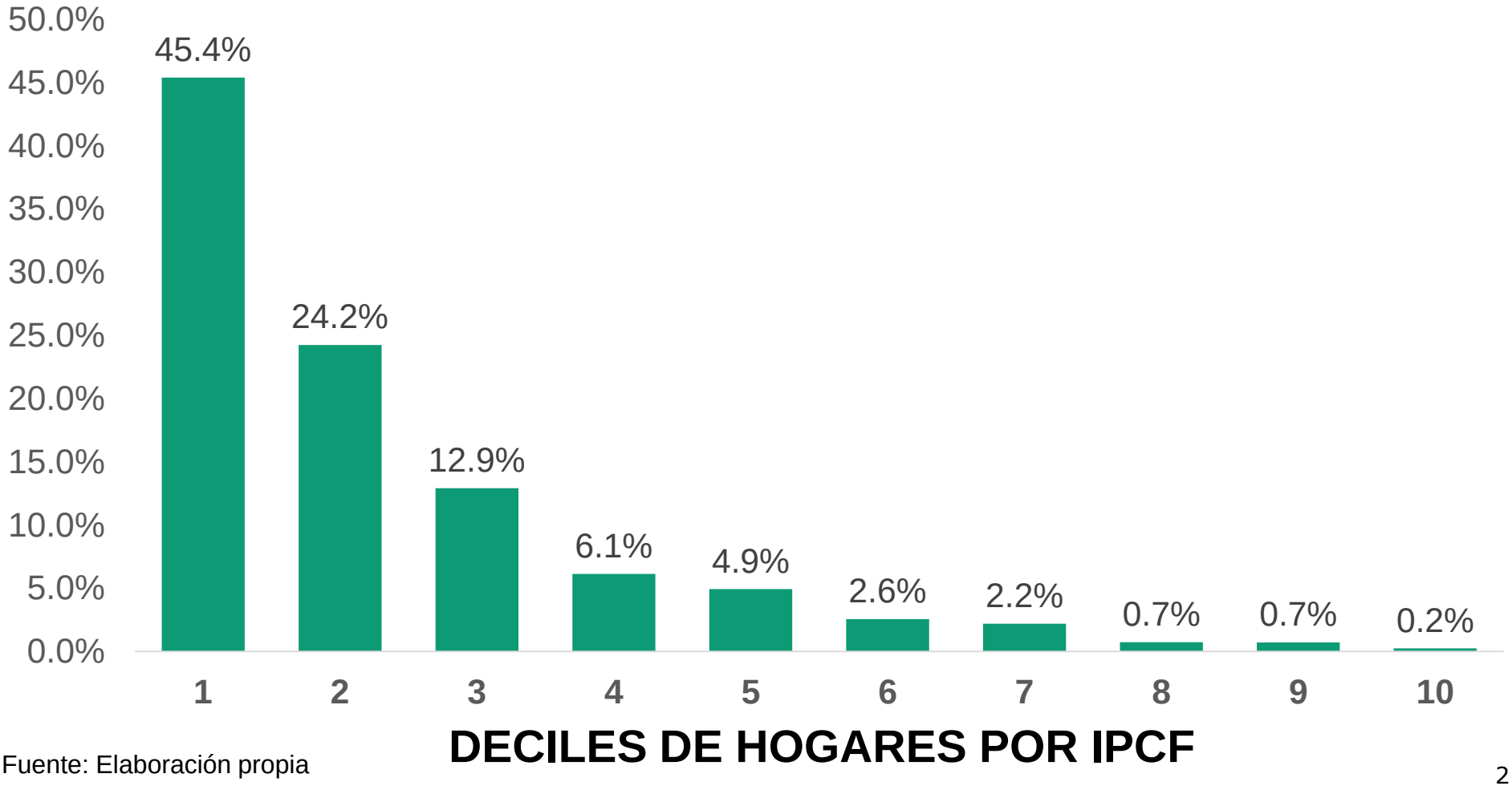


Fuente: Elaboración propia

	Deciles hogares de IPCF DISPONIBLE							Gini ó Concentracion	
Concepto	1	3	5	7	9	10	Promedio	Personas	Hogares
ITF	$ 6.054	$ 13.328	$ 16.840	$ 22.117	$ 30.610	$ 49.060	$ 20.593	0,433	0,310
ITF AJUSTADO	$ 6.149	$ 14.301	$ 18.771	$ 25.929	$ 38.775	$ 74.456	$ 25.556	0,493	0,378
ITF BRUTO DE MERCADO	$ 5.158	$ 14.310	$ 18.701	$ 27.634	$ 43.256	$ 90.882	$ 27.580	0,538	0,429
Contribuciones Patronales	$ 184	$ 1.323	$ 2.061	$ 3.201	$ 5.454	$ 10.246	$ 3.076	0,590	0,480
Aportes Personales	$ 131	$ 831	$ 1.190	$ 1.734	$ 2.613	$ 3.518	$ 1.469	0,505	0,381
Ganancias	$ -	$ 10	$ 38	$ 150	$ 814	$ 7.700	$ 910	0,935	0,906
Subtotal impuestos directos	*$ 315*	*$ 2.163*	*$ 3.289*	*$ 5.085*	*$ 8.881*	*$ 21.465*	*$ 5.454*	*0,624*	*0,524*
ITF NETO DE MERCADO	$ 4.844	$ 12.147	$ 15.411	$ 22.549	$ 34.375	$ 69.417	$ 22.126	0,517	0,406
AUH	$ 1.100	$ 270	$ 122	$ 60	$ 16	$ 7	$ 240	-0,540	-0,642
AAFF	$ 162	$ 610	$ 367	$ 166	$ 27	$ 7	$ 249	-0,149	-0,317
Moratoria	$ 390	$ 1.089	$ 1.516	$ 1.653	$ 1.474	$ 1.533	$ 1.449	0,280	0,130
Jubilación	$ 189	$ 882	$ 1.742	$ 1.919	$ 3.318	$ 4.650	$ 2.020	0,493	0,365
PROGRESAR	$ 91	$ 94	$ 65	$ 30	$ 6	$ 3	$ 54	-0,227	-0,377
Capacitación y Empleo	$ 17	$ 7	$ 4	$ 1	$ 1	$ 1	$ 5	-0,325	-0,438
Jóvenes c/ más y mejor trabajo	$ 21	$ 14	$ 10	$ 2	$ 3	$ -	$ 7	-0,337	-0,470
Becas	$ 18	$ 23	$ 12	$ 7	$ 3	$ 2	$ 12	-0,212	-0,363
Promedio PNC	$ 159	$ 763	$ 721	$ 430	$ 244	$ 488	$ 487	0,125	-0,032
Subtotal transferencias	*$ 2.146*	*$ 3.752*	*$ 4.559*	*$ 4.268*	*$ 5.090*	*$ 6.692*	*$ 4.524*	*0,282*	*0,143*
ITF DISPONIBLE	$ 6.990	$ 15.898	$ 19.971	$ 26.817	$ 39.464	$ 76.109	$ 26.650	0,477	0,361
IVA	$ 1.106	$ 1.395	$ 1.409	$ 1.842	$ 2.273	$ 3.811	$ 1.800	0,479	0,216
IIBB	$ 652	$ 784	$ 789	$ 1.022	$ 1.261	$ 2.083	$ 1.002	0,472	0,207
Internos	$ 178	$ 218	$ 192	$ 187	$ 244	$ 278	$ 205	0,357	0,075
Combustibles	$ 39	$ 89	$ 105	$ 149	$ 198	$ 329	$ 141	0,534	0,308
Subtotal impuestos indirectos	*$ 1.974*	*$ 2.486*	*$ 2.496*	*$ 3.200*	*$ 3.975*	*$ 6.501*	*$ 3.149*	*0,473*	*0,208*
ITF PRE CONSUMIBLE	$ 5.016	$ 13.412	$ 17.474	$ 23.616	$ 35.489	$ 69.608	$ 23.501	0,478	0,382
Comedores	$ 338	$ 233	$ 137	$ -	$ -	$ -	$ 104	-0,494	-0,657
Gas de red	$ 69	$ 112	$ 137	$ 168	$ 190	$ 200	$ 143	0,318	0,178
Electricidad	$ 204	$ 335	$ 379	$ 434	$ 495	$ 536	$ 388	0,279	0,140
Gas de garrafa	$ 68	$ 35	$ 19	$ 7	$ 1	$ 1	$ 23	-0,411	-0,538
Trenes	$ 206	$ 146	$ 127	$ 103	$ 82	$ 74	$ 120	-0,054	-0,191
Colectivos	$ 299	$ 311	$ 253	$ 243	$ 141	$ 96	$ 241	-0,022	-0,170
Aviones	$ -	$ -	$ 12	$ 42	$ 51	$ 79	$ 28	0,676	0,529
Subtotal subsidios	*$ 1.183*	*$ 1.173*	*$ 1.062*	*$ 996*	*$ 961*	*$ 986*	*$ 1.047*	*0,088*	*-0,047*
ITF CONSUMIBLE	$ 6.199	$ 14.585	$ 18.537	$ 24.613	$ 36.450	$ 70.594	$ 24.548	0,462	0,363
Salud	$ 4.673	$ 3.918	$ 3.518	$ 3.057	$ 2.291	$ 2.003	$ 3.287	-0,001	-0,142
Nivel Inicial	$ 545	$ 313	$ 160	$ 127	$ 73	$ 40	$ 211	-0,262	-0,391
Primaria	$ 2.227	$ 1.213	$ 833	$ 472	$ 187	$ 125	$ 821	-0,293	-0,424
Secundaria	$ 2.076	$ 1.668	$ 940	$ 646	$ 278	$ 146	$ 970	-0,237	-0,377
Terciaria	$ 232	$ 162	$ 139	$ 102	$ 69	$ 40	$ 147	-0,124	-0,263
Universitaria	$ 107	$ 371	$ 392	$ 416	$ 303	$ 272	$ 295	0,252	0,098
Subtotal Educacion + Salud	*$ 9.860*	*$ 7.645*	*$ 5.983*	*$ 4.820*	*$ 3.200*	*$ 2.626*	*$ 5.731*	*-0,083*	*-0,222*
ITF FINAL	$ 16.058	$ 22.230	$ 24.520	$ 29.433	$ 39.650	$ 73.220	$ 30.279	0,366	0,253

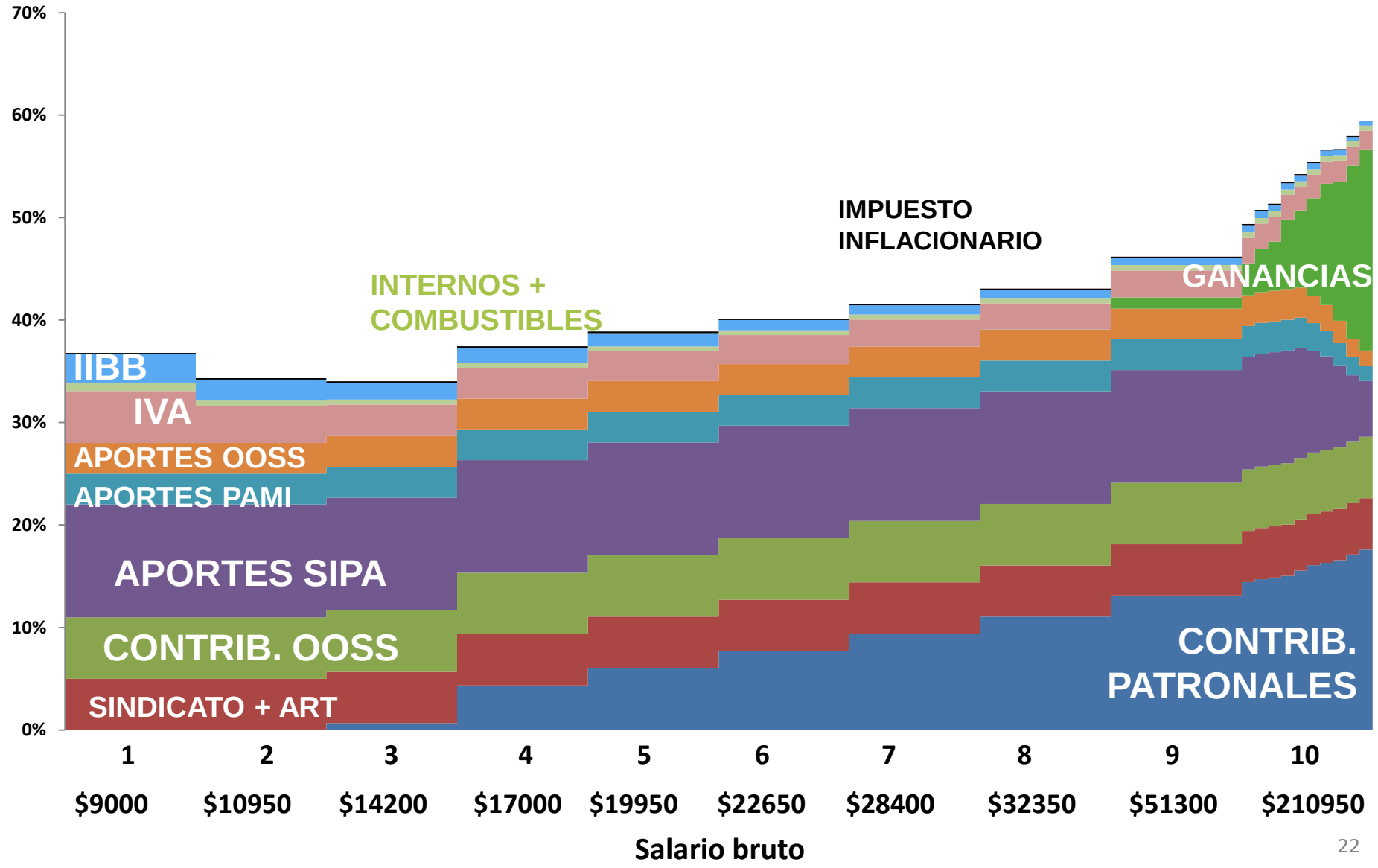
Source: Cruces et al, 2018, Ministerio de Hacienda, Argentina. Preliminary – please do not quote or circulate.

ASIGNACIÓN UNIVERSAL POR HIJO
% DEL TOTAL DEL GASTO POR DECIL



Fuente: Elaboración propia

PRESIÓN TRIBUTARIA PARA ASALARIADOS FORMALES
POR DECILES DE SALARIO BRUTO - POST REFORMA TRIBUTARIA



Fuente: elaboración propia en base a EPH 1 semestre 2017

Colombia and Ecuador

- Very interesting exercise – country counterfactual.
- Interesting decomposition exercise.
- Well published. But still: two caveats:
  - Colombia richer than Ecuador. Level of benefits? Absolute/relative redistribution?
  - Non marginal changes in transfers and income taxes: importance of behavioral responses.

Zambia

- MicroZAMOD a fundamental tool for economic and social policy making.
- Expansion of social protection program:
  - Distributional impact
  - Cost and financing issues…
  - And **the distributional consequences of program AND financing**
- Joint work between social protection and tax authorities to **jointly** assess both tracks of the tax and benefit system.
- Again: behavioral reactions? Minor on labor supply.
- Amounts in USD or USD PPP?
- Careful – the devil is in the **implementation** detail… Eg: implicit perfect targeting assumption for transfers.
- Tax/financing of proposals very short – develop further?

Final words

- Keep on the excellent work.
- Next steps:
  - More administrative data.
  - More consistency between admin and survey data.
  - Robustness of results to alternative assumptions (e.g., formal employment).
  - Adding expenditure/in kind service provision more comprehensively.
  - Add agents' behavioral reactions for major, non marginal policy changes.