

How weak is stabilization from the Personal Income Tax in Latin America?

An analysis based on household surveys

Ángel Melguizo

OECD Development Centre



Red de Áreas de Estudios e
Investigaciones Tributarias del CIAT

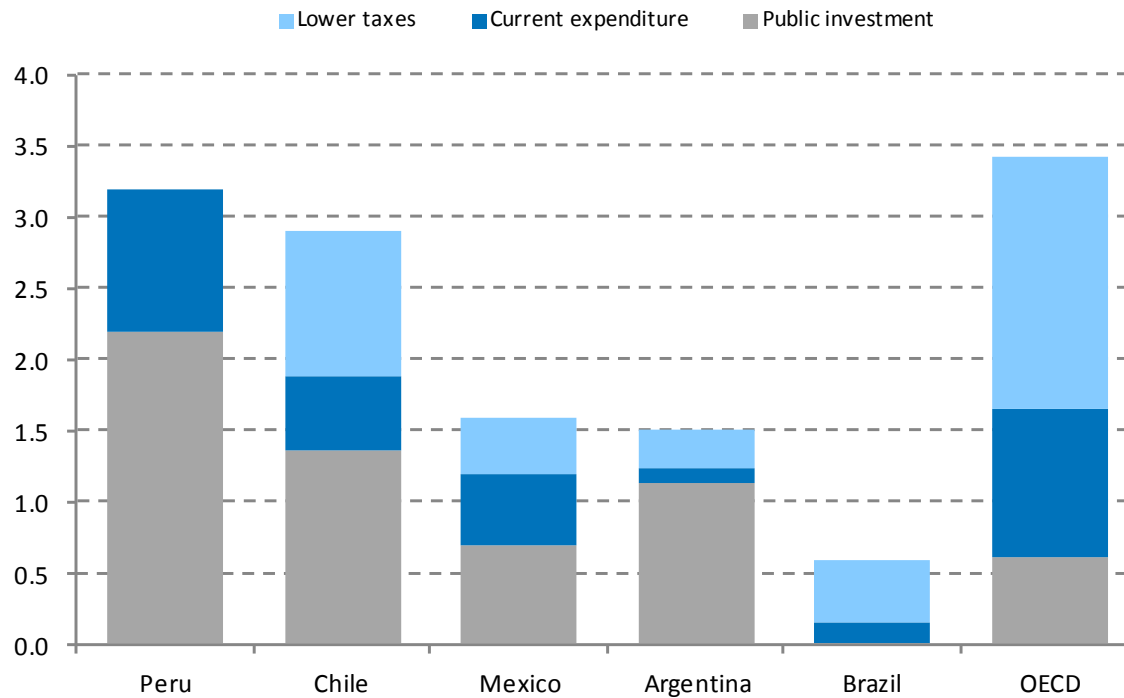
2do. Encuentro

Bogota, September 13-15 2011

Based on C. Daude, A. Melguizo y A. Neut (2011): “Fiscal policy in Latin America: better after all?”, forthcoming in *Economics* (also published as OECD Development Centre WP 291)

Motivation

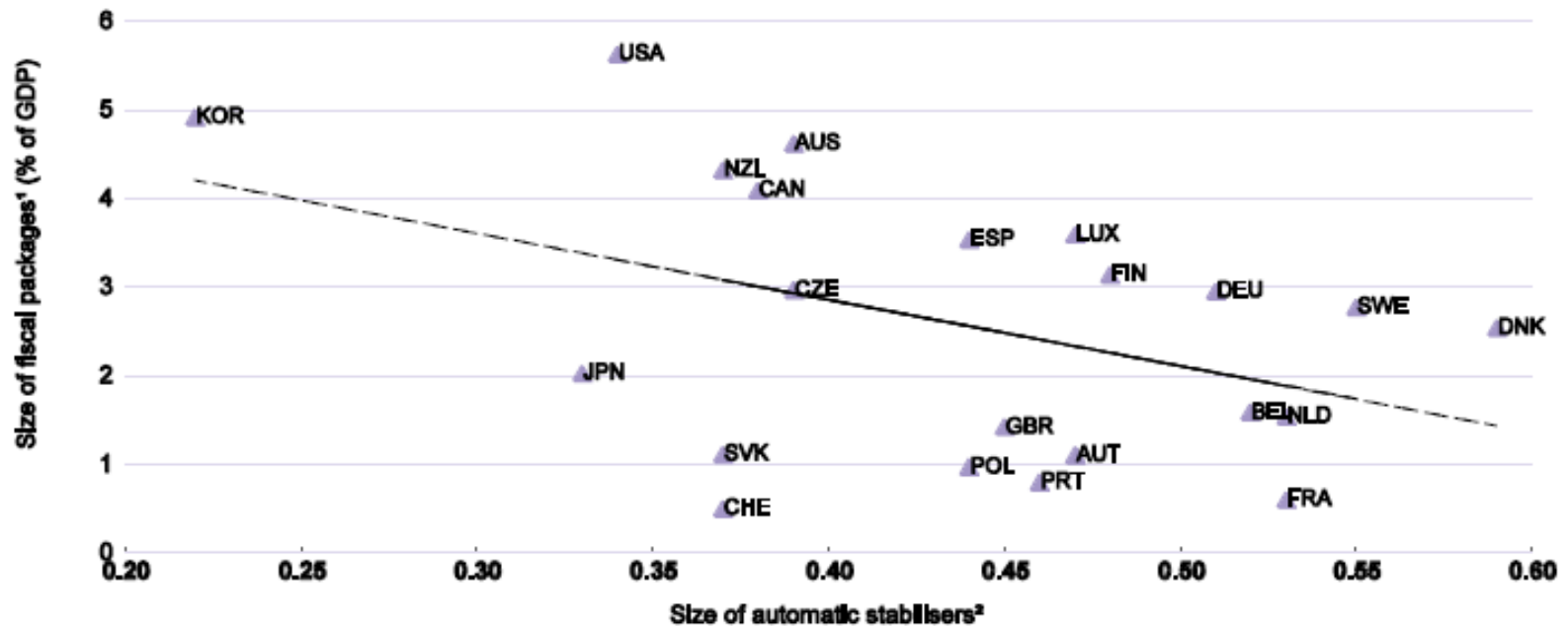
Fiscal Stimulus in Selected Latin American Countries and OECD (% GDP)



Source: OECD (2009), IMF (2009) and National Ministries of Finance (Peru and Chile)

Motivation

Figure 3.5. Size of discretionary fiscal packages varies inversely with the automatic stabilisers



1. Total ex ante cost of discretionary fiscal packages over the period 2008-10.
2. Coefficient summarising the automatic change in the fiscal balance due to a 1 percentage point change in the output gap.

Source: OECD Economic Outlook Interim Report 105. March 2009

Conclusions

How weak is stabilization from the Personal Income Tax in Latin America?

Tax automatic stabilizers are small (half the OECD average)

- **PIT automatic stabilizers are 3 times lower** (0.04 vs. 0.12)
- **Weak stabilization from the PIT explains half of the difference**
- Low tax collection (inequality * tax code), despite high formal progressivity, explains this result
- Reforming effectively the PIT (administration and design) should be (still) in the agenda. Political economy issues

Structural balances à la OECD

Girouard and André (2005)

- **Individual methodology** for Personal Income Tax, Social Security Contributions, Corporate Income Tax, Indirect Taxes (OECD *Revenue Statistics*), and Unemployment-related Expenditure
- **Representative household**: full-time, 2-earner married couple with 2 children; the 2nd earner receiving 50 per cent of the principal
- **Calibration**:
 - Elasticities of PIT and SSC collection to wages from 0.5 to 3 the average, based on tax codes (marginal/average rates, from OECD *Taxing Wages*)
 - Distribution of tax payers (PIT and SSC) across income levels based on labour market statistics (*Labour Force Surveys*)
 - Consumption taxes elasticity to output set at 1.0
- **Estimation** of the elasticities of wages and unemployment to output gap

Structural balances à la OECD : Personal Income Tax

Girouard and André (2005)

- **Individual methodology** for Personal Income Tax, Social Security Contributions, Corporate Income Tax, Indirect Taxes (**OECD Revenue Statistics**), and Unemployment-related Expenditure
- **Representative household**: full-time, 2-earner married couple with 2 children; the 2nd earner receiving 50 per cent of the principal
- **Calibration**:
 - Elasticities of PIT and SSC collection to wages from 0.5 to 3 the average, based on tax codes (marginal/average rates, from **OECD Taxing Wages**)
 - Distribution of tax payers (PIT and SSC) across income levels based on labour market statistics (**Labour Force Surveys**)
 - Consumption taxes elasticity to output set at 1.0
- **Estimation** of the elasticities of wages and unemployment to output gap

Structural balances *à la* OECD in Latin America: PIT

Daude et al. (2011)

- **Tax databases** by OECD (Mexico), ECLAC and IDB
- **Representative household: National Household Surveys** (around 2006)
 - Considering **labour income** (and households with at least some labour income; over 85 percent)
 - **'Adjusted first earner income'** (control for household composition; 1 main, 0.5 second). No adjustment for underreporting, nor gross-up
 - **Potential tax payers** grouped by brackets (#121) around the national average, from 0.05 up to 'more than 6 times the average'.
- **Simulation of the tax burden** using the 2006 tax code; 2008 tax code for URY (*Taxing Wages* for MEX, Finance Ministries for CHL and URY)
- **Estimation** of the elasticities of wages and unemployment to output gap

Stabilization from the Personal Income Tax

Income distribution

Adjusted first earner annual income, 2006
(PPP dollars)

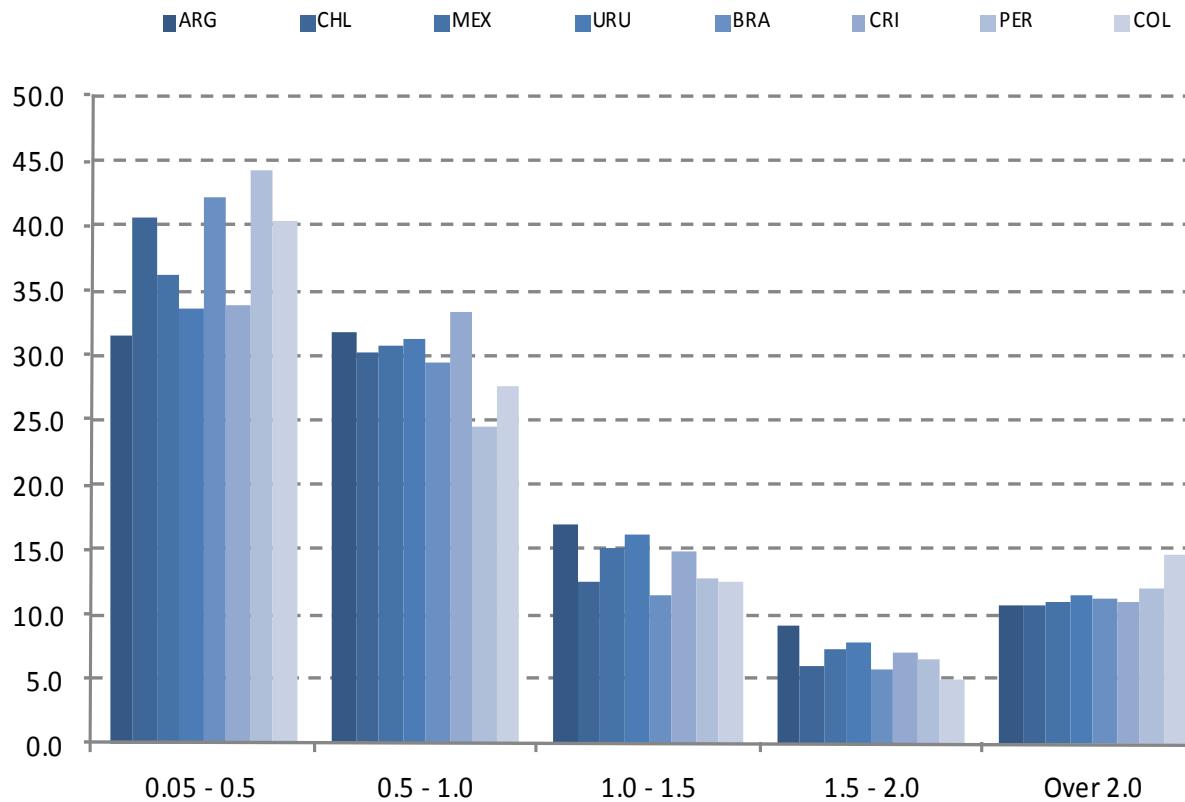


Source: Daude et al. (2011) based on National Household Surveys

Stabilization from the Personal Income Tax

Income distribution

Income distribution in Latin American countries, 2006



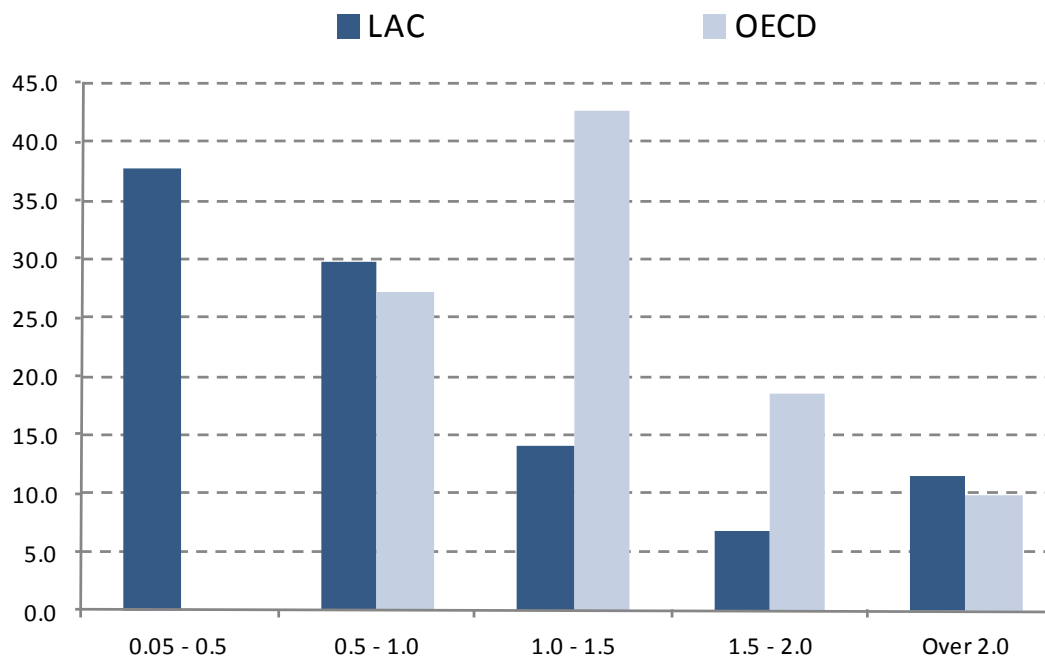
Note: Percentage of people by income level. 1 represents the national average

Source: Daude et al. (2011), based on National Household Surveys

Stabilization from the Personal Income Tax

Income distribution

Income distribution in Latin American countries vs. OECD

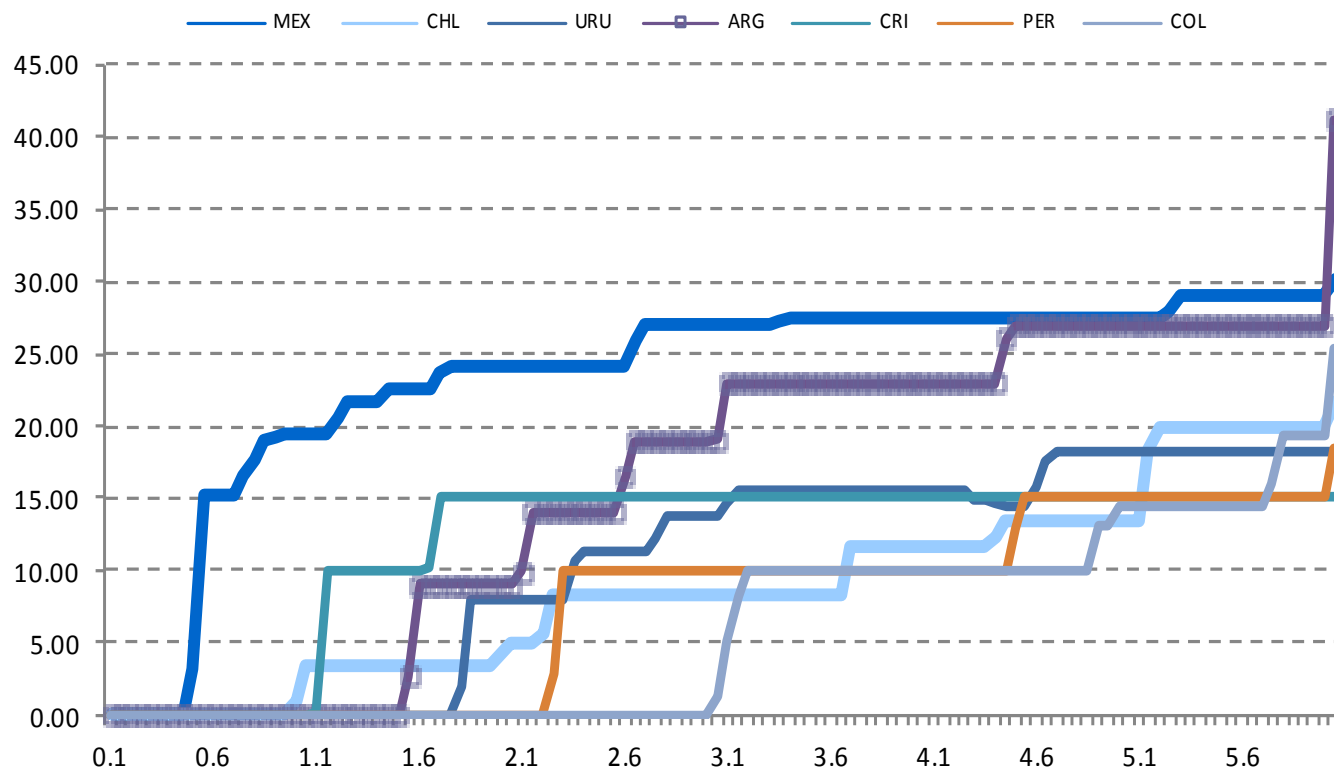


Note: Percentage of people by income level. 1 represents the national average

Source: Daude et al. (2011) for LAC and Girouard and André (2005) for OECD

Stabilization from the Personal Income Tax

Marginal personal income tax

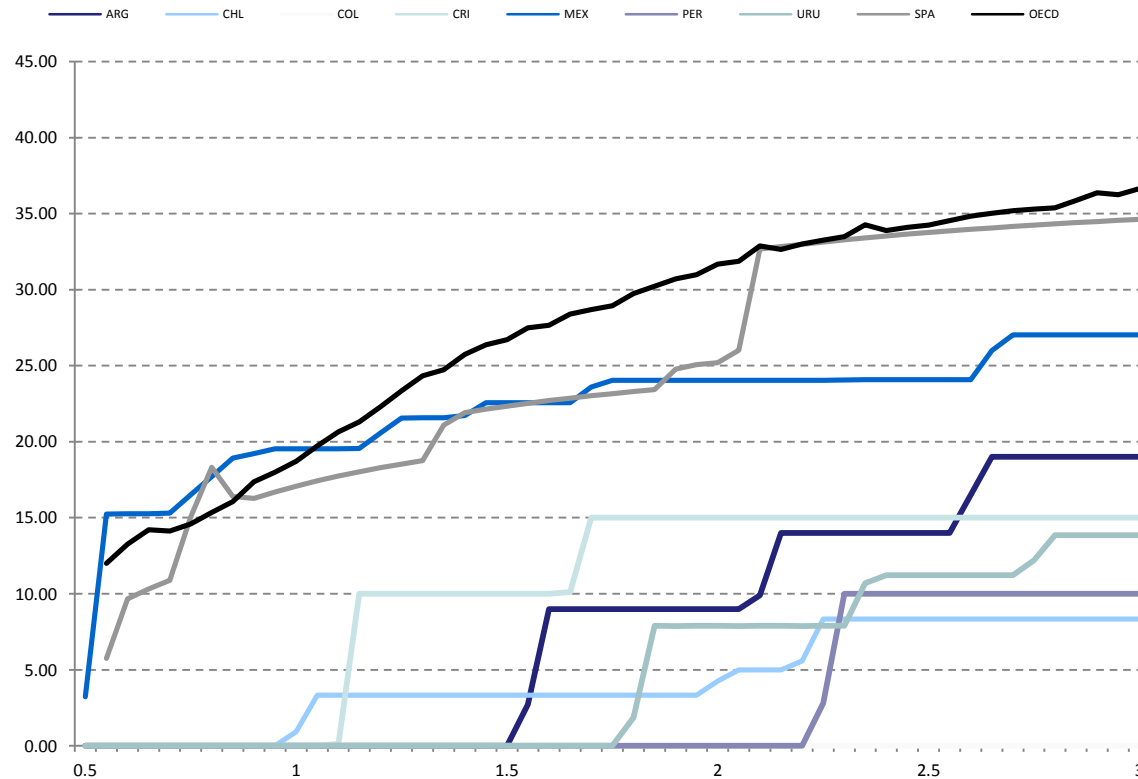


Note: Marginal tax rate by income level. 1 represents the national average

Source: Daude et al. (2011) based on OECD Taxing Wages (Mexico) and Ministries of Finance (Chile and Uruguay) and own elaboration (Argentina, Colombia, Costa Rica and Peru)

Stabilization from the Personal Income Tax

Marginal personal income tax, LAC vs. OECD

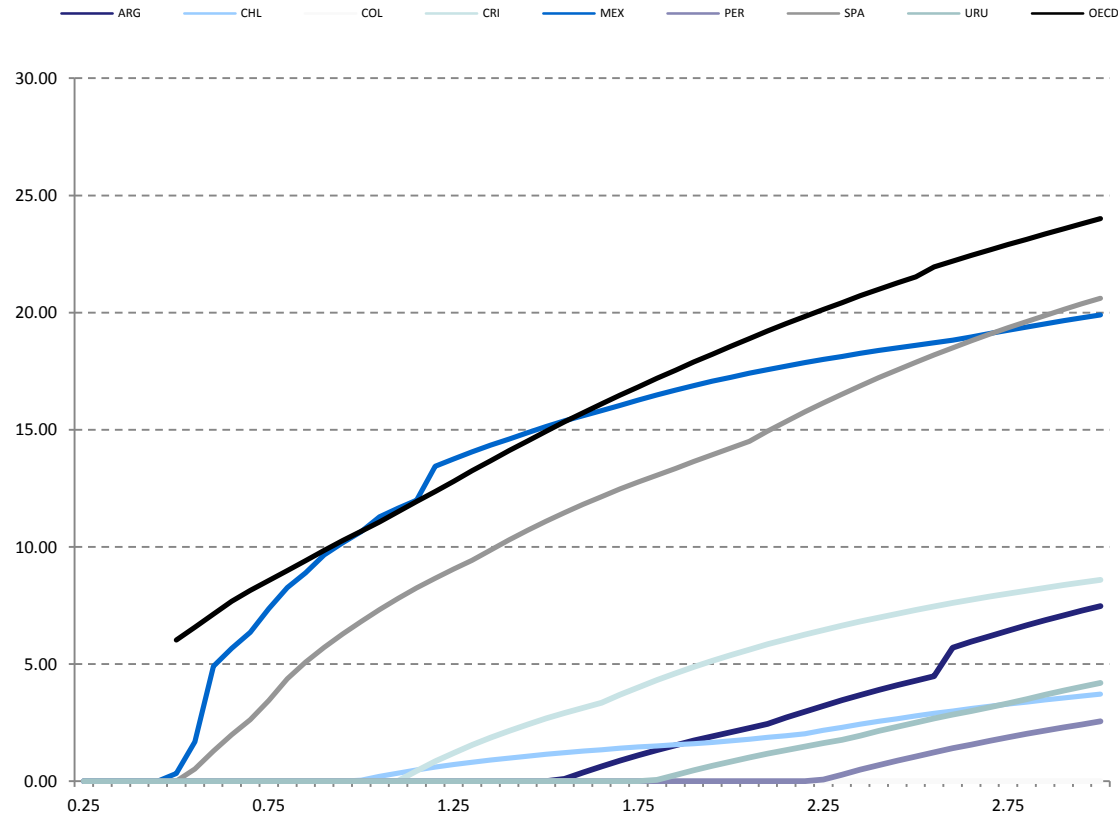


Note: Marginal tax rate by income level. 1 represents the national average

Source: Daude et al. (2011) based on OECD Taxing Wages (Mexico) and Ministries of Finance (Chile and Uruguay) and own elaboration (Argentina, Colombia, Costa Rica and Peru)

Stabilization from the Personal Income Tax

Average personal income tax, LAC vs. OECD



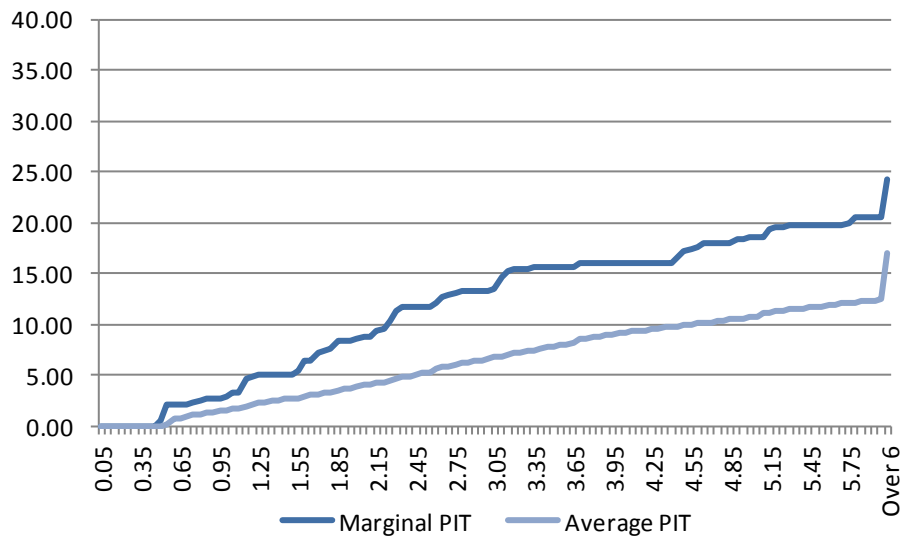
Note: Average tax rate by income level. 1 represents the national average

Source: Daude et al. (2011) based on OECD Taxing Wages (Mexico) and Ministries of Finance (Chile and Uruguay) and own elaboration (Argentina, Colombia, Costa Rica and Peru)

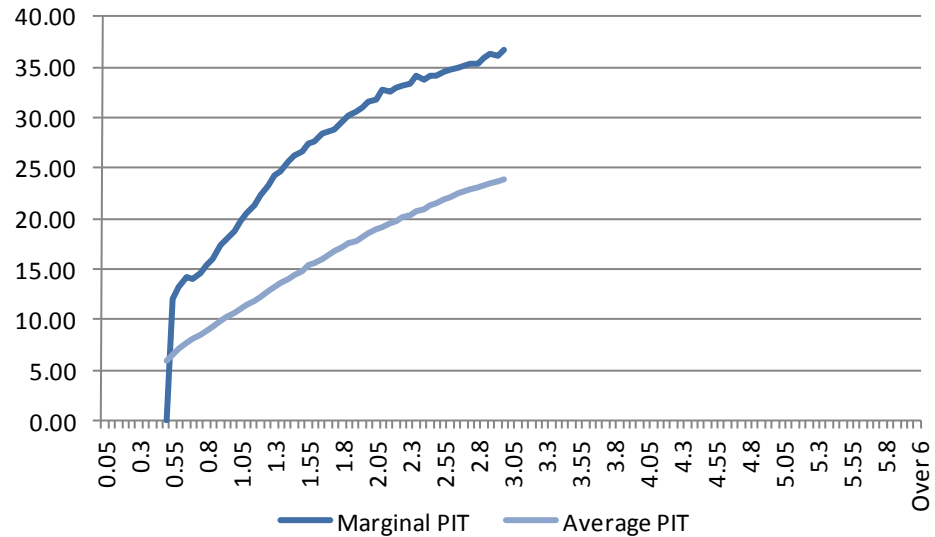
Stabilization from the Personal Income Tax

Marginal vs. average in average LAC-7 vs. OECD

Latin America (7)



OECD



Note: Average and marginal tax rates by income level. 1 represents the national average

Source: Daude et al. (2011)

Stabilization from the Personal Income Tax (and SSC)

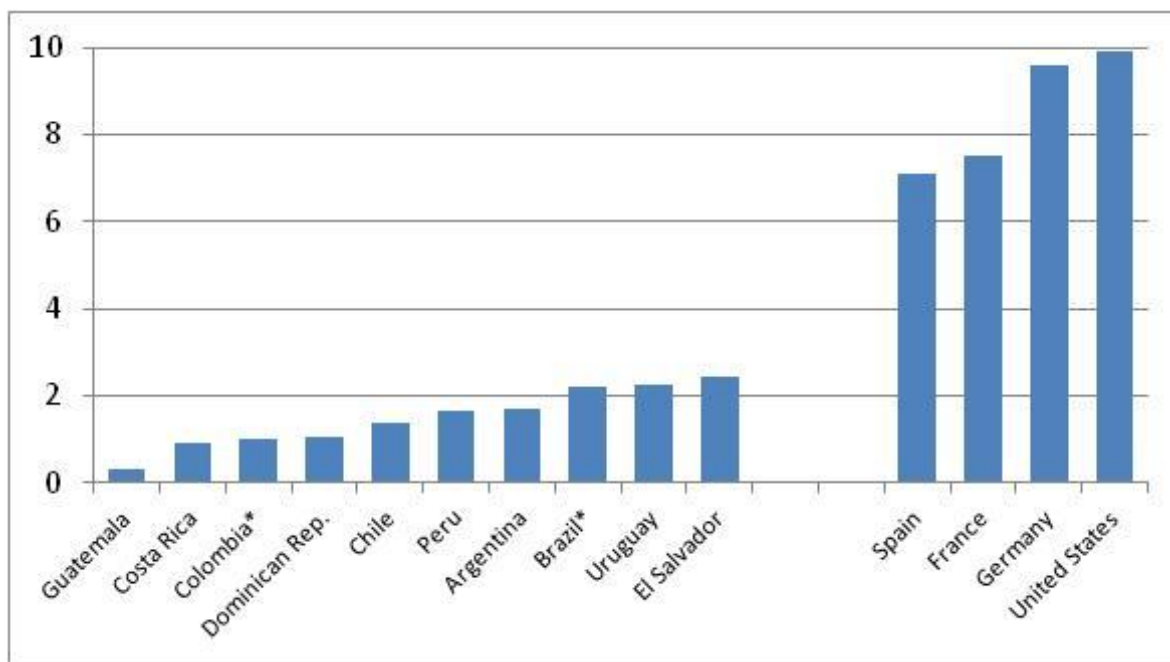
Elasticities of Personal Income Tax and Social Security Contributions					
	Real wage elasticity of		Output elasticity of wages	Output elasticity of	
	PIT	SSC		PIT	SSC
	A		B	C = AXB	
Peru	2.7	1.0	2.0	5.3	1.9
Costa Rica	2.6	1.0	1.7	4.5	1.7
Argentina	3.3	1.0	1.1	3.6	1.1
Chile	2.5	0.9	1.4	3.5	1.3
Mexico	2.0	0.5	1.5	3.0	0.8
Uruguay	3.2	1.1	0.9	2.8	0.9
Brazil	3.4	1.8	0.8	2.7	1.4
Colombia	2.5	0.5	1.1	2.6	0.6
LA-8 average	2.8	1.0	1.3	3.5	1.2
Spain	2.1	0.8	0.9	1.9	0.7
Germany	2.3	0.8	0.7	1.6	0.6
Korea	2.3	0.9	0.6	1.4	0.5
United States	1.9	0.9	0.7	1.3	0.6
France	1.7	1.1	0.7	1.2	0.8
OECD	1.7	1.0	0.7	1.2	0.7

Note: Change in tax revenues as a per cent of GDP for a 1 percentage-point change in the output gap. Based on weights for 2003 for OECD, and 2005-2006 in Latin America. OECD unweighted average, excluding Chile and Mexico

Source: Daude et al. (2011) for Argentina, Chile, Colombia, Costa Rica, Mexico, Peru and Uruguay, de Mello and Moccero (2006) for Brazil, and Girouard and André (2005) for the rest

Stabilization from the Personal Income Tax

**Personal Income Tax in selected LAC vs. OECD, 2008
(% GDP)**

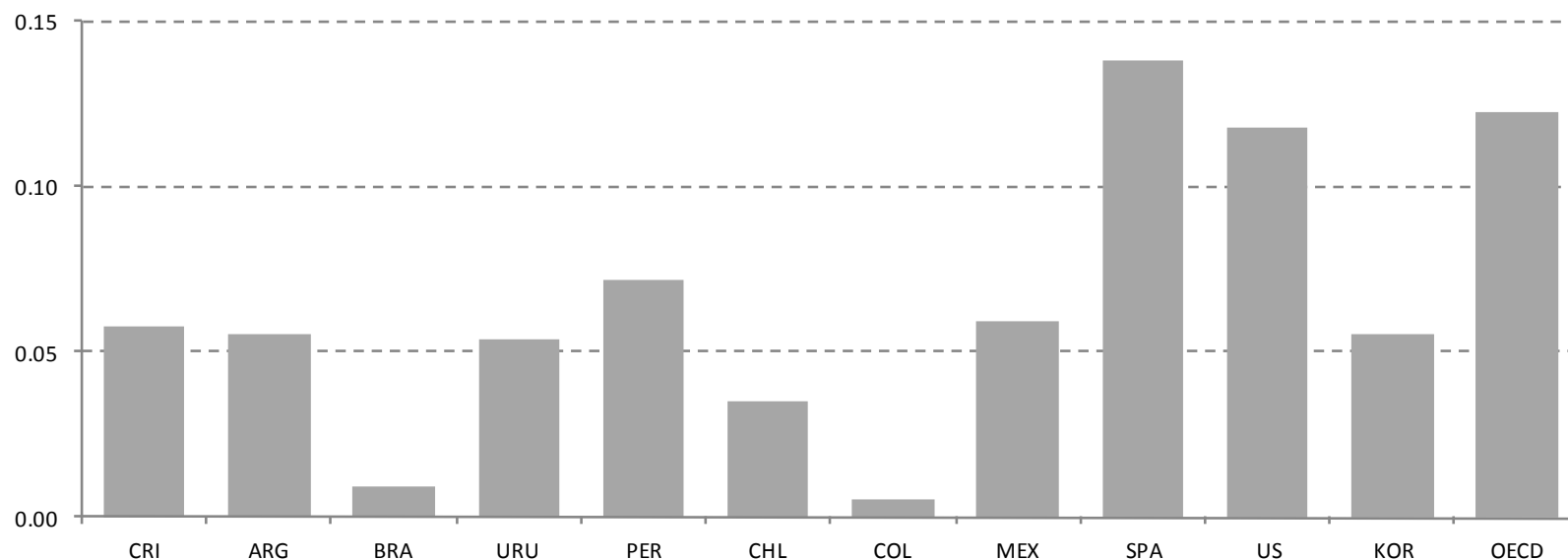


Note: * Includes estimations for annual tax returns

Source: Revenue Statistics and Latin America. CIAT-ECLAC-OECD

Stabilization from the Personal Income Tax

Personal Income Tax elasticity to output (Percentage points of GDP)

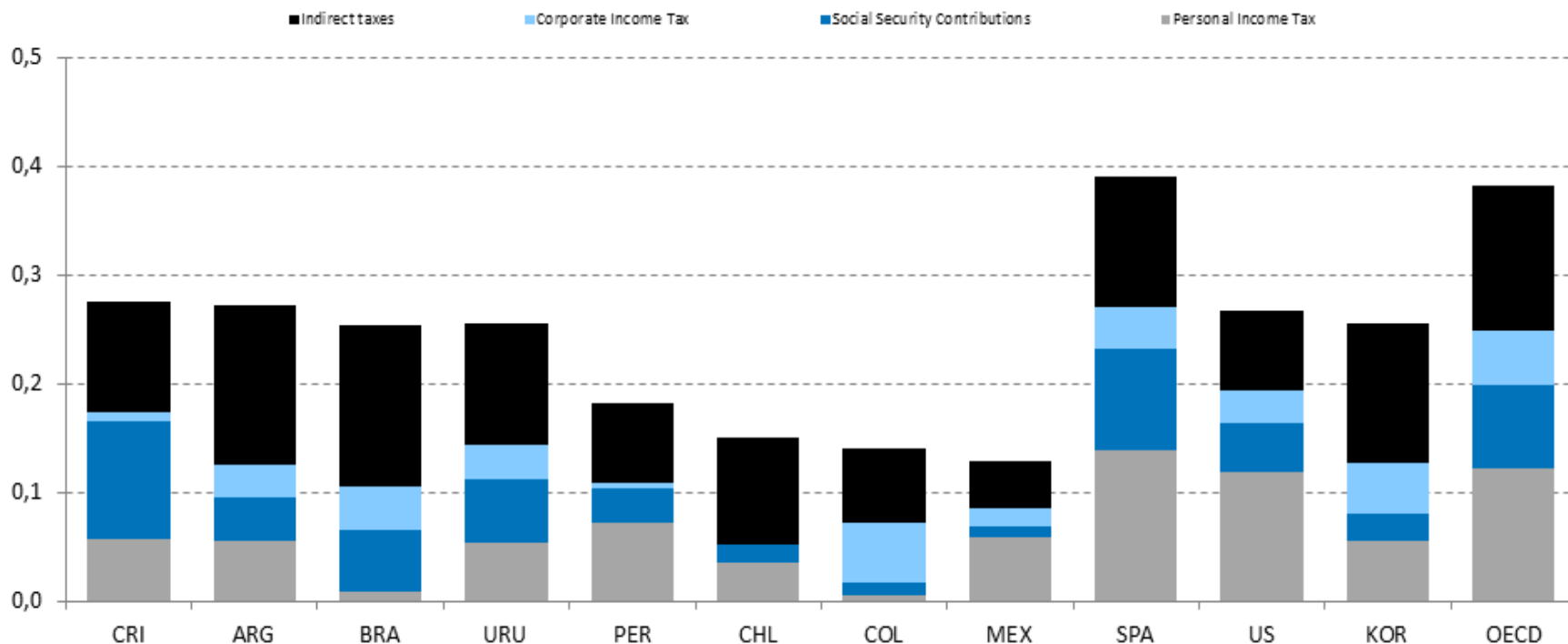


Note: OECD unweighted average, excluding Chile and Mexico

Source: Daude et al. (2011) for Argentina, Chile, Colombia, Costa Rica, Mexico, Peru and Uruguay, de Mello and Moccerro (2006) for Brazil, and Girouard and André (2005) for the rest

Stabilization from the tax system (PIT, SSC, CIT, IT)

Tax elasticities to output (Percentage points of GDP)

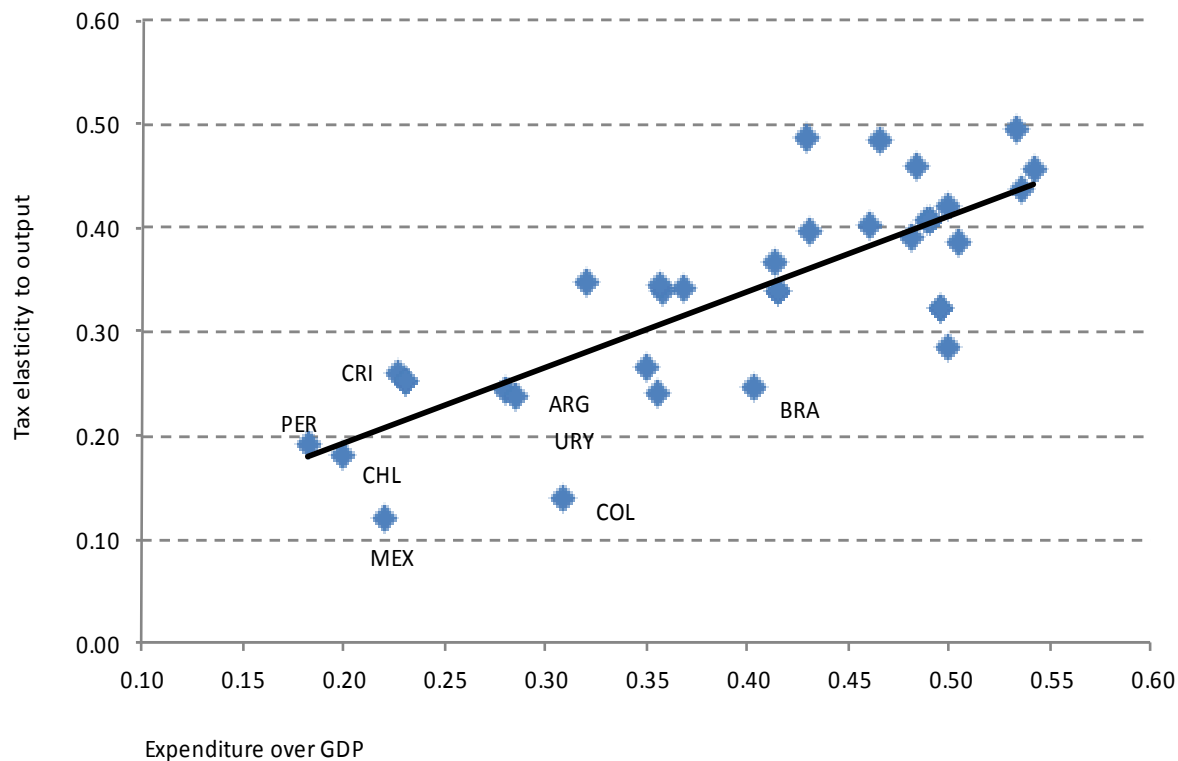


Note: OECD unweighted average, excluding Chile and Mexico

Source: Daude et al. (2011) for Argentina, Chile, Colombia, Costa Rica, Mexico, Peru and Uruguay, de Mello and Moccero (2006) for Brazil, and Girouard and André (2005) for the rest

Stabilization from the tax system (PIT, SSC, CIT, IT)

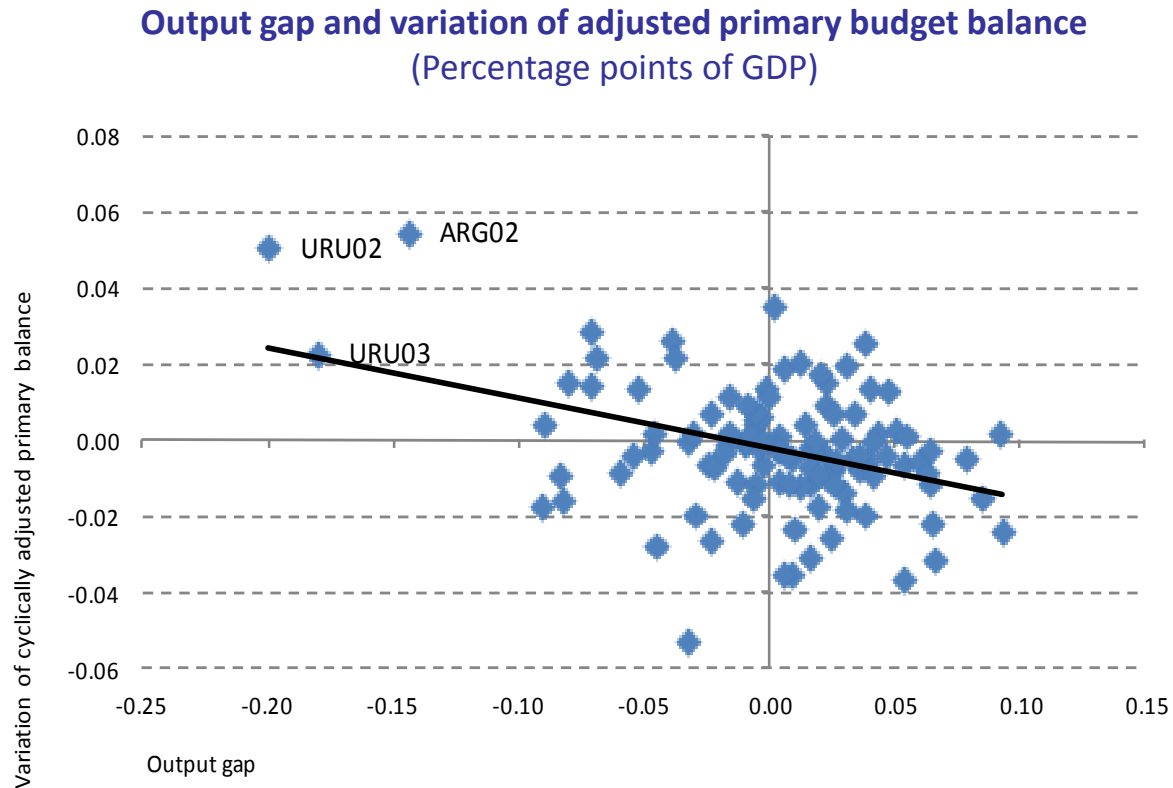
Automatic stabilizers and government size



Source: Daude et al. (2011) for Argentina, Chile, Colombia, Costa Rica, Mexico, Peru and Uruguay, de Mello and Moccero (2006) for Brazil, and Girouard and André (2005) for the rest

Stabilization from discretionary fiscal policy

Countercyclical? Not on average, but asymmetric



Source: Daude et al. (2011)

Conclusions (I)

Daude, Melguizo and Neut (2011), *Fiscal policy in Latin America: better after all?*

- **Commodity shocks** as relevant to fiscal policy as business cycle
- **Tax automatic stabilizers** are small (half the OECD average)
- **Discretionary fiscal policy has been pro-cyclical** in Argentina, Brazil, Costa Rica, Mexico and Uruguay, while neutral in Chile, Colombia, and Peru
- Pro-cyclicality of discretionary fiscal policy is explained by **lack of access to credit during deep crises**, rather than by profligate spending
- Cyclically-adjusted balances and debt sustainability analysis confirm the **better position enjoyed by the region before the crisis**
- **Uncertainty on output gap**: highly volatile cyclical shocks and highly volatile trends for potential output

Conclusions (and II)

How weak is stabilization from the Personal Income Tax in Latin America?

Tax automatic stabilizers are small (half the OECD average; 0.21 vs. 0.38 p.p. GDP)

- **PIT automatic stabilizers are 3 times lower** (0.04 vs. 0.12 p.p. GDP)
- **Weak stabilization from the PIT explains half of the difference**
- Low tax collection (inequality * tax code), despite high formal progressivity, explains this result
- Reforming effectively the PIT (administration and design) should be (still) in the agenda. Political economy issues

How weak is stabilization form the Personal Income Tax in Latin America?

- **Data**
 - *OECD-ECLAC-CIAT Revenue Statistics in Latin America* (with consultations with the IDB; available 2011): Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Mexico, Peru, Uruguay and Venezuela, 1990-2009
 - **Tax returns** (especially relevant for high-income earners). Only available for Argentina (since 1997) and on demand for Chile
- **On modelling**
 - Control explicitly for PIT reforms
- **On policy implications**
 - Tax evasion and informality over the cycle

Other references

- IDB (2010), *Serie de Equidad Fiscal en América Latina*, Washington.
- De Mello, L. and D. Moccero (2006), “Brazil fiscal stance during 1995-2005: The effect of indebtedness on fiscal policy over the business cycle”, OECD Economics *Working Papers* No. 485.
- Girouard, N. and C. André (2005), “Measuring cyclically-adjusted budget balances for OECD countries”, OECD Economics *Working Papers* No. 434.
- Gómez Sabaini, J.C., J.P. Jiménez and A. Podestá (2010), *Evasión y equidad en América Latina*. CEPAL and GTZ, Santiago.
- Izquierdo, A. and E. Talvi (2008), *All that glitters may not be gold: assessing Latin America’s recent macroeconomic performance*. Inter-American Development Bank, Washington, DC.
- Marcel, M., M. Tokman, R. Valdés and P. Benavides (2001), “Balance estructural del gobierno central. Metodología y estimaciones para Chile: 1987 – 2000”, *Estudios de Finanzas Públicas*, Ministerio de Hacienda, Santiago.
- Martner, R. (2006): “Cyclical indicators of fiscal policy in Latin American Countries (with special reference to Chile)”. In D. Franco (ed.): *Fiscal Indicators*, pp.165-180. Banca d’Italia, Rome.
- OECD (2008): *Latin American Economic Outlook 2009*. OECD Development Centre, Paris.
- Vladkova-Hollar, I. and J. Zettelmeyer (2008), “Fiscal positions in Latin America: Have they really improved?”, IMF *Working Paper* No.137.

How weak is stabilization form the Personal Income Tax in Latin America?

An analysis based on household surveys

Muchas gracias!

www.oecd.org/dev/americas

Red de Áreas de Estudios e
Investigaciones Tributarias del CIAT

2do. Encuentro

Bogota, September 13-15, 2011

