

## Tax Reform: Contributions to the Debate

**The review of the empirical literature suggests that permanent tax increases may have harmful effects on the economic activity, which normally act through minor investment. In the particular case of the Chilean economy, the contractive effect on investment would be more significant for the medium and small business (PYME), due to their financing constraint from external sources. This is a key issue, since these businesses are the greatest employment generators.**

In the last weeks, different actors of national politics have proposed again a tax reform with the aim of increasing the tax burden. They argue the need to rely on more resources to face the higher spending on education and social projects, such as the extension of the maternity leave and the elimination of the 7% health contribution. Although the Ministry of Finance, Felipe Larraín, has discarded the need of increasing taxes to finance this spending, since the economic growth itself and the reallocation of expenses should provide the resources, it is clear that this discussion will continue.

In general, when a tax increase is put forth, its effects on the economic activity and the country's welfare are not discussed; therefore, it is very helpful to review the empirical evidence both national and international concerning the possible effects of a tax increase on investment, employment and GDP growth.

On the other hand, it is also argued that a tax reform could help mitigate inequity, suggesting that the tax burden would be the great redistributive tool. The empirical evidence analyzed in the following paragraphs discards this hypothesis. Moreover, an initiative regarding higher taxes could end up increasing inequity by reducing investment, employment and economic growth, and this would adversely affect the poorest because of higher unemployment rates.

Therefore, we have hard evidence along the lines of the arguments presented in recent Public Issues<sup>i</sup>, indicating that the best way to increase tax revenues, in a permanent and sustainable manner, to finance education policies which improve quality and equity, is growth, which increases the tax assessment base year after year. In fact, a 5% growth would imply additional incomes for the Treasury around US\$2,500 millions.

### **The Effect of Higher Taxes on Growth: International Evidence**

The first thing when trying to assess the impact of taxes is to understand what are going to be the transmission channels and key economic variables through which growth will be affected.

Employment is one of the channels traditionally identified. When imposing a tax on the income derived from work, the latter becomes less attractive, so individuals prefer to work less (substitution effect), but the person who pays the tax is also impoverished so he/she has to work more (income effect). The empirical question is what the predominant force is and which individuals present a greater response.

Another particularly sensible variable is investment; here, literature distinguishes at least two channels through which there are distortions and which should not be overlooked: capital cost increase and internal funds availability.

When financing a project, investors demand a return in harmony with the market and the risk they take. But in a world with corporate income taxes, the investors demand a net return free from all these liabilities, that is, what actually ends up in their pockets. So, the greater the tax, the more the return before taxes demanded by the market to the projects, so that after being taxed they may cover the return originally demanded. Thus, in the presence of an increase of these taxes we can expect a corporate capital cost increase and a downward trend of the investment.

On the other hand, the internal funds availability refers to the returns obtained by the companies, which they can use to finance their investment projects. Small and emerging businesses are more dependent on this type of internal financing, since they are more risky, and are subject to external financing constraints: either banking or debt issuance or shares. In this context, a tax on retained earnings

reduces the available funds for reinvestment, thus greatly impairing the medium and small businesses (PYME).<sup>ii</sup>

The theory usually proposes that taxes distort the market's economic signals, leading to inefficient resources allocations, in other words, production is not optimally organized and the consumers' decisions are altered, which entails consequential effects on the country's welfare and its competitiveness.

Nevertheless, when it comes to the empirical analysis, there are important methodological difficulties for determining the effect of taxes on the GDP. For example, when using tax revenue as a measure of the tax burden, there is a simultaneity problem with the variable which is sought to explain (GDP), since changes in the revenue may be due to variations in the tax structure for exogenous reasons; for example, tax increases to solve a fiscal deficit problem; legislated tax changes with a countercyclical purpose, for example, to stimulate the economy when there is a downturn, or simply changes due to increases in the tax assessment base which in turn depends on the size of the economy. In this perspective, we have the valuable contribution of Romer and Romer<sup>iii</sup>, who created a database for the United States; through a review of the press and official documents for the period 1945-2007, they were able to identify when tax changes are a consequence of an "exogenous" reform, for example, a republican president who promised a tax cut in his campaign, or if they are simultaneous to the movements of the explained variable, such as a revenue increase due to economic growth. The authors obtain rather surprising results for the economy of the USA. In fact, a **"legislated exogenous"<sup>iv</sup> tax increase of 1% of the GDP would reduce the product level by almost 3% throughout the next 3 years.**

The above result seems solid for different specifications controlling by variables which could affect growth.<sup>v</sup> Furthermore, Romer and Romer conclude that from these tax increases, the "exogenous" ones, which are not intended to reduce the deficit inherited by the former administration, would be particularly costly regarding its effect on the GDP.

Other authors using the same data and alternative methodologies obtain more moderate results, but pointing in the same direction. Monacelli, Perotti and Trigari<sup>vi</sup> emphasize the importance of distinguishing among the different types of taxes: personal, corporate, social security and indirect. **They conclude that a tax**

**increase of 1% of the GDP, without modifying the existing structure, has an important and negative effect on employment (it increases unemployment by 0.5%), worked hours and the probability of finding a job. This effect is emphasized if the increased tax revenues come from higher taxes to the businesses.** Likewise, Favero and Giavazzi<sup>vii</sup>, with a less restrictive approach, find that a tax increase of 1% of the GDP has rather an effect of 1 to 1 than 1 to 3 on the GDP.

Above and beyond the evidence for the USA, Ilzetzi<sup>viii</sup> uses a panel of 19 developing countries and 9 high-revenue countries to analyze the effect of tax reforms on the product in a more transversal way. Unfortunately, as there is no international database available which clearly distinguishes the “endogenous” and “exogenous” tax changes, it is impossible to fully control by the possible biases mentioned above. However, using different analysis techniques, the author obtains interesting results for the Chilean discussion. Among the results, we can highlight that the increase both of the personal marginal tax and the average marginal rate of the tax system has a negative effect on growth. It also stresses that it is important for the countries analyzing the tax reform to keep in mind their debt levels; the GDP of those with less debt levels are more sensible to the tax increases, as is eventually the case of Chile. This is so, because in the countries with high debt levels, the economic agents probably have internalized tax increases in their permanent revenue expectation.

Finally, we always have to remember that, when there is an impact on the product and the resources allocation, the taxes significantly reduce people’s welfare. When a tax imposes a charge on a good, fewer unities are sold; these units are valued by consumers at a higher price than its real price and their production cost is less than its sale price. Then, if we consider that the welfare obtained by a person when buying a good is the difference between what he paid for the good and in how much he values the good, we have that the tax imposes the consumers a loss. Similarly, the gain of a producer comes from the difference between the cost and the sale price, so the tax also affects him. Thus, a minor welfare of society, derived from less advantageous transactions, is known as social loss and it is actually a cost that has to be taken into account when evaluating any tax change.<sup>ix</sup> In doing so, it would be advisable that all tax increase proposals at the Congress include the effects on welfare.

### The Effect on Investment: Evidence from Chile

In Chile, the important tax reform since the mid-eighties<sup>x</sup> has offered a unique opportunity for the researchers around the world to study the potential effects of tax structure changes on the economic activity and, particularly, on one of the great determinants of growth: investment. Cerda and Larraín<sup>xi</sup> use aggregate data and a panel of more than 500,000 Chilean manufacturing companies – large, medium and small – in order to study the effects of tax changes to the retained earnings between 1981 and 1996 on the investment they had made. From the aggregate data, they conclude that **a 10% increase in the retained earning tax rate reduces private investment by around 1% of the GDP**. From the disaggregate data, they conclude that **a similar 10% increase reduces the firms' capital stock by an average 0.8%**, an impact which is **still greater for the small businesses, with a capital stock reduction of 1.7% versus 0.2% for the large companies**. This result should be seriously considered in Chile, where in 1996, when the study's observations ended, 75% of the sales, but only 10% of the employment, came from the large companies, while 50% of the employment came from the medium and small businesses. The authors emphasize that this difference in the response of the PYME and the large companies is probably derived from the limited access to the financing sources of the first ones. Hsieh and Parker<sup>xii</sup> further develop this last issue, and they even state that the investment boom in Chile until 1997 was mainly financed with retained earnings and not with external financing, which would have been impossible without this tax cut to the businesses. The authors insist on the great sensibility of investments regarding increases of this tax, especially in countries with less developed financial markets, where limited access to credits may entail that highly profitable projects are not carried out because the company does not have enough internal financing. Based on macroeconomic evidence, Vergara<sup>xiii</sup> even ascribes **a private investment increase of more than 3% of the GDP to the tax reform of the eighties**.

### The Effects of the Tax Structure

Regardless of the existing evidence concerning potential damages on the economic growth derived from an increase in the total tax burden level, it is important to find out how a different tax system structure may have an influence on productivity and economic performance. A detailed work of the OECD<sup>xiv</sup> elaborates, considering revenue-neutral tax changes, a ranking of the most harmful taxes for

development which can be a good first approach to the subject. It can be inferred from this study that the way in which a certain level of revenue is obtained is fundamental, and that the most harmful taxes for growth are those on income, and the corporate one is more harmful than the personal one, which is in line with the evidence given for Chile in the above section. On the contrary, the less distortionary and erosive for growth is consumption taxes (VAT) and property taxes. In brief, for a sample of 21 member countries of the OECD, **shifting the origin of the 1% tax revenue from income taxes to VAT and property taxation increases the GDP per capita between 0.25% and 1% in the long run.** The authors also argue that a pro-growth system has to be simple, broad-based, with relatively flat rates and few exemptions.

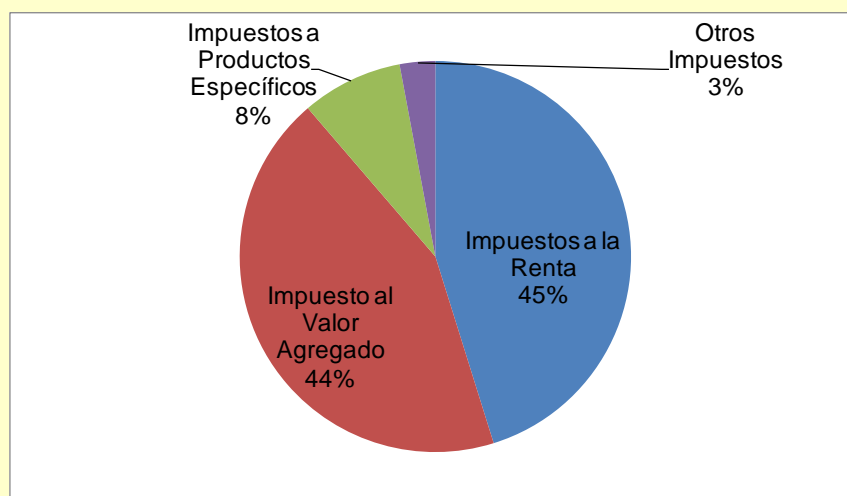
### The Tax Redistributive Effect

Equity and redistribution are issues which always come up when discussing a tax reform, but according to the revised evidence they should not be the center of the tax debate; instead, the core should be fiscal spending and its focalization. A usual criticism (and many times groundless) is the regressivity of the VAT, an easy-to-collect tax and little distortion which our country has adopted as one of its major tax receipt forms. It is often argued that the VAT is a regressive tax, since the poorest spend a bigger fraction of their income (in food mainly) and, consequently, they pay a greater proportion of their income in taxes. Instead, individuals with higher incomes save part of their incomes, thus paying proportionally less taxes. This analysis is correct from a static point of view, but not intertemporally. It is clear that saving today means higher consumption and higher VAT payment tomorrow. Therefore, the VAT is a neutral tax and, as Valdés<sup>xv</sup> demonstrates it, a VAT cut is regressive, because it benefits mostly those who saved in the past.

Engel, Galetovic and Raddatz<sup>xvi</sup> argue that the redistribution degree desired by our society must be achieved by collecting taxes in the least distortionary way possible, and that redistribution should be reached through social spending. They illustrate the taxes' inefficiency as a redistributive tool by comparing the Gini<sup>xvii</sup> index and the ratio<sup>xviii</sup> of the incomes from the richest quintile versus the poorest quintile, for different taxation scenarios.

Chart 1

### TAX REVENUE COMPOSITION, 1<sup>ST</sup> SEMESTER 2011



Source: Budget Performance Report, 1<sup>st</sup> Semester 2011.

**In fact, when calculating incomes before taxes and social spending, we get a Gini of 0.4883 and a ratio of 13.31, when aggregating only the taxes, but before spending, we get a Gini of 0.4959 and a ratio of 13.97, that is, very similar values. Even for an extreme case, if the VAT were 25%, the Gini would be 0.5003 and the ratio would be 14.44, which differs only slightly from the original structure. Finally, if we include the taxes and social spending, that is, the actual situation, we obtain a Gini of 0.43 and a ratio of 8.06, a very significant change in favor of equity.** This emphasizes the importance of considering not only the tax redistributive effect but also the tax effect plus the redistributive social spending effect financed by the tax. Thus it is better to have a tax that can collect a great amount for social programs, than a distortionary tax which does not collect much, such as the income tax.

### Conclusions

The review of the empirical literature suggests that permanent tax increases may have harmful effects on the economic activity, which normally act through minor investment. In the particular case of the Chilean economy, the contractive effect on investment would be

more significant for the medium and small business (PYME), due to their financing constraint from external sources. This is a key issue, since these businesses are the greatest employment generators.

In relation to the tax redistributive effects, the available evidence is conclusive by stating that there is no such effect. Instead, the social spending effect is indeed relevant for the inequity indicators. This suggests that tax revenue must be as efficient as possible in the sense of minimizing the distortionary effects of taxes which impair growth, and concentrate the redistributive role in well focalized fiscal spending aimed at the most disadvantaged ones. To insist on a tax raise could even generate negative effects on the income distribution by reducing the employment possibilities of the poorest.

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<sup>i</sup> Economic Growth. The Best Tax Revenue Source. Libertad y Desarrollo. Public Issues Nr 1025, 2011.

<sup>ii</sup> The limit extension of reinvested earnings exempt from taxes approved last year allows facing this problem, at least partially.

<sup>iii</sup> Romer, Christina and Romer, David. "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks", 2010.

<sup>iv</sup> In other words, that which was legislated but is not motivated by changes in the product or other variables which affect the product.

<sup>v</sup> Although results are statistically relevant, the confidence interval is wide.

<sup>vi</sup> Monacelli, Tommaso; Perotti, Roberto and Trigari, Antonella. "Taxes and the Labor Market", Banco Central de Chile, Work Document Nr 623, 2011.

<sup>vii</sup> Favero, Carlo and Giavazzi, Francesco. How Large are the Effects of Tax Changes?, 2009

<sup>viii</sup> Ilzetzki, Ethan. "Fiscal Policy and Debt Dynamics in Developing Countries".

<sup>ix</sup> Along these lines, the Cato Institute presents estimations of the welfare cost from collecting one additional dollar in the USA for a series of different taxes, obtaining an average of 44 cents, in lost welfare, for each additional dollar collected.

<sup>x</sup> Where we can highlight the tax cut on corporate retained earnings from 50% to 10%, reaching then 0%, and finally stabilizing in 15%, increasing later on to 17%.

<sup>xi</sup> Cerda N., Rodrigo A. and Larraín B., Felipe. "Corporate Taxes and Investment in Developing Countries: Micro and Macro Evidence from Chile", 2004.

<sup>xii</sup> Hsieh, Chang-Thai and Parker, Jonathan A. "Taxes and Growth in a Financially Underdeveloped Country. Evidence from the Chilean Investment Boom", 2006.

<sup>xiii</sup> Vergara, Rodrigo: "Taxation and Private Investment. Evidence for Chile".

<sup>xiv</sup> Tax and Economic Growth. OECD. Economics Department Working Paper Nr 620.

<sup>xv</sup> Valdés, Salvador: "¿Es el IVA regresivo?", Class notes, Universidad Católica de Chile, 2009.

<sup>xvi</sup> Engel, Eduardo; Galetovic, Alexander and Raddatz, Claudio. "Reforma tributaria y distribución del ingreso en Chile".

<sup>xvii</sup> The Gini coefficient goes from 0 to 1, where 0 is perfect equality and 1 is that only one individual concentrates all the income.

<sup>xviii</sup> The greater the ratio the more unequal, for example, if it is 12, the richest 20% has an income 12 times the earnings of the poorest 20%.