High Level Risk Forum

FIESP Study on Demand Reduction for Illicit Trade in Brazil: Policies to Address Counterfeit Micro-Computer Products

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This report supports discussions in SESSION VI on policy approaches to combatting illicit trade through reforms directed at shifting consumer demand. The report discusses policies aimed at reducing the demand for counterfeit computers and related components in Brazil.

TASK FORCE MEMBERS ARE INVITED to submit written comments to OECD by 30 April 2017.

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INTRODUCTION

1. This article is about the positive effects of electronics scientific and technological innovation investments expansion over smuggled personal computers demand reduction in Brazil between the years 2005 and 2016, especially regarding more affordable and cheaper (popular) personal computers and smartphones.

2. Investments expansion in scientific electronic products research and development was enabled by the tax incentive policy for innovation, performed by Brazilian government between the years of 2005 and 2016, as a result of Law 11.196/2005 promulgation, known as “Goodness Law”. Currently (2016-2017), there is a political and legal discussion about the extension of this law effects.

3. Data demonstrate a reduction of participation of illicit market simultaneously to the increase of legal products participation in demand attendance of personal computers in Brazil between the years 2005 and 2016. Also (but not less important) producing indirect social benefits, such as fighting of illicit product consumption culture, in a moment of digital expansion aiming culture and education in Brazil, and qualified workforce in electronics industry.

4. Brazilian low and medium complexity PC (Personal Computer) market was dominated, until the middle 2000’s, by products assembled with smuggled components from China and Southeast Asia, which had Paraguay and Brazilian ports as main sourcing routes. Motherboards, memories and processors were commercialized through smuggling, by small and medium electronic products sellers in specialized popular retail centers (mainly Chinese besides Brazilian ones), such as Santa Efigênia district in São Paulo/SP, the bigger commercial hub of electronic products. In the stores, sellers assembled the microcomputer in the moment of the sale, according to the configuration chosen by the client - this illicit market operator was known as “micreiro”.

5. This was the overview of PCs illicit market in Brazil, which supplied 70% of PCs demand in 2005, achieving a number around 3.7 million units that year\(^1\).

6. This outlook changes from a technological innovation development and research incentive policy for electronics companies (PD&I), national and multinational, settled in the country, which resulted in components costs reduction and made microcomputers more affordable to the final consumers and companies.

\(^1\) Source: IDC http://br.idclatin.com/
2. PD&I INCENTIVE POLICY INCREASED LEGAL INDUSTRY COMPETITIVENESS

7. PD&I incentive policy was built with promulgation of Federal Law nº 11.196/2005, which established tax incentives to PD&I programs, and that was known as “Goodness Law”. Main impacts of this incentive policy were to increase the competitiveness of legal products against illicit ones in two ways, attracting the microcomputers demand.

2.1 “Lei do Bem” (Goodness law)

8. The federal law 11.996/2005 known as “Lei do Bem”, which can be roughly translated as “Goodness law”, was responsible for the creation of fiscal incentives to companies that that carry out research and development of technological innovations. The federal government, through the Ministry of Science, Technology and Innovation (MCTI), uses this mechanism to encourage investments in innovation by the private sector.

9. The incentives are defined by the MCTI in the following way:

a) Exclusion of the net income and the basis of calculation of the Social Contribution on Net Income (CSLL) the corresponding amount of up to 60% of the sum of the expenses, classified as operating expenses by the legislation of the Income tax of the Legal Entity (IRPJ) With R & D in the base year considered

b) Addition of up to 20%, in case of an increase in the number of researchers dedicated exclusively to research and development contracted in the reference year.

c) Addition of up to 20% in the sum of expenditures or payments linked to technological research and development of technological innovation that is patented.

d) Reduction of 50% of IPI in the purchase of machinery, equipment, apparatus and instruments (domestic or imported) for the exclusive use of technological research and development of technological innovation;

e) Reduction to zero of the IR rate on foreign remittances destined to the maintenance payments of trademarks, patents and cultivars;

f) Accelerated Comprehensive Depreciation, without prejudice to the normal depreciation of equipment, machinery, apparatus and instruments in the period of acquisition, destined to R & D for IRPJ and CSLL purposes;

g) Deduction of the undepreciated balance of R & D equipment, machinery, apparatus and instruments in the year in which its use is completed;

h) Accelerated Amortization (deduction) of expenditures related to the acquisition of intangible assets for R & D in the base year;

2.2 PD&I tax incentives generated technology that decreased cost/benefit, improved quality and allowed the legal industry to supply of the demand by computers

10. Retail prices were impacted directly by the requirements of the “Goodness Law” in order to have access to the exemption from the rate of 11.75% of PIS / Cofins. Products with popular prices have been entitled to relief, which meant values of up to R$ 2,500 (US$800 to 900) for tablets; up to R$ 2,000
(US$700 to 800) for desktops; R$ 4,000 (US $1,300 to 1,500) notebooks; $ 150 (USD $50 to 60) routers; and $ 200 (USD $65-75) for modems.

11. Under these conditions, legal products became accessible to low- and middle-income consumers (traditional consumers of illicit products), served by publicly funded federal government programs such as "Computer for All", which was established in June 2005. This program financed Desktops of up to R$ 1,200.00 and notebooks up to R $ 1,800.00 at maximum interest of up to 2.99% per month. The volume of low-income consumer credit grew between 2007 and 2015 at a compound annual average rate of 10.7%, resulting in a larger retail sale of PCs financed in 12 to 24 times monthly installments from R$ 99.90 (US $30 to 40).

12. The effect was a growth of the retail market at an average annual rate of 5.6% between 2006 and 2015. This was the main cause of the growth of the legal market, through financing for households that are acquiring their first computer.

13. As a result of the expansion and dynamism of the market and the competition, the average dollar price of desktops and notebooks presented successive reductions until 2007, remaining stable since then. More recently, the reduction in the price of laptops was also due to the greater competition in the retail market and to the large volumes of educational laptops directed to programs of computerization of public education in the country.

Figure 1. Average price of PCs in Brazil between 2005 and 2015

![Figure 1. Average price of PCs in Brazil between 2005 and 2015](image)


14. The expansion of the legal market of the period and the consequent attendance of the licit demand was benefited by the gains of scale in the industry, provided by the incentives to the development and innovation in technological research.
2.3 The combination of affordability and reliability of the product allowed the policy of expanding microcomputer consumption to be attended by the legal industry.

15. National market numbers demonstrate that software and motherboards production companies presented a quick recovery against illicit markets, progressively supplying the electronics demand, until an inversion between illicit and licit products occurred in 2010; 5 years after the PD&I incentive program began. National companies such as Digitron, Tecnoworld, Novadata, Officer, Itautec, Positivo, and multinationals such as Toshiba, Samsung, Dell and HP were able to balance competition between licit and illicit products, especially the boards that had its cost production very close to the ones assembled in Taiwan or China.

16. Companies such as Digitron made investments of around US$ 10 million in their production line development in 2006. Tecnoworld, board manufacturer, increased its production from 15 thousand boards/month in 2003, to 60 thousand boards/month in 2006, achieving 100 thousand in 2007. Samsung as well expanded the production line in Manaus. Positivo Informática has been expanding since 2004, both in the Brazilian market for PCs and tablets, and in Latin America where it ranks 2nd in the ranking of manufacturers, desktops and notebooks (Source: IDC - International Data Corporation).

17. Surveys performed by market consultancy IDC\(^2\) show a decrease of illicit market share at the same time there was a microcomputer demand increase. "In front of a PC with a brand, with warranty, and easier payment conditions, consumers abandoned 'mounted PC", says Reinaldo Sakis, IDC's survey analyst.

18. Data regarding microcomputers production and licit and illicit market share collected by IDC under Brazilian Association of Electric and Electronic Industry (ABINEE) request, demonstrate the change provided by the policy, as shown in Table 1 and Graphic 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>Desktops</th>
<th>Notebooks</th>
<th>Tablets</th>
<th>PCs + Tablets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>5.322</td>
<td>313</td>
<td>-</td>
<td>5.635</td>
</tr>
<tr>
<td>2010</td>
<td>7.981</td>
<td>6.208</td>
<td>113</td>
<td>14.302</td>
</tr>
<tr>
<td>2015</td>
<td>2.546</td>
<td>4.044</td>
<td>5.846</td>
<td>12.436</td>
</tr>
<tr>
<td>2016 *</td>
<td>1.663</td>
<td>2.905</td>
<td>4.05</td>
<td>8.618</td>
</tr>
</tbody>
</table>

Sources: IT Data and IDC / *Projection

\(^2\) Propostas para o Desenvolvimento da Indústria Brasileira e do Setor Elétrico e Eletrônico, Associação Brasileira da Indústria Elétrica e Eletrônica. Julho/2014
Even with the natural changes in the pattern of consumption of electronics, given its constant technological and behavioral evolution, the sector continues to be dominated by legal market products, demonstrating resistance to the action of the illegal products operators. The expansion of the markets for notebooks with higher added value, with a price equal to or greater than R$ 4,000 represented 15% of the total number of notebooks sold in 2015, according to Brazil PC Tracker - IDC, and in 2014 the number was 3%. IDC also predicts that the sector will continue to grow, in light of the projected decrease in PC sales, given the change in consumption patterns of Brazilians.

3. THEORETICAL REFERENTIAL: "CROWDING IN" EFFECT ANTI-ILlicit MARKETS IMPACT

Authors Kohler, Larédo e Rammer (2012) present the tax incentives analysis result over PD&I business in some OECD countries. In that work, they present several evaluation results, where most focus on the incentives contribution to increase the expenses of companies in PD&I, and a smaller focus on companies performance.

The studies evaluate that changes in PD&I expenses due to tax incentives find, mostly, a gain in short term. Importance of this impact has a big variation, depending on factors such as country, the period of time considered and econometric model used in the analysis. Besides, positive effects are found for different types of incentives, such as schemes based in production volume or tax credits.
22. In our approach, we understand that the increase of PD&I expenses significantly enlarge the competitiveness of companies, producing gains, although concentrated in short term, that are decisive to revert demand for illicit products, since they allow companies to enter in a range of consumption previously blocked by low cost of illicit product. By the other hand, it allows to the consumers to experiment better quality products and real warranty, initializing or improving their experience in digital world, producing, in a certain way, a customer retention to the legal product.

23. Although authors show that, there are disadvantages that must be considered, such as potential costs under government responsibilities (difficult quantification). There are possible solutions, such as the limitation of State expenses, opting for tax reduction only from a certain PD&I expenses level over a determined base-value on or to apply a limit of exemption for each company or product type, preferentially for popular lines, more susceptible to predatory competition of illegal markets.

4. CONCLUSION: LONG-LASTING POSITIVE EFFECTS

24. The Brazilian industry, with national and international capital, was able to respond to the challenges of dealing with illicit products, when it obtained fiscal incentives from the government. With this, it can make its contribution to the control of the demand for illicit products in the important computer industry, in a moment of frank digital expansion.

25. Brazilian experience of PD&I incentives in microcomputers, as a way to control demand of illicit products, is positive not only because it made the immediate illicit product demand to be reduced, but because it enabled a long-lasting policy with medium-term and long term effect, in formalization of computers market, characterized by:

- **(1) Permanent replacement of illegal product**, strongly associated to poor quality, compared to the quality of the legal product, fundamental to accomplish constant innovations of digital and internet world, which was key to decrease illicit product consumption culture in microcomputers sector;

- **(2) Inclusion of licit product in the expansion movement of Brazilian society**, strongly stimulated by governmental policies of the period and by the social demand of youths, registered by Brazilian statistics institute in the 2000 decade;

- **(3) PD&I taxes incentives policy generated workplaces for qualified workforce**, such as researchers and other workers involved with electronics PD&I, fundamental to economies in development as per Brazilian economy.

26. The experience of using a legal PC (1) occurred just at the moment of digital expansion in Brazil. The fall in prices, the increase in credit and the average income of Brazilians, led to an increase in the percentage of households with PCs, especially in **class C** (low-middle), which increased from 16% in 2005 to 45% in 2011. Still in this Segment, considering that the presence of PCs in homes is still low, there is a potential expansion of 17 million computers, either as the first purchase or as a replacement (given that the average replacement is 5 years in Brazil), even considering the slower speed in the Economic recession.
27. In addition to the direct cultural and economic impact, the advance of digital expansion (and product quality) is directly related to the search for improvement of formal education in the country. Between 2000 and 2005, the percentage of public elementary schools with access to the Internet rose from around 3.9% to 14.8%. Considering that 90% of primary and secondary schools are public, digital expansion has great potential for growth. It is essential that this demand be met by the legal market, so that criminal networks are not financed, there is no incentive for the consumption of illicit products and, above all, to enable educational progress with technologically and ethically adequate equipment.

28. Therefore, data regarding this experience of illicit personal computer demand control policy, is promising, as a policy to be reproduced in countries with similar characteristics and market regulation problems. Particularly those countries that need to combine supply control of illicit electronic products, enable economic, educational and digital inclusion for the low income population in developing economies. Although the problem is far from having a definitive solution in Brazil, the experience of the policy portrayed shows that well-constructed fiscal policies can prevent illicit markets from taking the place of licit products and jeopardize the expansion of important sectors of society. This is our contribution to the maturation of this important debate in the scope of the OECD TF-CIT.

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