

# Small Firms and Presumptive Tax Regimes in Chile: Tax Avoidance and Equity

Claudio A. Agostini <sup>1</sup>

## Abstract

In general, special tax regimes create inefficiencies and might destroy horizontal equity. However, many countries have special tax regimes for small businesses or specific economic sectors. The goal is usually to reduce compliance costs, but also to reduce inequality since it is assumed that owners of small businesses are generally low-income taxpayers.

To study the magnitude of tax avoidance of special tax regimes in Chile and their effects on horizontal equity, I use administrative data from the Chilean IRS to simulate a tax reform that replaces them with a cash flow tax for small firms.

The results show that a reform of this type would have positive effects, especially in terms of horizontal tax equity as 85.6% of the profits from firms under presumptive taxes and 77.6% of the profits from the small firms under special tax regimes, belong to taxpayers in the top income decile.

**JEL:** H22, H25, H26

**Keywords:** Presumptive Taxes, Small Business Taxation, Tax Avoidance, Horizontal Tax Equity

## 1. Introduction

One of the principles of tax policy regarding income tax is horizontal equality, which implies that people with the same income pay the same taxes independent of the source of their income (Mirrlees (1971), Musgrave (1990), Cordes (1999)). In that sense, an income tax, regardless of its progressiveness and implementation, must not lead to distortions between different sources of income (Mirrlees et al (2010)). Therefore, all income should be treated in the same way: wages, salaries, dividends, capital gains and income should all be subject to the same final tax rate (Johnson and Myles (2011), Diamond and Saez (2011)).

---

<sup>1</sup> School of Government. Universidad Adolfo Ibañez, Santiago, Chile. Email: claudio.agostini@uai.cl

In general, special tax regimes and income tax exemptions create inefficiencies and might destroy horizontal equality (Zee (1998), Auerbach and Hassett (1999); McLure (1999)) and increase inequality (Piketty and Saez (2003, 2012)). Thus, they are a bad idea for efficiency and equality concerns. However, many countries, including Chile, have special tax regimes for small businesses and/or specific economic sectors (Alm et al (2004)). In the case of small businesses, the reason to have a different tax regime is usually to reduce compliance costs, but is also associated to reducing inequality and poverty since it is assumed that owners of small businesses are generally low-income taxpayers.

In the case of presumptive taxes, the objective is to reduce both compliance and enforcement costs. However, the empirical evidence is that they create incentives for keeping firms small (Engelschalk (2004)) or switch to the informal sector (Thuronyi (2004), Bird (2007)) and can be used to hide income and pay less taxes (Tekper (2003), Bird (1974, 1992)). For this reason, they should be used only when tax authorities face difficulties to measure the tax base and enforce tax payments of some taxpayers (Slemrod and Yitzhaki (2002)). In the particular case of Chile, there is no reason to keep using presumptive taxes since many firms operate in financial markets and even pay VAT taxes online.

With the purpose of studying the magnitude of tax avoidance of these special tax regimes and their effects on horizontal equality in Chile, I simulate a tax reform that eliminates both special tax regimes and replaces them with a cash flow tax for small firms. For this purpose, I use administrative data from the Chilean IRS for 18.924 taxpayers in 2010, which were randomly sampled (but oversampling taxpayers in higher marginal tax rate brackets) and are representative of each tax bracket.

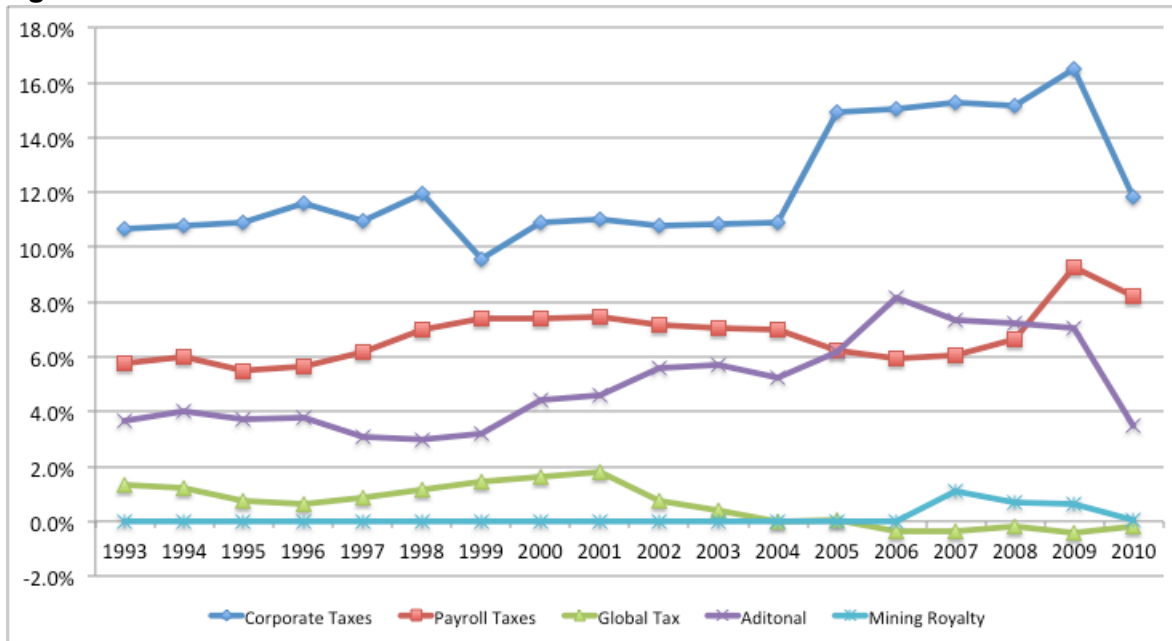
The results show that 85.6% of the profits from firms under presumptive taxes belong to the top income decile. Even more impressive is the finding that a large fraction of these profits belong to taxpayers in the 40% tax rate bracket, where the richest 0.4% of taxpayers are. Similarly, 77.6% of the profits from firms under the small business tax regime belong to taxpayers in the top income decile, concentrating a large fraction to taxpayers in the top income tax bracket rate.

## **2. Income Tax in Chile**

Income tax in Chile generated 28.3% of tax revenue in 2010. It consists of a corporate tax (called First Category tax) on company profits at a flat rate of 18.5% in 2010, a Payroll Tax (called Second Category tax) on labor income; a Complementary Global tax on all income of individuals which recognizes tax paid for First and Second categories as a tax credit; an additional tax with a flat rate of 35% on international withdrawals of profits made by multinational companies; and finally, a royalty tax specific to the mining industry. The

contribution of each of these taxes to total tax revenue during the period 1993-2010 is shown in Figure 1.

**Figure 1: Contribution of Income Tax to Total Tax Revenue**



Source: Internal Revenue Service, Chile.

Second Category and Complementary Global income taxes increase progressively through eight income brackets with marginal rates between 0% and 40%, which are shown in Table 1 that reports information on consolidated personal income taxes (Payroll plus Complementary Global).

**Table 1: Consolidated Personal Income Taxes, 2011**

Income Bracket		Marginal rate	Taxpayers		Income	Tax	Average rate
From	to		No.	%	MM \$	MM \$	%
UTA	UTA	%	No.	%	MM \$	MM \$	%
0	13.5	0%	6,665,459	81.15%	12,570,656	7,654	0.1%
13.5	30	5%	1005822	12.25%	8,837,788	140,938	1.6%
30	50	10%	282.596	3.44%	4,873,944	213,461	4.4%
50	70	15%	117.677	1.43%	3,129,452	223,481	7.1%
70	90	25%	59.689	0.73%	2,129,194	219,170	10.3%
90	120	32%	44.429	0.54%	2,061,010	299,361	14.5%
120	150	37%	17,031	0.21%	1,020,317	193,407	19.0%
150	+	40%	20,889	0.25%	2,382,276	683,842	28.7%
			<b>8,213,592</b>	<b>100%</b>	<b>37,004,637</b>	<b>1,981,314</b>	<b>5.4%</b>

Source: Internal Revenue Service, Chile.

In Chile, there were little over 8 million taxpayers in 2011, of which about 81% have an annual income lower than 13.5 UTA (US\$12,082) and are therefore exempt from income tax.<sup>2</sup> A little more than a million people- corresponding to 12.3% of taxpayers- are in the first tax bracket with a marginal rate of 5% and pay on average 1.6% of their income in taxes. Just 7.3% of taxpayers have annual taxable income greater than 30 UTA (US\$26,850) and pay marginal rates ranging from 10% to 40%.<sup>3</sup> In the highest bracket, with a marginal rate of 40%, there are approximately 20,000 people who are reporting annual income of over 150 UTA (US\$134,250) and pay on average 28.7% of their income in taxes.

In principle, income tax in Chile has horizontal equality as a product of equal rates, tax brackets in Second Category and Complementary Global taxes, and the integration of First Category taxes with Complementary Global taxes.<sup>4</sup> However, various exemptions and special regimes destroy horizontal equality and generate inefficiencies by creating opportunities to elude taxes, distorting investment decisions and the organizational structure of economic agents. In particular, these inefficiencies and inequalities are caused by taxation based on withdrawals for certain types of companies, special tax regimes in some geographical areas and taxation based on presumptive income for some taxpayers in specific economic sectors.

The negative effect that tax exemptions and special regimes have on economic efficiency is particularly important to explain and consider. In general, all of the behavioral changes produced by taxation create inefficiencies. Not only changes in labor supply, savings and investment, which are the ones that are usually mentioned in public discussion in Chile, but also changes in the way economic activity is organized, the moment in time that a flow of income is established, revenue composition, expenses associated with lawyers and accountants for greater tax planning (Saez, Slemrod and Giertz (2011)) and the use of any tax avoidance mechanism (Diamond received and Saez (2011)). The latter is particularly important as empirical evidence shows that the effects of elusion due to changes in tax base are important in magnitude (Gruber and Saez (2002)). When a tax system offers multiple opportunities of elusion, the tax base is very sensitive to the tax rate, hence the elasticity of taxable income is high and inefficiencies are significant (Auth and Robert (1999), Saez and Diamond (2011)). These inefficiencies can be reduced significantly by increasing the tax base and improving the audit (Slemrod and Kopczuk (2002), Kopczuk (2005)).

---

<sup>2</sup> The annual tax unit (UTA) is an index used to maintain the value of taxes in constant money. In April 2011, one UTA was worth Ch\$454,440, around 895 US dollars.

<sup>3</sup> Only 3.87% of taxpayers report incomes greater than Ch\$1,880,250 per month (US\$3,709).

<sup>4</sup> The integration between corporate tax and personal taxes allows the company income tax to play its retaining role (Gordon (2011)).

## 2.1 Special Tax Regimes

There are three special tax regimes in the income tax law in Chile that are oriented to small businesses:

- 1) Article 14Bis: Companies pay taxes based on withdrawals (distributed profits) only and are exempt from keeping records of taxable profits (they do not maintain information on Net Taxable Income for First Category and Retained Earnings). The requirements to file taxes under this system include having annual incomes below 5,000 UTM (this was 3,000 UTM until 2008) and initial capital of less than 1,000 UTM (was 200 UTM to 2008).<sup>5</sup>
- 2) Article 14Ter: Taxes are paid based on cash flow, simplified accounting is allowed and investment and inventories can be deducted as expenses. The requirements are: being VAT taxpayers, have annual incomes below 5,000 UTM (average of the last 3 years; it was 3,000 UTM until 2008) and an initial capital of less than 6,000 UTM.
- 3) Article 14Quater: Provides a tax exemption of First Category Tax up to 1,440 UTM. The eligibility requirements for this tax regime are to have income below 28,000 UTM, less than UTM 14,000 of capital and keep full accounting. This tax regime has been available since July 31, 2010.

The main purpose of these special schemes is to provide liquidity to small businesses and encourage reinvestment. However, they can be used by small investment firms owned by high income individuals that pose their personal income as business income. Evidence shows that 52% of all retained earnings in Chile in 2010 are precisely in these companies, mainly belonging to taxpayers in the highest income decile who use these special tax regimes.<sup>6</sup>

## 2.2 Presumptive Income Taxes

There are three economic sectors in Chile eligible for the presumptive income tax system where the profits of companies are not the tax base, these include agriculture, mining and transport:

- 1) Farmers with sales below 8,000 UTM pay 10% of the value of their property as tax.

---

<sup>5</sup> A UTM is a monthly tax unit equivalent to 1/12 of a UTA (annual tax unit)

<sup>6</sup> 77.9% of all retained earnings belong to the highest income decile.

- 2) Mining companies with annual sales of less than 36,000 tonnes or 8,000 UTM pay tax as a percentage of net sales depending on the price of copper (Pcu) according to the following table:
  - 4% of net sales if Pcu <268.14 cents
  - 6% of net sales if 268.14 <Pcu <284.42
  - 10% of net sales if 284.42 <Pcu <325.03
  - 15% of net sales if 325.03 <Pcu <365.72
  - 20% of net sales if Pcu > 365.72 cents
  - For other mining products: 6% of net sales
- 3) Transport companies with sales of less than 3000 UTM pay 10% of the value of vehicles as tax. As for passenger transport companies, there is no limit to the amount of sales, which means that all may pay taxes according to presumptive income. The only restriction is that it cannot be a corporation (public company with stocks traded in the stock market).

The objective of tax based on presumptive income is to lower compliance and enforcement costs, but not the tax burden of taxpayers (Tekper (2003), Bird (1974, 1992)). It is because of this that it makes sense to use it only when the tax authorities have difficulties to measure, monitor and control the tax base of some taxpayers (Slemrod and Yitzhaki (2002)).

If the tax burden under the presumptive income tax system is lower than the general regime, strong incentives are created for companies to not grow or fail to report growth (Engelschalk (2004)). If the difference is very large, it may even encourage taxpayers to leave the general tax regime and switch to the presumptive income tax system, contributing to informal economic activity. Therefore, tax rates under the presumptive income tax system should be as high as possible (Thuronyi (2004)).

Evidence shows that, in practice, taxes based on presumptive income create great inequality in terms of tax payment and collects little revenue (Bird and Wallace (2004)). Additionally, these taxes also end up encouraging informality in some economic sectors (Bird (2007)).

In Chile, as in other countries, the mechanism of presumptive income comes from the difficulty of monitoring small businesses in these economic sectors, but that reason is no longer justified. Today, technology is more advanced and there is more access to taxpayer information compared to when these mechanisms were implemented. In fact, many of these companies operate in the financial sector, so it is easy to audit them.

The existence of these special regimes intensifies the already existing incentives in the Chilean tax system to avoid paying taxes. Currently, in the general tax system, the top marginal rate for personal income is 40% and the rate for company taxable income is 18.5%, whereas the rate for presumptive income is much lower, is 0% in the 14Bis system and exempt in the 14Quater system. These rate differentials generate incentives for high income individuals to evade taxes by making their earnings appear as company revenues.<sup>7</sup> The empirical evidence demonstrates that the existence of effective lower rates for small and medium enterprises exacerbates this effect (Altshuler, Auerbach, Copper and Knittel (2009)).

A person who only receives their personal labor income is taxed with a marginal rate that can reach up to 40%, whereas a person whose revenues come only from their company pays only 18.5%, as long as withdrawals are not made. If the company is in the special regime regarding earnings withdrawals, taxes are only paid when dividends are distributed. This tax gap evidently produces incentives to create companies for the sole purpose of reducing taxes, by leaving all personal savings as tax-exempt retained earnings.<sup>8</sup> If all profits are distributed, this mechanism does not generate an issue for horizontal tax equality. However, data from the Internal Revenue Service shows that less than 30% of company profits are distributed annually (Jorrat (2009)). Still, the horizontal inequality generated in this case would potentially be only temporary since company earnings would eventually be distributed through dividends and these would pay income tax in accordance to their tax bracket, in addition to the marginal rate over the total income of the owner of the company. In that sense, the magnitude of inequality would be limited to financial gain by delaying tax payments. However, there are many legal ways to withdraw company earnings as if it was a company expense or disguising them as reinvestment, resulting in horizontal inequality that not only remains over time but also is of far greater magnitude.

The final result of a tax system based on withdrawals and special regimes that favors income from company earnings, in taxation terms, is that employed workers systematically pay more taxes than people with identical incomes from several different sources (Gordon (1998), and Slemrod Gordon (2000), and Pirttilä Selin (2011)).

In general, any effort to evade or avoid taxes is a loss of efficiency. If, in addition, high-income individuals can avoid or evade taxes more easily not only destroys horizontal equality of the tax system but also vertical equality (Andreoni, Erard and Feinstein (1998)).

---

<sup>7</sup> Additionally multiple personal and household expenses are reported as costs of the Company.

<sup>8</sup> The Private Investment Funds, created in 2000, are a good mechanism to do this, since they are not taxpayers of the law of income and returns on their investments are not subject to tax of First Category.

In terms of magnitude, as shown in Table 2, the number of companies benefiting from these special arrangements in Chile is significant and represents a little less than 30% of all existing companies.

**Table 2: Use of special tax regimes**

	<b>Number of Companies</b>	<b>% Companies</b>
14Bis	30345	3.14%
14Ter	89363	9,24%
14Quater	9301	0.96%
Presumptive Income	147835	15.29%
<b>Total</b>	<b>276844</b>	<b>28.64%</b>

Source: Own calculations based on data from IRS.

Even more surprising, as shown in Table 3, is that a significant amount of companies using presumptive income taxes have economic activities in sectors that do not belong to the three economic sectors that are entitled to use the presumptive income tax regime. This is because companies can report activities in more than one economic sector, allowing a business to report part of its profits as a presumptive income approved sector and other income in another that is not. This opens up additional opportunities for tax evasion as earnings can be transferred from activities that belong in the general tax regime to presumptive taxes and thus pay less tax than would otherwise apply.

**Table 3: Fraction of Companies Using Presumptive Income Taxation by Economic Sector**

<b>Economic Sector</b>	<b>Code</b>	<b>% of all Firms under Presumptive Taxes</b>	<b>% of all Firms in the Economic Sector</b>
Agriculture, livestock, hunting and forestry	A	33.66%	58.79%
Fishing	B	0.05%	2.67%
Mining and Quarrying	C	1.16%	28.78%
Non-metal Manufacturing Industries	D	0.74%	2.03%
Metal Manufacturing Industries	E	0.42%	1.80%
Electricity, Gas and Water	F	0.04%	2.04%
Construction	G	1.22%	2.51%
Wholesale and Retail Commerce, Repair of Vehicles and Housewares	H	7.71%	3.41%
Hotels and Restaurants	I	0.61%	2.05%
Transport, Storage and Communications	J	43.21%	66.37%
Financial Intermediation	K	0.39%	0.92%
Real Estate, Renting and Business Activities	L	2.56%	2.87%
Public Administration and Defense, Social Security Plans	M	0.00%	8.45%



Education	N	0.12%	1.57%
Social and Health Services	O	0.35%	1.78%
Other community, social and personal services	P	2.09%	7.04%
Building and Condominium Administration	Q	0.04%	22.43%
Extra-territorial Organizations	R	0.00%	0.00%
Not specified	- 9999	5.64%	18.16%

Source: Own calculations based on data from IRS.

### 3. Tax Reform Simulation

To quantify the effects of a tax reform consistent with this objective, administrative microdata from the Internal Revenue Service was used to simulate a reform that increases the base for the income tax and significantly reduces current special regimes, but uses cash flow for small businesses as the tax base to avoid generating high compliance costs for them. More specifically, the presumptive income tax system is eliminated and replaced with taxation under article 14Ter of the Income Tax Law.

#### 3.1. Methodology and Data

Simulations in this study use IRS unnamed administrative microdata for the tax year 2010. Specifically, the IRS created a stratified random sample of taxpayers from the universe of taxpayers in the 2010 tax year, according to the following Procedure:

- 1) For all taxpayers who filed Form 22 (Complementary Global Income Tax), the value of code 170 (tax base) is extracted. For those who do not declare for code 170 or declare zero, code 163 (taxable income of Second Category Tax from multiple employers) is extracted.
- 2) Then, taxable income declared in the form F1887 (payroll taxes for dependent workers who do not file F22) is then recorded. For those who did not submit the form F1887, declared income from F1812 is extracted (taxable income of pensioners who do not declare F22).
- 3) From the data obtained in the previous two steps, a list of taxpayers categorized by their income tax bracket is collected in one database. Random samples are created using this taxpayer population stratified by income tax brackets according to the table of income tax (2% sampling error with a confidence interval of 95%). The result is a stratified random sample of 18,290 unnamed taxpayers, as shown in Table 4.

**Table 4: Random Sample of Taxable Income per Bracket**

<b>Taxable income bracket</b>	<b>Sample size</b>
From 0 to 13.5 UTM	2401
From 13.5 to 30 UTM	2395
From 30 to 50 UTM	2379
From 50 to 70 UTM	2349
From 70 to 90 UTM	2304
From 90 to 120 UTM	2265
From 120 to 150 UTM	2071
Over 150 UTM	2130
<b>Total Displays</b>	<b>18294</b>

Source: Own calculations based on data from IRS.

For the sample of taxpayers generated by the IRS, both the personal income of each taxpayer and company income of which they are shareholders is then calculated. For the calculation of personal income, the tax forms used are: F22 (complementary global income tax); F1887 (dependent work); F1812 (pensions); F1899 (voluntary pension savings); F1817 (income from investment funds), F1818 (income from mutual funds), F1894 (capital gains); F1890 (real interest earned) and F1889 (earnings withdrawals from tax exempted saving accounts). For the calculation of business income, information is extracted from forms F22 (corporate income tax), F29 (monthly VAT tax credits and debits) and F1887 (payroll retained from employees) for all taxpayers (reporting and reported) in the tax forms F1886 (distributed profits from closed companies), F1884 (dividends from stocks owned) and F1885 statements (dividends from stocks owned and held in custody by third parties).

One of the biggest difficulties in the process of allocating business earnings to owners and shareholders is that there are many companies with other companies as shareholders, which requires multiple iterations to be able to identify the final owner who is a natural person. For this purpose, nine iterations were performed and approximately \$5,500,000 millions of company earnings can be attributed to natural person partners. This amount corresponds to about 65% of the total earnings of all companies. The resulting 35% may correspond to foreign companies or Chilean partners involved in the company through a company abroad, but this cannot be determined with the information in the available data.

Table 5 shows, for each iteration, the number of companies whose earnings are attributed to natural partners and the number of natural person partners in the sample who are taxed for their company earnings.

**Table 5: Taxation of Company Earnings to Partners**

<b>Iteration</b>	<b>No. Companies</b>	<b>No. Partners</b>
1	5408	5742
2	1438	3757
3	638	3381
4	391	3205
5	263	3127
6	198	3048
7	158	3040
8	138	3034
9	112	3002

Source: Own calculations based on data from IRS.

In the first iteration, the earnings of 5,408 companies, based on their participation in the company, were attributed to 5,742 shareholders who are natural persons. In the second iteration, the earnings of 1,438 companies whose shareholders were other companies are attributed to 3,757 shareholders who are the owners of the companies that own these 1,438 businesses. This process is repeated nine times until the earnings of only 112 companies are attributed to just over 3,000 partners that are recognized natural persons. The fact that strongly draws attention, however, is that there are at least three thousand people in Chile for whom there is a minimum of 9 levels of partnerships between the earnings of a company and the natural person partner.

Finally, it is important to mention that data is only available for companies that distributed earnings to its shareholders during the 2010 tax year only. Hence, the results of the tax reform simulation should be interpreted as a lower limit, at least regarding their effects on tax collection.

In consideration of the data used, the comparison base for the tax reform that is being simulated is the information from the tax year 2010. Table 6 shows the number of taxpayers by income tax bracket along with the respective average and marginal tax rates for 2010. The base revenue is US\$5,112,537,415 and corresponds to the sum of First and Second Category and Global Complementary tax collections for the tax year 2010. Revenue from additional tax and mining royalties are excluded from the collection base.

**Table 6: Taxpayers of Tax Year 2010**

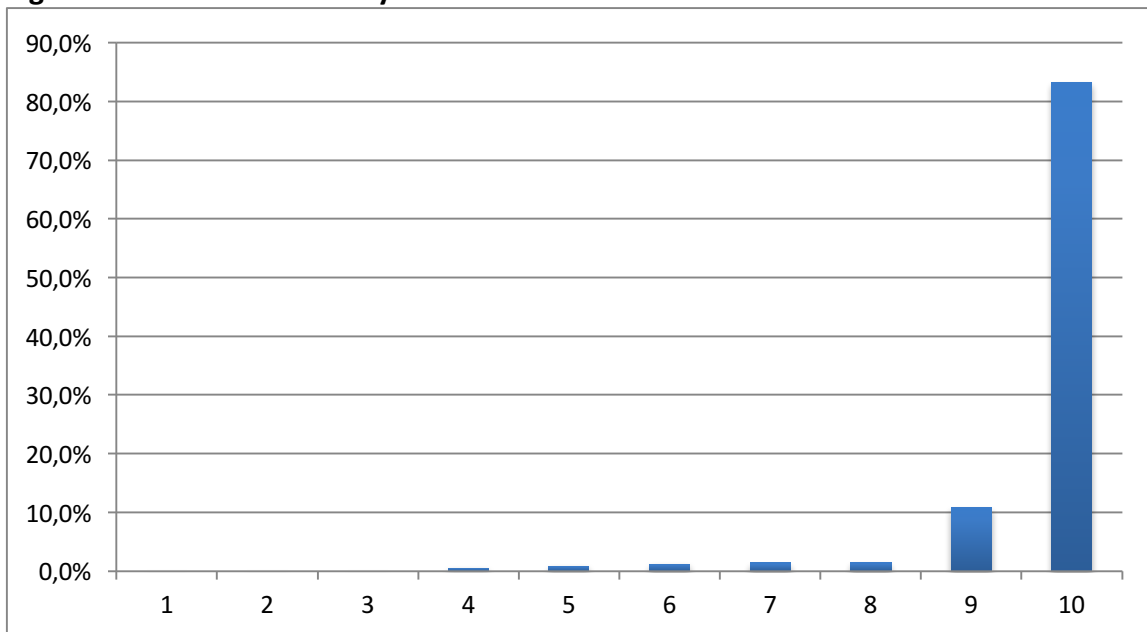
Income Bracket	Marginal Rate	Taxpayers		Average rate
1	0%	6,505,449	82.2%	0.1%
2	5%	916,418	11.6%	1.6%
3	10%	254,639	3.2%	4.4%
4	15%	106,384	1.3%	7.1%
5	25%	56,410	0.7%	10.3%
6	32%	39,796	0.5%	14.5%
7	37%	15,006	0.2%	19.0%
8	40%	18,783	0.2%	28.7%
		7,912,885	100%	

Source: Internal Revenue Service, Chile.

When analyzing the different sources of income in the expanded sample of IRS taxpayers (using the sampling expansion factors for this purpose), the data shows a high concentration of capital income, such as dividends and capital gains in the richest decile.

Figure 2 shows the distribution of income from dividends reported by taxpayers in the tax year 2010. As shown in the figure, 83.2% of all dividends reported belong to taxpayers in the highest income decile and 10.8% to those in the second richest decile, concentrating 94% of dividend income in the highest income quintile.

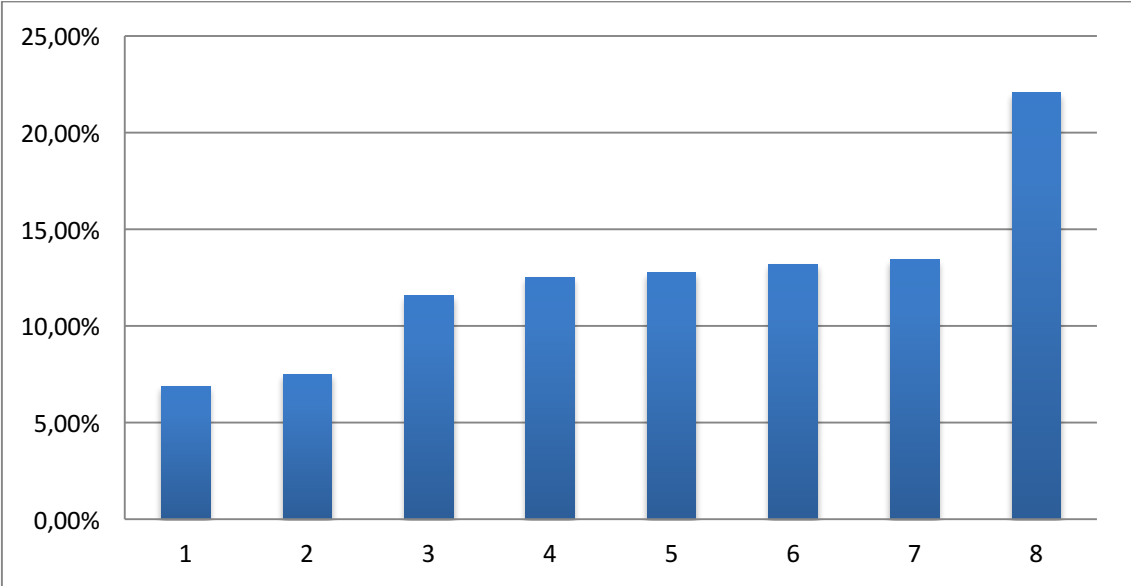
**Figure 2: Dividend income by Income Decile**



Source: Own calculations based on data from IRS.

When analyzing the distribution of dividends reported by income tax bracket, as shown in Figure 3, the concentration is even greater and 86.6% of all dividends belong to 6.1% of higher income taxpayers.

**Figure 3: Dividend income by Income Tax Bracket**

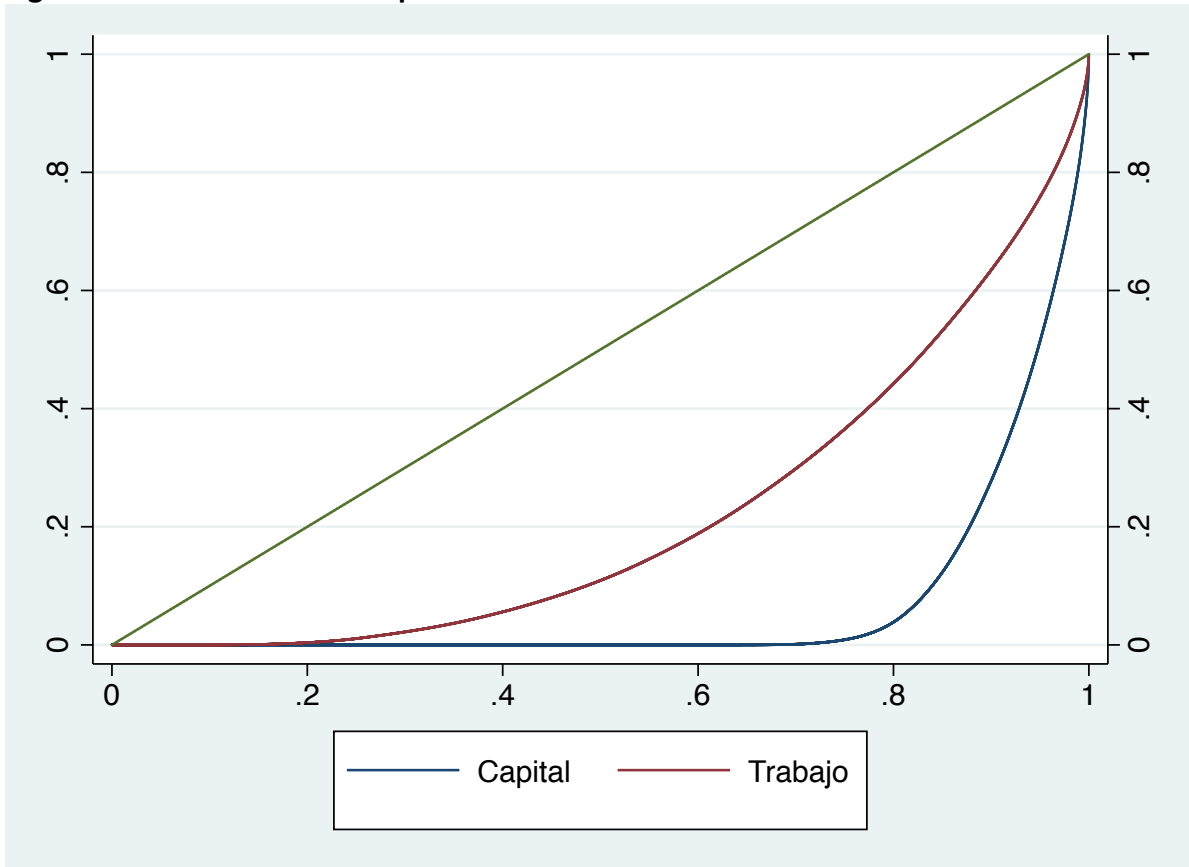


Source: Own calculations based on data from IRS.

One way to compare the existing inequality between the labor income of taxpayers and income from capital is to compare the distributions between the two sources of income and the Gini coefficient of each. Figure 4 shows the Lorenz curves for labor and capital income reported by taxpayers in Chile in 2010. The earnings correspond to income from wages, salaries and pensions (art. 42 No.1 of the income tax law), fees (art. 42 No.2 of the income tax law) and salaries of directors (art. 48 of the income tax law). Capital revenues correspond to income from dividends, capital gains (art. 17 No.8 of the income tax law), income from capital gains (art.20 No.2 of the income tax law), withdrawals from companies (special tax regimes on art. 14, 14Bis and 14Quater) and income from companies with simplified accounting (cash flow tax regime 14Ter). The Gini coefficient is 0.61 for labor income and 0.85 for capital income.<sup>9</sup>

<sup>9</sup> These coefficients are not comparable to the standard measure of Gini that uses the per capita household income or household income, since in this case the measure is based on individual income taxpayers for which tax information is available.

**Figure 4: Lorenz Curves for Capital Income and Labor**



Source: Own calculations based on data from IRS.

Most of the existing inequality in capital income compared to labor income has important implications regarding tax policy, especially concerning their redistributive effects. Specifically, any tax benefit that favors some source of capital income, favors high-income taxpayers in a much greater proportion and increases inequality. Similarly, special tax regimes that allow capital income to avoid or pay less tax benefits people with higher incomes and exacerbates inequality.

### 3.2 Results of the Tax Reform Simulation

In order to replace the income tax system under presumptive income tax to 14Ter, it is necessary to calculate the income tax base based on cash flow of each company. For this purpose, the VAT form for each company is used to calculate its operating cash flow, which is then assigned as the total income of the company. The earnings of each company are then taxed to each shareholder, according to their ownership of the company<sup>10</sup>, and the income tax that each partner should pay is calculated. This not only allows the

<sup>10</sup> This might seem obvious but it is not, as in Chile profits can be distributed in any proportion in the case of firms not publicly traded. For example, a shareholder with 1% can received 99% of the profits.

quantification of the effects of changing presumed income for 14Ter but also how company earnings are distributed under the presumed tax system between different taxpayers according to their income.

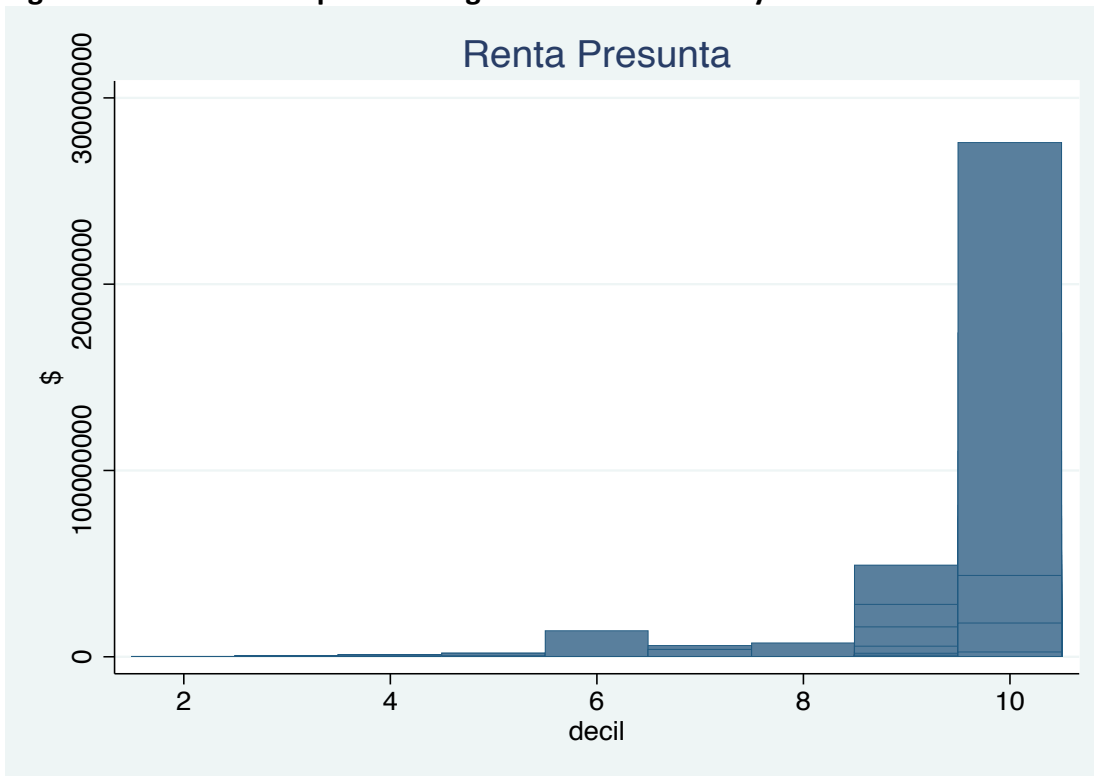
The sample from the Internal Revenue Service has 18,098 companies taxed using the presumptive income system, which are representative of the 147,835 firms using presumptive taxes in the population of firms in Chile.<sup>11</sup> A first fact that draws attention in the data is that there are many companies using presumptive income even though their economic activity does not belong to agriculture, mining or transportation, which are the economic activities that can use presumed income. The reason that this happens is because they are companies that have more than one economic activity and at least one of them can be taxed under presumed income. This potentially allows the transfer of earnings from activities that are not taxed under the presumptive income to another that can. A second surprising fact from the data is that while the use of presumptive income taxes should be associated with small low-income taxpayers, in practice 86.5% of the profits of companies declaring under the presumed income system belong to taxpayers in the highest income decile.

Figure 5 shows the distribution of the total amount of company earnings of presumed income by the income decile of company owners. As shown, the vast majority of earnings are concentrated in the richest 20%, with a much higher proportion in the top 10%.

---

<sup>11</sup> These figures do not include private taxis and collective taxis.

**Figure 5: Profits of Companies using Presumed Income by Income Decile**

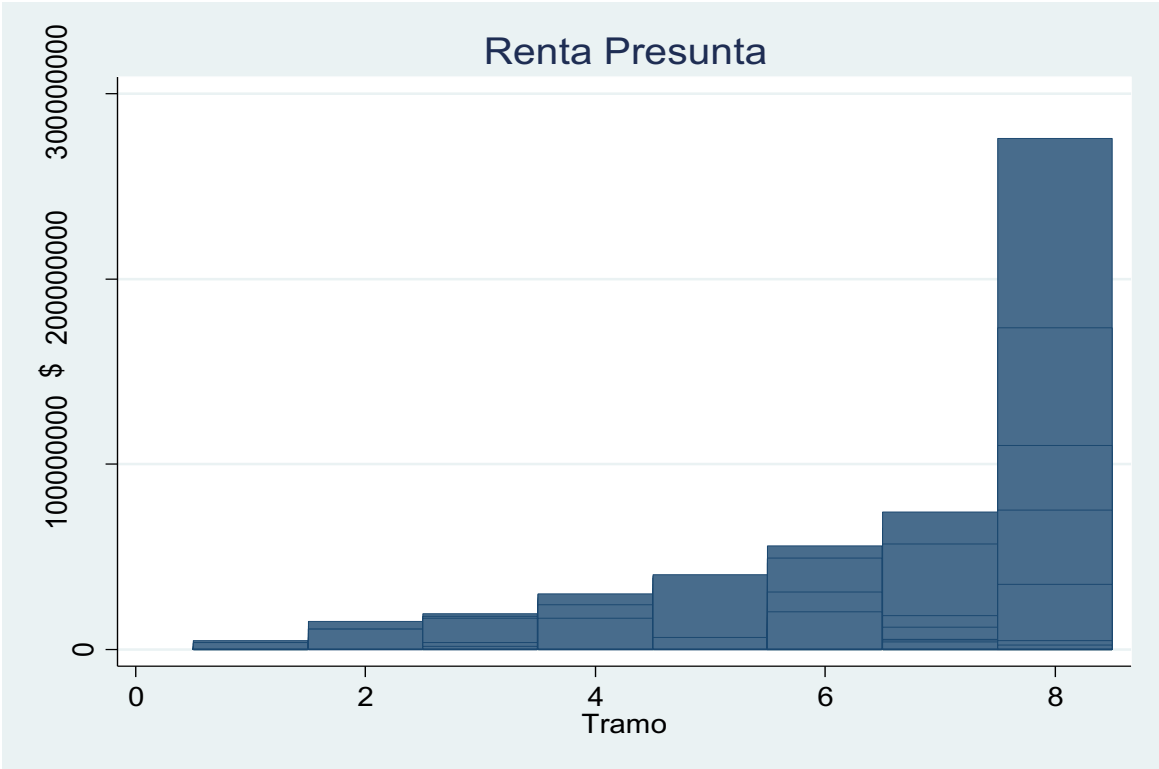


Source: Own calculations based on data from IRS.

If the distribution by income of each taxpayer according to the income tax table is considered instead of the distribution of total business earnings under presumptive income taxation by income decile, the result is even more surprising. As seen in Figure 6, the company earnings under presumptive income are heavily concentrated in the last income tax bracket, corresponding to 0.4% of highest income individuals. Through owning companies that pay taxes under presumed income, these taxpayers have succeeded in lowering their income tax bracket and sharply reducing what they should pay in taxes.



**Figure 6: Earnings of Companies using Presumed Income by Income Bracket**



Source: Own calculations based on data from IRS.

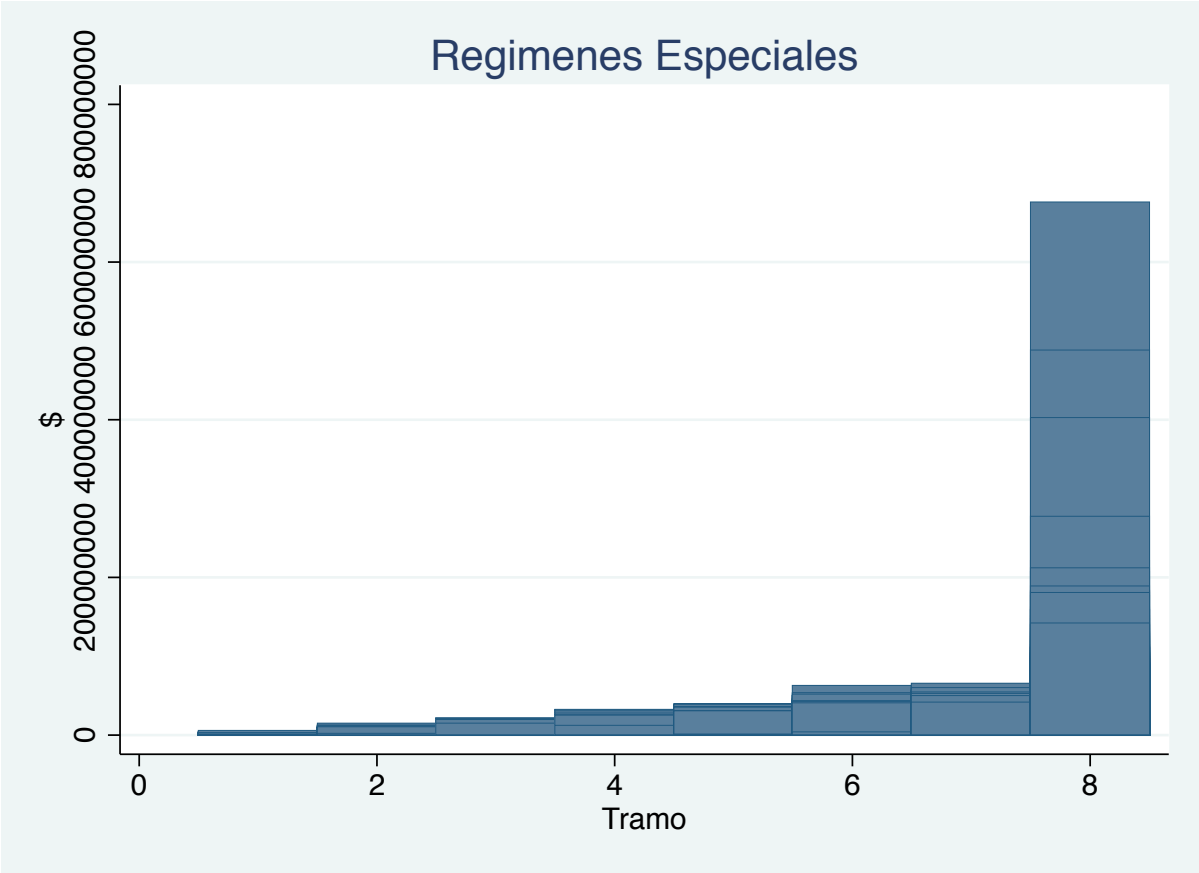
A tax reform that replaces the presumptive income tax system for 14Ter will restore horizontal equality without increasing compliance costs on behalf of smaller companies, and creates strong incentives for investment since asset purchases would have in practice instant depreciation.

The simulation of this reform with the microdata of the IRS shows that total income tax revenue would increase by about US\$60.4 million, an increase of 1.18%.<sup>12</sup> A more important observation, however, is that the tax collection of presumptive income taxpayers today would increase by 95.5%. Additionally, none of the taxpayer who was originally in the first income tax bracket moves up after the reform. In other words, those who were exempt remain exempt and the reform affects only individuals with higher income who managed to lower their income tax bracket by using companies under presumed income to generate or at least report their income, which corresponds to 1,577 taxpayers.

<sup>12</sup> As mentioned previously, it is not included in the base collection of the additional tax revenue and the specific tax on mining.

A special element to consider in this reform is what happens with the taxes paid by the owners of companies benefiting from special tax regimes 14Bis and 14Quater. In Figure 7, the distribution of total company earnings among taxpayers according to their income tax bracket, as defined by the income tax scale, is shown. As in the case of companies taxed under presumptive income, the largest proportion of profits correspond to individuals who would be in the higher end tax brackets and manage to lower their base income tax through the use of companies under these special tax regimes.

**Figure 7: Earnings of Companies using Special Tax Regimes by Income Bracket**



Source: Own calculations based on data from IRS.

Consistent with the data presented in the figure above, when seeing who are the company owning taxpayers that would be affected by higher taxation with this tax reform, it is observed that 77.5% are taxpayers in the 10<sup>th</sup> decile (highest income individuals) and 22.5% are taxpayers in the 9<sup>th</sup> income decile. In other words, a reform that replaces the tax regimes 14Bis, 14Quater, and Presumptive Income for 14Ter mainly affects individuals in the 10% highest income group and has no impact on the 80% lower income segments.

#### **4. Conclusions**

Independent of whether raising tax revenues is needed or not, a tax reform that eliminates exemptions and mechanisms to avoid “paper” companies in order to avoid taxes is undoubtedly a reform with very positive effects. On the one hand, it increases economic efficiency by reducing distortions between sources of income and lower enforcement costs. On the other hand, it restores horizontal tax equity by allowing people who earn the same income to pay the same amount in taxes, regardless of the sources of their income and the economic sector where they work.

Consistent with this idea, based on simulations and knowledge in existing literature regarding the effect of taxes and the principles of good tax policy, a tax reform for income tax that replaces presumptive income tax regimes, 14Bis and 14Quater systems with the existing 14Ter regime, in addition to extending this regime to legal entities and companies that do not pay VAT tax, increasing the limit to 25,000 UF (consistent with the definition of Small Business from the Ministry of Economy and CORFO) would have positive effects in Chile.

Additionally, a reform of this type significantly reduces administration, enforcement and compliance costs of the tax system. Finally, this reform restores horizontal equity in the income tax system and greatly reduces the incentives to set up companies artificially in order to reduce the tax burden.

#### **References**

Alm, J., J. Martinez-Vazquez and S. Wallace (2004), *Taxing the Hard-to-Tax: Lessons from Theory and Practice*, Amsterdam, Elsevier

Altshuler, R., B. Harris, y E. Toder (2010), “Capital Income Taxation and Progressivity in a Global Economy”, Tax Policy Center Working Paper.

Andreoni, J., B. Erard y J. Feinstein (1998), “Tax Compliance”, *Journal of Economic Literature* 36.

Auten, G. Y C. Robert (1999), “The Effect of Income Taxes on Household Behavior”, *Review of Economics and Statistics* 81(4).

Ballard; C.L., J.K. Scholz y J.B. Shoven (1987), “The Value Added Tax: A General Equilibrium Look at its Efficiency and Incidence”, en M. Feldstein (ed.), *The Effects of Taxation on Capital Accumulation*, University of Chicago Press.

Bird, R.M. (1974), *Taxing Agricultural Land in Developing Countries*, Harvard University Press: Cambridge.

Bird, R.M. (1992), *Tax Policy and Economic Development*, John Hopkins University Press: Baltimore.

Bird, R.M. y S. Wallace (2004), "Is it Really so Hard to Tax the Hard-to-Tax? The Context and Role of Presumptive Taxes", en J. Alm et al. (eds.) *Taxing the Hard to Tax: Lessons from Theory and Practice*, Emerald Group Publishing.

Cordes, J.J. (1999), "Horizontal Equity", en J.J. Cordes, R.D. Ebel y J.G. Gravelle (eds.), *The Encyclopedia of Taxation and Tax Policy*, The Urban Institute Press..

Diamond, P. y E. Saez (2011), "The Case for a Progressive Tax: From Basic Research to Policy Recommendations", *Journal of Economic Perspectives* 25(4).

Gordon, R.H., y J. Slemrod (2000), "Are 'Real' Responses to Taxes Simply Income Shifting between Corporate and Personal Tax Bases?", en Slemrod, J. (Ed.), *Does Atlas shrug?: the Economic Consequences of Taxing the Rich*, Harvard University Press, Cambridge.

Gruber, J. y E. Saez y (2002), "The Elasticity of Taxable Income: Evidence and Implications", *Journal of Public Economics* 84(1).

Johnson, P. y G. Myles (2011), "The Mirrlees Review", *Fiscal Studies* 32(3).

Kopczuk, W. (2005), "Tax Bases, Tax Rates and the Elasticity of Reported Income", *Journal of Public Economics*, 89(11-12).

Mirrlees, J. (1971), "An Exploration in the Theory of Optimal Income Taxation", *Review of Economic Studies*, 38.

Mirrlees, J., S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles y J. Poterba (eds) (2010), *Dimensions of Tax Design: The Mirrlees Review*, Oxford: Oxford University Press for Institute for Fiscal Studies.

Musgrave, R. (1990), "Reaching the Hard-to-Tax", en (R.M. Bird y O. Oldman (eds.), *Taxation in Developing Countries*, John Hopkins University Press: Baltimore.

Piketty, T. y E. Saez (2003), "Income Inequality in the United States, 1913-1998", *Quarterly Journal of Economics* 118(1).

Piketty, T. y E. Saez (2012), "A Theory of Optimal Capital Taxation", NBER Working Paper No. 17989.

Pirttilä, J. y H. Selin (2011), "Income Shifting within a Dual Income Tax System: Evidence from the Finnish Tax Reform of 1993", *Scandinavian Journal of Economics* 113(1).

Saez, E., J. Slemrod y S. Giertz, (2011), "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review", *Journal of Economic Literature* 50(1).

Slemrod, J. y W. Kopczuk (2002), " The Optimal Elasticity of Taxable Income", *Journal of Public Economics* 84(1)

Slemrod, J. y S. Yitzhaki (2002), "Tax Avoidance, Evasion, and Administration", en A. Auerbach y M. Feldstein (eds.), *Handbook of Public Economics*, Vol. 3, Elsevier.

Terkper, S. (2003), "Managing Small and Medium-Sized Taxpayers in Developing Countries", *Tax Notes International* 29.

Zee, H. (1998), "Revenue, Efficiency, and Equity Aspects of Major Taxes in Chile: A Preliminary Assessment", *Documento de Trabajo No 42*, Banco Central de Chile.