

Tax reform for human development in Central America

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Tax revenue in Central American countries accounts for just 13.5% of their gross domestic product; and the resultant resource shortage means insufficient and low-quality public expenditure, and chronic fiscal deficits financed through borrowing. In 2003 interest payments absorbed an average of 18% of the subregion's total tax revenue. In these open economies, whose enterprises need to become more internationally competitive, fiscal policy is crucial both for financing the necessary physical and social infrastructure and for combating the poverty that still afflicts roughly 40% of the population. The economic development of Central America therefore needs second-generation reforms to modernize its tax systems, in order to increase revenue by about four percentage points of GDP.

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I

Encouraging tax reform in Central America

Tax reform is essential in Central America if the aim is to achieve the faster growing and more equitable type of society to which its peoples aspire. There are several reasons for promoting tax reform: firstly, and most importantly, the subregion's States are too small and vulnerable to deliver the public goods needed to foster economic growth and raise their populations' levels of well-being. The fact that average tax revenue in the subregion has hovered around 13.5% of GDP in recent years readily explains why these countries are unable to improve their levels of education and health care, build the infrastructure needed for development, and provide the legal certainty and citizen safety demanded by private investment.

Secondly, all Central American countries carry heavy burdens of public debt accumulated during years of chronic fiscal deficit. Their Governments therefore need to raise tax revenues to generate primary surpluses (fiscal balances before debt interest), in order to place the public debt on a long-term sustainable footing.

The third reason is that changes in the patterns of the subregion's international participation will require far-reaching reforms in its tax systems. When the free trade agreement (FTA) between Central America and the United States enters into force,¹ their revenue from import duties will drop sharply, and the loss will need to be recovered through other taxation sources.

Moreover, the fact that all of the region's countries have joined the World Trade Organization (WTO) means that they will have to abide by its decisions. The most important of those decisions for Central American countries requires the elimination, no later than early 2010, of income tax exemptions for free zone enterprises. These are viewed as an export subsidy and therefore prohibited by the Agreement on Subsidies and Countervailing Measures (the SCM Agreement) in the Uruguay Round that was concluded in early 1995.

Application of that agreement will mean reconciling the need to expand revenue but avoid

discouraging investment in the most dynamic sectors of the economy, for which corporate income tax will need to be set at moderate rates. To avoid the implicit subsidy, the WTO requires tax rates inside and outside free zones to be equal; but this could cause revenue losses, if rates are lowered for firms located outside free zones. It will therefore be crucial to close off other avenues for avoiding corporate income taxes, such as the numerous exemptions and accelerated depreciation regimes. Rates can be moderate, but the tax bases need to be as broad as possible.

The fact that integration between the Central American countries is being deepened will also have significant effects on the design of tax reform. The implications for tax systems are obvious: in the absence of regionwide tax coordination it will be impossible to avoid tax arbitrage, which will mean undesired production and revenue losses for some countries and gains for others. Income tax in free zones is an obvious example. Without subregional harmonization, countries will have much to lose: competition for investment will force an unnecessary reduction in income tax on enterprises generally, because the WTO norm is to move towards equal tax treatment throughout the economy.

A fourth reason, which poses another challenge for tax systems in Central American countries, is the need to design a suitable strategy for tax decentralization. All of these countries have made decentralization a priority, but none has managed to implement it without a loss of revenue for central government, which undermines its performance. Local taxes need to be strengthened, particularly property tax which currently generates very modest revenue below its potential.

1. Human development and the role of public spending in the social sector

The central premise of this paper is that economic growth and human development are intimately linked through relations of multiple causation.² Firstly, the

□ This article is based on the analyses and conclusions contained in *Recaudar para crecer. Bases para la reforma tributaria en Centroamérica*, edited by R. Agosin, A. Barreix and R. Machado, and published by the Inter-American Development Bank.

¹ Known by its English acronym CAFTA.

² The term "human development" is used here with the meaning popularized by the United Nations Development Programme (UNDP). The components of this generic term are very broad and

hypothesis that the key aspects of human development depend on per capita income is generally accepted. Secondly, the causation relation also runs from human development to sustained growth. The latter requires a labour force with a minimum level of education, without which labour productivity is too low to make private investment profitable. The same is true of health: a population with poor health means a low-productivity work force. Consequently, health and education, key aspects of human development, are not only ends in themselves, but also an essential input for growth.

Although Central American Governments have introduced major economic reforms, their public social spending is still too low.³ Tax revenue in the subregion absorbs between 10% and 14% of GDP, with public expenditure between 10% and 18%.⁴ These rates are low compared with what would be expected in economies with the structural characteristics of Central American countries.

This statement is the result of an econometric analysis of tax revenue, total public expenditure and public expenditure on education and health care throughout the world as a proportion of GDP, and the relative ranking of the countries of the region. All variables were measured in the late 1990s. The differences between countries in terms of tax revenue and public expenditure are explained by the variation in GDP per capita (measured in purchasing power parity) and by the income distribution as measured by the Gini

coefficient. As per capita income rises, so does the tax burden and public expenditure, because the higher a country's income, the greater is its capacity to finance public expenditure and basic social spending. It is also reasonable to expect that the demand for public expenditure by the population will vary in direct relation to per capita income and inversely with income inequality. The latter hypothesis assumes that the more egalitarian is the distribution of income, the greater the influence of the middle income segments in economic and social policy decision making; and it is precisely these latter groups that demand social public services. The results, which support these hypotheses are shown in the appendix.⁵

Interpolating the values of GDP per capita and the Gini coefficient for the five countries of the Central American Common Market (CACM) in the estimated equations, shows that the expected values of the four fiscal variables are higher than those observed in nearly all cases. This shows that, even when controlling for the structural characteristics of the Central American economies, their States are small. Figure 1 illustrates the results for tax revenue.

There is a large discrepancy between the expected and actual tax burden in Costa Rica, where actual revenue in the late 1990s was below the regional average at just 12% of GDP (it is now slightly over 13%), in circumstances where its per capita GDP is the highest in the subregion, surpassing those of the two poorest countries (Honduras and Nicaragua) by a factor of between three and four (measured in purchasing power parity dollars and adjusting for the underestimate of GDP in those two countries). At the same time, the Gini coefficient in Costa Rica is the region's lowest (0.48 compared to 0.63 Guatemala and 0.58 in Nicaragua).

This leads to the conclusion that, to achieve the estimated norm in terms of income levels and their distribution, tax revenue should rise by 35% or roughly 4 percentage points of GDP, which is the average gap shown in figure 1.

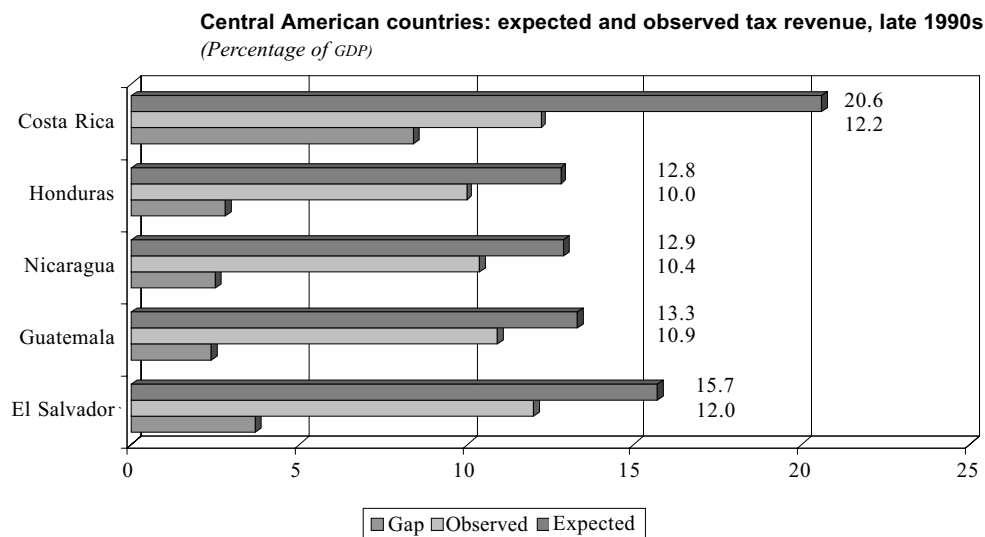
encompass higher life expectancy, a life of good quality with low indices of disease, good education indicators, citizen participation in decision making, equal opportunities, and gender equality. In the view propounded by Amartya Sen, human development is synonymous with freedom: the capacity of individuals to live in the way they choose (Sen, 1999). Naturally, GDP per capita is an inevitable indicator of human development, but it is not the only one. Evaluating a nation's levels of human development requires weighing up a broad set of variables, such as those summarized by UNDP in its Human Development Index.

³ All countries of the subregion have substantially liberalized their markets, privatized many public enterprises, and generally opened their economies up to external trade. For a description of these processes see Agosin, Machado and Nazal (2004).

⁴ Correcting for the underestimate of GDP in Nicaragua and Honduras – a phenomenon that is well known by specialists in the subregion. For a discussion of this underestimate in Honduras, see UNDP (2000, chapter 3). Estimations made by one of the authors of this article, based on an analysis of all existing data, show that GDP in Honduras and Nicaragua would have to be corrected by at least 40% and 70%, in that order, to bring it close to its real level. After several years of work, the Central Bank of Nicaragua raised its GDP estimate by 63% in the national accounts revisions of 2003. The Central Bank of Honduras has not yet published its revisions.

⁵ Note that this theoretical outline contradicts the influential model developed by Alesina and Rodrik (1994), which postulates that tax revenue is greater the more unequal is the income distribution. Those authors use a median-voter model, in which voters prefer higher taxes the smaller are the stocks of physical and human capital among the majority of the population (precisely when the income distribution is most unequal). The statistical data do not support this theory, however. On the contrary, they are consistent with our theoretical approach.

FIGURE 1



Source: World Bank (2004); Official national figures and authors' calculations.

2. Public Finance: deficit, debt and sustainability

As table 1 shows, in 2004 the fiscal deficit of Central American countries varied between 1.1% and 4.3% of GDP. Although the average had fallen since 2000, individual deficits were still high, especially considering that 2004 was a year of relatively strong growth. The figures show a persistence of deficits, with particularly large imbalances in Honduras and Nicaragua.

TABLE 1

Central America: central government deficit and public debt
(Percentage of GDP)^a

	Fiscal deficit		External debt		Domestic debt
	1995	2000	2004	2004 ^b	2004 ^b
Costa Rica	4.0	2.9	3.0	21.1	38.7
El Salvador	0.6	2.3	2.8	31.4	13.4
Guatemala	0.7	1.8	1.1	16.0	9.4
Honduras	3.1	5.7	3.5	61.6	7.5
Nicaragua ^c	11.0	11.0	4.3	76.0 ^d	41.3

Source: Agosin, Barreix and Machado (2005).

^a For Honduras and Nicaragua the GDP figures shown are the official ones, which overstate the levels of the deficit and public debt.

^b Year-end figures.

^c Fiscal deficit before grants.

^d After debt relief arising from the Heavily Indebted Poor Countries (HIPC) initiative.

This has several undesirable consequences. Firstly, it makes it hard to achieve macroeconomic stability, for although most countries no longer finance their shortfalls by placing bonds with their central bank, the deficit still stokes demand pressures that force central banks to maintain austere monetary policies. This raises interest rates for the private sector and sucks in short-term foreign capital, thereby causing local currencies to appreciate. Secondly, to avoid the public debt becoming unsustainable, countries are constantly under pressure to curtail expenditure (generally on social investment or physical infrastructure), or to raise rates on the taxes that are relatively easy to collect. Lastly, the persistence of deficits prevents the economic authorities from deploying countercyclical fiscal policy. Persistent fiscal deficits clearly render the public debt unsustainable in all countries in the region, so they need to be corrected, either by increasing the tax burden or by curtailing expenditure.⁶

3. Tax implications of the free trade agreement between Central America and the United States

Between late 2003 and early 2004, CACM members completed negotiation of the CAFTA agreement, which, once ratified, will have major repercussions for the

⁶ For an analysis of the sustainability of public debt in Central America see Edwards and Vergara (2002) and Vergara (2003).

Central American economies.⁷ Its effects will also be felt on those countries' tax policies, given the volume of their purchases from the United States, which in 2004 accounted for one third of total imports in Central American countries (excluding maquila inputs which enter duty-free). The revenue obtained from import duties amounted to between 0.9% and 2% of GDP in that year.

Based on the tariff elimination timetables offered by the countries in the framework of CAFTA, and on imports from the United States and current tariff rates, Barreix, Roca and Villela (2004) calculated the short-run revenue losses associated with the agreement as likely to represent on average 0.4% of GDP. In the medium-term, as imports from the United States become more fully exempted from tariffs, the revenue loss would rise to 0.7% of GDP. Losses would be smaller in El Salvador, Guatemala and Nicaragua (0.4% of GDP), but larger in Honduras (1.1% of GDP), while in Costa Rica the loss is expected to be at an intermediate level (0.6% of GDP).⁸ Tax reform will therefore also have to compensate for the revenue losses arising from with CAFTA.

4. Challenges of the new international participation

Application of the "open regionalism" model adopted by the countries of the region in the late 1980s is likely to intensify in the next few years, and this will pose major challenges for tax policy. Once such challenge is the increasing need for CACM member countries to standardize their tax systems, as the economic and financial relations between them grow, and given the WTO requirement that the countries of the region dismantle income tax exemptions for enterprises operating in free zones.

a) *Tax harmonization in CACM*

The intensification of regional integration includes an effort to standardize taxation policies, which has not yet happened at the Central American level. For

⁷ See Agosin and Rodríguez (2005), Todd, Winters and Arias (2004), and Hathaway (2003).

⁸ These calculations only include the direct effects of gradually dismantling tariffs. There are other effects that would tend to aggravate the adverse revenue consequences, such as increased imports from the United States to the detriment of those sourced from third countries. But there could be positive effects also: for example, CAFTA is bound to attract investments that will in turn generate taxable production and consumption.

example, to remove customs barriers within the subregion and facilitate the movement of merchandise within it, it is essential to harmonize the criteria used to assess value-added tax (VAT) and selective consumption taxes. It is also important to agree upon joint administrative regulations to replace the controls formerly applied by customs, to avoid tax fraud. Although VAT rates have been converging, the same cannot be said for selective consumption taxes.

The need for coordination is even greater in the case of corporate income tax, to avoid losses of tax revenue in jurisdictions that have the highest rates. In an increasingly integrated subregion, conglomerate groups with branches in various countries will tend to declare their profits in the countries that have the lowest rates. The simplest solution is therefore to ensure that rates do not diverge much between countries.⁹ The most complex solution involves adopting a system of transfer prices (and weak capitalization rules) to prevent firms from withdrawing profits from one country through transactions or concerted loans between subsidiaries, especially when the participants in this process include firms located in tax havens. The Central American countries also need to consider signing double taxation agreements with the home countries of foreign enterprises, to strengthen legal certainty for investors based on common foundations, in order to improve their negotiating capacity and avoid harmful competition and misuse of incentives.

b) *Export promotion model and WTO rules*

Tax reform in the countries of the subregion is also motivated by the need to rethink the strategy pursued by Central American countries in the 1990s both for attracting foreign direct investment (FDI) and for export promotion. This was based largely on granting tax breaks to firms established in free zones, mainly through income-tax exemptions.

At the present time, increasing international trade commitments require homogeneous tax treatment for national enterprises and those established in free zones, and, especially, coordinated treatment of income tax on such firms between the different Central American countries. This would avoid provoking predatory competition between the countries to attract FDI, which would have serious consequences for the revenue capacity and equity of their tax structures.

⁹ As will be shown below, although income tax rates have been converging, substantial differences persist.

The Final Act of the Uruguay Round of multilateral trade negotiations, which concluded in 1995, contains the Agreement on Subsidies and Countervailing Measures (SMC Agreement) mentioned above, which was to have become binding on developing countries as from 2003, except for those with an annual per capita income below US\$ 1,000 (Honduras and Nicaragua in the Central American subregion). The agreement expressly prohibits corporate income tax exemptions for exporting firms. Nonetheless, under Article 27, the

deadline was extended for a further five years at the Fourth WTO Ministerial Conference held in Doha in November 2001; and while this article was being written, the final deadline was once again postponed until 1 January 2010. Following the national accounts revisions in Honduras (as yet incomplete) and Nicaragua, these two countries should now be near the threshold of US\$ 1,000 per capita, and will certainly surpass it in early 2010, so the SMC Agreement regulations will then also apply to them.

II

Tax panorama in Central American countries

Between 1990 and 2003 the average revenue level rose by roughly 40%. Moreover, several countries introduced modern taxes, such as VAT, into their fiscal structures and sharply lowered customs duties. At the same time, major efforts have been made to improve tax administrations.

Nonetheless, the tax burden remains insufficient and is keeping these countries below their revenue-generating capacity. Their tax systems tend also to be regressive, because of weak income tax; and, as they are highly centralized, property taxes are insignificant. Following the 1990s reforms, which could be dubbed "first-generation", the region now needs new reform commitments to modernize their tax systems and equip them to meet the challenges described in the first part of this article.

1. Current tax policy situation

a) *Trend of total tax revenue*

As table 2 shows, the average tax burden has followed a highly variable rising trend. This is essentially due to the constraints imposed on tax bases by the large number of exemptions and reductions, and the levels of non-fulfillment and evasion that exist in Central America, which have made it necessary to introduce periodic tax reforms to restore levels of tax pressure.

Despite the trend of the average level of taxation in the subregion, several countries still have very low tax burdens. In addition, the continuous liberalization of foreign trade in these countries has placed a heavy burden on their tax administrations, which have had to

TABLE 2

Central American countries: tax burden, 1990-2003^a
(Percentage of GDP)

	1990	1995	2000	2003
Costa Rica	10.8	11.4	11.9	13.0
El Salvador	7.6	11.9	11.0	12.6
Guatemala	6.9	8.0	9.5	10.3
Honduras	15.0	17.3	16.6	15.9
Nicaragua	8.1	12.2	14.5	15.8
Central America (simple average)	9.7	12.2	12.7	13.5

Source: Agosin, Barreix and Machado (2005).

^a The data do not include income from social security. The GDP of Honduras has not been corrected for the underestimation, because there are no official data that do so. The figure for Nicaragua uses the new GDP estimates made by the Central Bank of Nicaragua in 2003. All tables hereinafter use the official figures published by the respective countries.

struggle to regain revenues that were previously obtained more easily through customs, while also being required to operate a more complex system and oversee a larger number of domestic taxpayers.

As mentioned above, the Central American countries have attempted to overcome the loss of tax revenue caused by external trade liberalization through successive hikes in VAT. Several countries have tried to counter what they see as a regressive effect of this tax, by granting substantial exemptions and inappropriately charging a zero rate of VAT on goods included in the basic shopping basket. Zero-rating entitles the producers of a good subject to that rate to recover the

credits generated by VAT paid on inputs, which gives rise to abuses and undermines the productivity of the tax, thereby reducing the tax burden.

b) *Trend of the tax structure*

Between 1990 and 2002, there were clearly defined patterns in the subregion's tax structures. First, as noted above, import duties were replaced by VAT. The second important change involved lowering the legal top rates of income tax for both individuals and firms, from above 40% to below 30%.

Third, the relative share of direct taxes remained constant throughout the period: while direct taxes generated on average 24% of total tax revenues in the 13 countries considered, indirect taxes provided the remaining 76%. Nonetheless, over the last five years, the share of revenue obtained from direct taxes has been creeping up, despite the lowering of rates, as new taxpayers have been added to the income-tax base and the importance of certain indirect taxes (selective taxes and foreign trade duties) has declined.

Fourth, during this period over 50% of all VAT revenue was collected through customs (when goods were imported). The volume of tax revenue obtained through customs has helped reduce the average rate of tax evasion, since the tax administration is concerned only with taxes generated from domestic sources.

Last, selective taxes, although erratic from one year to the next, contributed roughly 15% of total revenue. The share of revenue raised by selective taxes on fuels

displayed a clear rising trend, while the number of goods subject to this type of tax (mainly products such as tobacco and drinks) declined.

In short, and because of these changes, it was indirect taxes that played the largest role in the trend of the tax burden over the last decade. The share of total revenue collected from direct taxes, in the form of income or capital taxes, did not change significantly during the period.

As can be seen in table 3, which shows the structure of revenue in 2002, indirect taxes continue to generate the bulk of the revenue. This probably indicates that the reforms ought to focus on direct taxation, which only raise roughly 3% of GDP.

c) *Incentives for foreign investment and preferential treatment*

The transition from development based on import substitution to an open-economy model was accompanied by a series of incentive measures—many of them with high tax content—which also had repercussions on revenue earned from other taxes. The export expansion was heavily concentrated in firms (both foreign and domestic) located in free zones, essentially assembling manufactured goods using inputs imported from the United States (“maquila”). There were also significant investments in tourism, fishing (especially shrimp farming) and mining. To stimulate these capital inflows, generous and broad-based exemptions were granted that wholly or partly freed

TABLE 3

Central American countries: tax burden by type of tax, 2002
(Percentage of GDP)

Item	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Total tax revenues	12.8	12.0	10.6	16.1	14.3
Direct tax revenues	3.5	3.5	2.8	3.7	2.8
Income tax	3.1	3.4	2.8	3.5	2.8
Property tax	0.4	0.1	0.0	0.2	0.0
Indirect tax revenues	9.3	8.5	7.8	12.3	11.4
General	4.9	6.3	4.8	5.5	5.9
Domestic	..	3.0	1.9	..	..
Imports	..	3.3	2.9	..	..
Specific	1.1	1.1	1.5	1.9	3.7
Petroleum products	..	0.6	0.9	0.7	2.5
Remainder	..	0.5	0.6	1.2	1.3
Trade and international transactions	0.9	1.1	1.2	2.0	1.1
Other indirect	2.4	0.0	0.3	2.9	0.7

Source: Agosin, Barreix and Machado (2005).

the investment from the payment of income and capital taxes. Moreover, the treatment given to foreign investors was also extended to domestic firms established in free zones, and even to their suppliers in those zones.

Analysts disagree on the importance of these exemptions –which, incidentally, have become quasi-permanent– in attracting investments to sectors which, in the final analysis, have significant comparative advantages in the subregion. What is indisputable is that such measures undermined the capacity of Governments to generate tax revenues. As the activities in question have been among the most dynamic of the Central American economies, the low elasticity of revenue with respect to GDP growth should be attributed largely to the exemptions they have enjoyed.

It is hard to justify tax exemptions for domestic firms operating in free zones. For foreign investors, the benefits of income tax exemptions depend on their dividend policy and legislation in their country of origin. In the case of United States enterprises, which account for the vast majority of foreign firms operating in Central American countries, the situation is as follows: if they repatriate dividends immediately after recording the profits, any rate of corporate income tax

rate below that prevailing in their home country (35%) merely transfers revenue to the United States Treasury from the country receiving the investment, with no effect on the firms themselves.

If the firms do not immediately pass the dividends to their parent company, they do not have to pay tax on the corresponding profits in the United States until they are actually repatriated, which gives them a degree of liquidity they would not otherwise have enjoyed. Accordingly, the firms are likely to overstate the value of those exemptions, and the clear result of the process is a loss of revenue for Central American Treasuries.

Another recurrent issue in the countries of the subregion over the last decade has been the proliferation and diversity of incentive regimes, both in domestic activities and in those directly related to foreign trade. The promotion of activities relating to tourism, construction, agriculture and mining, among others, and the proliferation of free and tax-free zones are constants that are repeated in each individual country. Exemptions have been granted not only for corporate income tax but also for import duties on inputs and capital goods and for domestic indirect taxes. Table 4 shows the tax benefits granted in free zones by Central American countries.

TABLE 4

Central American countries: tax incentives in free zones, 2002
(Percentages)

Incentives	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Exemption from import duty	100	100	100	100	100
Exemption from income tax	100% for eight years; 50% for the following four years ^a	100% for 20 years	100% for 12 years	100	100% for 10 years 60% thereafter
Exemption on the repatriation of profits	100	100	100	100	100
Exemption from VAT	100	100% for 10 years and renewable	100	100	100
Exemption from asset taxes	100% for 10 years	100	100	100	100
Exemption from municipal taxes and rates	100% for 10 years	100% for 20 years	100	100	100
Restrictions on/to local sales 50% in services	Up to 25% in manufacturing	None	Up to 20% for manufactures	With approval from the Ministry of Economic Affairs up to 5% in manufacturing up to 50% in services	With approval from the Ministry of Economic Affairs between 20% and 40% depending on the type of firm

Source: Rodríguez and Robles (2003).

^a The deadlines are extended to twelve and six years in less developed zones.

Lack of information on the identity of the beneficiaries of these exemptions and incentives, and in terms of their order of magnitude, has made it impossible to estimate the total tax revenue that these countries have forgone as a result. The benefits, which are technically known as “tax expenses” and represent the set of taxes and levies that are not generated because they relate to promoted activities, impose an additional cost on the tax administration because the latter has to identify, within the universe of potential taxpayers, who is and who is not benefiting from one of the incentive regimes. Naturally, the exemptions have had to be offset by a heavier tax burden on sectors that are not promoted, which alters the conditions of horizontal equity by imposing unequal tax burdens on economic agents facing otherwise equal conditions.

The scope that these benefits have acquired since the 1990s, and the absence of detailed data on the various systems, makes it very hard to compare the countries of the subregion in terms of the sectors benefited, the type and extent of the benefits, and the results obtained in each case.

2. Main characteristics of existing taxes

a) *Income tax*

Despite the progress made in modernizing other taxes, income tax (IR) in Central American countries continues to suffer from a number of problems. Generally speaking, personal income tax (IRP) is assessed on a schedule basis rather than globally, which means that

each type of income is subject to a specific tax regime with different rates. There are also many exemptions according to the generating source (insurance, interest, dividends and other financial and capital income). This means that nearly all of the tax burden falls, in practice, on the wages of employed workers, thereby distorting both horizontal and vertical equity, and eroding revenue effectiveness. As this situation is aggravated by the high proportions of informal and self-employed workers in Central American countries, it is easy to see why the revenue generated by this tax is so low.

Furthermore, IRP is based on a territorial concept of income, so income generated abroad is not taxed. While it is hard to identify such income, adoption of the global income principle would be one way to close off potentially significant opportunities for evasion, and make it possible to provide the tax authority with additional inspection tools.

As mentioned above, corporate income tax (IRS) also offers a set of discretionary exemptions, basically for foreign firms established in free zones and for protected and/or promoted sectors, such as agriculture and tourism. With regard to modernization of the design of this tax, the legislation of Central American countries has generally not introduced regulations on transfer prices, weak capitalization, transfer of profits from and to tax havens, and other mechanisms that are widely used by transnational corporations to reduce their tax burden by shifting profits from one country to another.

Table 5 shows that IR revenue in Central American countries in 2002 amounted to 3.1% of GDP (24.2% of

TABLE 5

Central American countries: income tax^a 2002

	IRS rates (%)	IRP rates (%)	Revenue from IRS (% of IR revenue)	Productivity of IRS ^b (%)	Minimum exempt from IRP ^b (%)	Maximum IRP bracket ^c	Share of IR in total tax revenue (%)	Revenue from IR (% GDP)
Costa Rica	30	10-25	20.8	3.5	0.8	3.7	23.9	3.1
El Salvador	25	10-30	61.7	7.8	1.2	11.0	28.3	3.4
Guatemala ^d	31	15-31	55.0	3.7	5.0	22.5	26.4	2.8
Honduras	15 and 25	10-25	18.2	8.6	3.6	36.0	22.0	3.5
Nicaragua ^e	25	10-25	..	..	4.7	37.5	19.8	2.8
Average	27.2	11-27.2	38.9	6.7	3.1	22.1	24.2	3.1
Latin America ^f	28.3	8.7-27.7	50.0	6.2	2.1	20.7	27.7	3.8

Source: Agosin, Barreix and Machado (2005); Stotsky and WoldeMariam (2002); Barreix, Roca and Villela (2004).

^a IR: Income tax; IRS: Corporate income tax; IRP: Personal income tax.

^b IRS revenue as a percentage of GDP, divided by the top IRS rate.

^c Multiples of GDP per capita.

^d Includes the mercantile and agricultural enterprises tax (IEMA).

^e In May 2003 the top rate was raised to 30% for individuals and legal entities alike.

^f Includes 17 countries. The figures correspond to the average for 2000-2001.

total revenue), 0.7 percentage points below the average for Latin America as a whole. The origin of these revenues varies greatly from one country to another: on average, 38.9% comes from enterprises - 11 percentage points less than the figure for Latin America as a whole. Legal entities contribute a high percentage of IR (61.7%) in El Salvador, but just 18.2% in Honduras.

Although IRS rates have generally been lowered in recent decades, what has eroded tax productivity in Central American countries has been the shrinking of the tax base. Average productivity has been 6.7%, which means that each percentage point of the IRS rate collects 0.067 percentage points of GDP. Surprisingly, the lowest productivity of this tax is seen in Costa Rica (3.5%), while Honduras records the highest (8.6%), although the latter is probably an overestimate, given the significant underestimation of that country's GDP.

In the case of IRP, as normal, Central American countries have a minimum tax-free bracket, which in this case is equivalent to 3.1 times per capita GDP. Guatemala and Nicaragua offer the highest levels of exemption at more than twice the Latin American average. Although such exemptions introduce a degree of progressiveness into the tax structure, they can be counter-productive if set at very high levels, and they also erode the tax base.

The top IRP bracket is 22.1 times per capita GDP in Central American countries, a figure that is slightly above the Latin American average. Nonetheless, the figure would appear to be very high in Honduras and Nicaragua, at 36 and 37.5 times per capita GDP respectively. Here again, in the case of Honduras however, there is probably a clear upwards bias because of the underestimate of GDP.

In short, despite the rationalization of IRP and IRS rates, net taxable income declared is significantly less than gross income in all countries. This reflects the

extent of the shrinking of the tax base, which mainly stems from excessive objective and discretionary exemptions which, apart from distorting the horizontal and vertical equity of the tax system, generate significant revenue losses.

b) *Taxation of assets*

In some countries a minimum tax is levied on the income of legal entities, imputing a minimum return on enterprise assets and levying the tax on the fiscal value thereof or, in some cases, on sales. In countries where accounting rules are unclear or easily interpreted in favour of the firms' interests, this tax is harder to avoid than the tax on net profits. The tax on assets represents a minimum downpayment for IRS, and operates through withholding which is then deducted from the firm's profits tax liability. In cases where the firm declares lower taxes than already paid on account, the assets tax becomes a definitive payment.

As table 6 shows, most countries either have used, or still use this type of tax. Following their initial implementation, such taxes became less and less effective because of the increase in the minimum amount of capital required to apply them, and a steady reduction in rates. In some cases they were abolished in the face of the fierce opposition faced in all countries. Nonetheless, when rates are moderate (with a maximum of 1.5%) such taxes are desirable, because they help improve the IRS capture level, given the absence of trustworthy accounts and the shortcomings in tax administrations. It should also be recognized that design flaws have created problems of double taxation for the subsidiaries of transnational enterprises, because some developed countries do not grant tax credits for downpayments on this tax.

TABLE 6

Central American countries: taxes on net worth or assets, 1992-2001 (Percentages)

Year	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
1992	0.36-1.17 on fixed assets	0.9-2.0 on assets	0.3-0.9 on real property ^a	...	1.5-2.5 on net worth
2001	1.0 on assets	..	0.2-0.9 on real property ^a	0.25 on assets ^b	1.0 on real property ^a
			3.5 on assets ^c		

Source: Stotsky and WoldeMariam (2002).

^a Although the base consists of immovable assets, the tax is seen as an additional tax on enterprises.

^b Levied on fixed assets worth over 750,000 lempiras owned by companies at the end of the tax period.

^c Tax levied at a rate of 3.5% of assets or 2.25% of gross income declared in the sworn tax declaration relating to the previous year's profits.

TABLE 7

Central American countries: value added tax, 2002
(Percentage)

	General rate	Special rate	Productivity ^a	Share of VAT in total tax revenue	VAT revenue (% GDP)
Costa Rica	13.0		37.7	38.3	4.9
El Salvador	13.0		48.5	52.5	6.3
Guatemala	12.0		40.0	45.3	4.8
Honduras	12.0	15	45.8	34.3	5.5
Nicaragua	15.0	5 and 6	39.3	41.2	5.9
Average	13.0		40.8	43.0	5.3
Latin America ^b	14.5		42.1	44.2	6.1

Source: Agosin, Barreix and Machado (2005); Barreix, Roca and Villela (2004).

^a VAT revenue as a percentage of GDP divided by the general rate.

^b Includes 17 countries. The figures correspond to the average for 2000-2001.

c) *Value added tax (VAT)*

Although VAT was introduced in most Central American countries during the 1970s and 1980s, its revenue share has grown vertiginously since the early 1990s, basically as a result of rate hikes and, to a lesser extent, its extension to services. General VAT rates in the various countries rose by between three and nine percentage points between introduction of the tax and 2002; and as a result the average general rate in the region climbed from 7% to 13%.

The design of VAT in Central American countries suffers from two fundamental problems that erode the tax base, introduce distortions into the economy, undermine equity and make it hard to administer: these are excessive exemptions and use of the zero rate.

The goods and services most frequently exempted from VAT in Central American countries are products included in the basic shopping basket, along with transport, medical and education services, financial and insurance transactions, and energy and fuels. As in the case of income tax, in addition to these objective exemptions there are also discretionary exemptions for various categories of taxpayer such as non-governmental organizations (NGOs) municipalities, non-profit institutions - and for the agriculture sector and enterprises established in free zones.

These distortions are aggravated by zero rating for goods destined for the domestic market. Although this practice is appropriate in the case of exports to avoid undermining local producer competitiveness, in the case of goods for domestic consumption it not only erodes the tax base but also opens up a significant avenue of evasion (and even corruption).

VAT has become the main source of revenue in Central American countries; in 2002, it accounted for 43% of total tax revenue and represented between 4.8 and 6.3% of GDP. Nonetheless, the average revenue obtained from it (5.3% of GDP) is 0.8 GDP percentage points below the Latin American average.

The low productivity of this tax, at just 40.8%, reflects the high levels of evasion, compounded by excessive exemptions and zero rating. The countries where VAT productivity is lowest are Costa Rica and Nicaragua (37.7% and 39.3%, respectively), which is explained by the multiple leakages of the tax in these two countries. Furthermore, in Costa Rica VAT is not levied on services at all. In contrast, El Salvador and Honduras display productivity levels above 45%, although in the latter case the calculations are biased upwards by the aforementioned underestimate of GDP.

The economic literature suggests that the optimal design for VAT involves a single rate levied on the widest possible base.¹⁰ This approach prioritizes neutrality between sectors and administrative simplicity, thereby reducing opportunities for evasion. Moreover, the generalization of VAT keeps domestic production on equal footing with imports. Indeed, in an integrated market with a zero tariff, as CAFTA is expected to be, intrasectoral trade harms domestic producers that are excluded from VAT. This is because the imported good enters the country with no VAT burden, since this will have been reimbursed by the Treasury of the good's country of origin, whereas the domestic producer

¹⁰ See, for example, Engel, Galetovic and Raddatz (1999).

cannot deduct VAT from inputs purchased because the final product is excluded. The damage will be greater, the less vertically integrated is the production process for the good or service in question. If practically all goods and services are taxed, the domestic producer will be able to deduct VAT from inputs, and the importer will pay VAT at the same rate, putting them on equal competitive footing (Arias, Barreix and others, 2005).

Nonetheless, it is widely recognized that, in economies where all goods are subject to VAT, the tax has a regressive effect on the income distribution. Although some recent studies have called this hypothesis into question,¹¹ what cannot be disputed is that VAT exemptions or zero rating for goods that make up a large share of the family shopping basket among the poorest families (i.e. food) is not an effective way to improve equity. As it is the better off who consume most of the favoured goods, exemptions and zero rating strongly erode the tax base and reduce the Government's capacity to implement redistributive policies through expenditure. It is more effective to obtain revenue through a uniform VAT and then subsidize consumption by the poor.

In short, while recent years have seen both an increase in the share of revenue obtained from VAT and a convergence in general rates towards increasingly appropriate and similar levels (thereby facilitating the trade integration process), serious problems persist relating to excessive exemptions and zero rating for non-exporters, which significantly erodes the tax base and undermines its productivity. Zero rating for non-exporters is also a formidable mechanism of evasion and generates substantial administrative costs.

d) *Selective consumption taxes (ISCs)*

In recent years Central American countries have made significant progress in three aspects: ISC levels, the reduction in the number of goods and services taxed, and greater use of ad valorem rather than specific taxes. As table 8 shows, ISCs represented 1.5% of GDP in 2002 (12.2% of total revenue), 0.6 percentage points below

the average for all Latin American countries. Nicaragua is where these taxes collected most revenue, at 3.7% of GDP (equivalent to 26.8% of total tax revenue). Elsewhere, ISCs collect between 1% and 2% of GDP (varying between 8% and 14% of total tax revenue).

In some cases it might be worth raising very low rates, for example in the case of cigarettes and carbonated beverages in Honduras. In El Salvador, systematically low rates explain the low level of revenue obtained from ISCs.¹² In Guatemala, meanwhile, ISC is charged at specific rates, which reduces the elasticity of the tax structure by failing to take account of variations in the price of the goods and services taxed. In view of the low price-elasticity of demand for these goods, a rates hike would not significantly reduce the quantities traded and would therefore expand tax revenue.

e) *Taxes on foreign trade*

Following trade liberalization in the 1990s, the average tariff in Central America in 2002 was just 5.6%, slightly over half of the average for Latin America as a whole (table 9).¹³ There are also many discretionary exemptions and goods that are tariff-free, a phenomenon mainly associated with promotion regimes, including those relating to free zones. This generates a number of problems, such as erosion of the tax base, and provides incentives for evasion.

The strengthening of subregional integration and trade treaties with third countries suggests that the trend towards tariff elimination will continue, which in the future will make tax revenue almost exclusively dependent on domestic taxes. Tax administration will therefore become more difficult, and improvements in the tax collecting agencies will be necessary.

3. Distributive effects of tax systems

The distributive impact of taxes can only be determined via an analysis of incidence based on a large volume of data broken down by income deciles or quintiles (distribution of incomes and consumption, income sources, definition of the family unit, etc.) and on the elasticities of the supply and demand for consumer goods and factors of production. Such data are not always available.

¹¹ See Houghton (2004) and Jenkins and Kuo (2004). The argument is that, in less developed countries, the informal sector is very widespread and products traded on the informal market are not covered by VAT. At the same time, the poorest segments of the population make a high proportion of their purchases in that market (or else produce for self-consumption), whereas the better off buy their goods in formal establishments which do pay VAT. Thus, while all consumption by the higher-income sectors is subject to VAT, a large part of the consumption of lower-income sectors is not.

¹² In the early 2005, the rates of ISCs on cigarettes and alcoholic beverages were raised sharply.

¹³ The existence of CACM makes the average tariff between countries minimal.

TABLE 8

Central American countries: selective consumption taxes, 2002
(Percentages)

	ISC tax rates ^a					Share in total tax revenue	Revenue (% GDP)
	Cigarettes	Beers	Rum	Carbonated beverages	Higher octane gasoline		
Costa Rica	70.0	45.0	60.0	30.0	Specific	8.4	1.1
El Salvador	39.0	20.0 ^b	20.0 ^a	10.0	Specific	9.2	1.1
Guatemala	100.0	Specific	Specific	Specific	Specific	14.2	1.5
Honduras	32.0	33.0	158.0 ^c	8.0	Specific	11.8	1.9
Nicaragua	40.0	37.0	37.0 ^d	14.5	Specific	26.8	3.7
Central America						12.2	1.5
Latin America ^e						15.4	2.1

Source: Agosin, Barreix and Machado (2005); Barreix, Roca and Villela (2004).

^a Given the frequent changes in the rates of selective consumption taxes, the levels shown in the table may differ from those currently in force.

^b To the 20% ad valorem 0.0057 dollars should be added for each 1% of alcohol volume per litre.

^c For the remainder of alcoholic beverages, the figure is 445 plus an additional 20%.

^d For the remainder alcoholic beverages, the figure is 37%.

^e Includes 17 countries. The figures correspond to the average for 2000-2001.

TABLE 9

Central American countries: taxes on foreign trade, 2002
(Percentage)

	Average <i>ad valorem</i> tariff	Standard deviation	Share of these taxes in total tax revenue	Revenue from these taxes % GDP
Costa Rica	6.0	...	7.3	0.9
El Salvador	5.6	8.6	9.2	1.1
Guatemala	5.9	8.0	11.3	1.2
Honduras	5.3	...	12.5	2.0
Nicaragua	5.2	5.8	7.9	1.1
Average	5.6	7.5	9.5	1.2
Latin America ^a	10.1	6.9	8.9	1.2

Source: Agosin, Barreix and Machado (2005); Barreix, Roca and Villela (2004).

^a Includes 17 countries. Figures correspond to the average for 2000-2001.

Moreover, a number of assumptions have to be made, for example relating to tax shifting; for example, it is generally assumed that the direct impact and incidence (the ultimate effect) of direct taxes on individuals fall on the taxpayer himself. The same cannot be said of indirect taxes, where tax shifting is the rule.¹⁴

Table 10 summarizes results obtained in national studies performed for three countries in the subregion. In percentage terms, the Gini coefficient after-tax is higher than before tax in the three countries for which information is available, which suggests that tax systems actually increase income concentration. In the case of

Costa Rica, the effect of the tax system on the income distribution in 2000 is marginal.

TABLE 10

**Central America (three countries):
Gini coefficients of income distribution^a
before and after taxes, 2000**

Country	Coverage	Gini coefficient before taxes	Gini coefficient after taxes
Costa Rica	National taxes	0.482	0.483
El Salvador	National taxes	0.502	0.517
Honduras	National and municipal taxes	0.543	0.571

Source: Agosin, Barreix and Machado (2005); Bolaños (2002).

^a The calculations of Gini coefficients are based on household deciles.

¹⁴ The extent of shifting depends on the price elasticities of demand and supply.

III

Recommendations on tax reform

Having identified the reasons for tax reform and described the Central American tax systems in the previous sections, it is now possible to identify the elements that need to be included in the future tax reforms to be undertaken by the countries of the subregion.

1. The key objective: to increase revenue to invest in people

All the recommendations made in this paper aim at increasing the tax burden to provide the region's Governments with additional resources to invest in human development. This is consistent with the long-term aim of all Central American countries: to speed up growth and at the same time improve the income distribution.

Increasing tax pressure requires expanding tax bases and strengthening the tax administration, rather than raising rates. Such measures will also make it possible to improve the elasticity of the tax system with respect to changes in income.

Modernizing tax systems requires striking an appropriate balance between direct and indirect taxation, making it possible to form a tax system based on a few taxes that have broad and general tax bases with moderate rates. Major efforts are needed to expand not only the VAT tax base but also the personal and corporate income tax bases, while eliminating exemptions and benefits that result in unequal treatment for different taxpayers.

Many of the changes that could be introduced, and which have been referred to as second-generation reforms in view of the difficulties involved in implementing them, form part of a process whose results will only be seen in time. For that reason, the reform programme needs to strike a balance between immediate resource needs and medium- and long-term structural reforms.

It is essential to start quantifying the loss that each incentive regime inflicts on the Treasury and hence the opportunity cost it involves. This means undertaking studies of tax expense for all countries in the subregion. In addition, detailed knowledge of that data will make it possible to identify the beneficiaries of tax expenses, the sectors promoted and the goods and services affected, and thus go beyond mere analysis of the fiscal

cost of incentive measures to more fully understand their economic effects.

2. The need for subregional coordination

There is an urgent need to define a set of parameters or basic criteria within which each Central American country would be free to choose, according to their particular circumstances. One of the initial aims should be to avert fiscal wars within the subregion, since these inevitably result in the degradation of tax systems. Regional coordination should include both the establishment of reference guidelines on tax incentives and the limits on the selective taxation of certain goods, together with criteria for determining the tax bases of VAT and income tax. In the latter case, it would be very useful for the subregion as a whole (possibly in the context of CAFTA) to negotiate a tax agreement with the United States and adopt regulations on transfer prices.¹⁵

3. Alternatives for reform of income and wealth taxes

The analysis of individual and corporate income taxes should be included in the debate on reform alternatives. As mentioned above, the highly concentrated distribution of personal or family income in the subregion is aggravated by existing tax systems. While tax policy is not the most suitable instrument for modifying the pre-tax income distribution, it is hard to accept the regressive impact of the taxes.

It is also worth mentioning that efficiently administering and inspecting taxes on income and wealth is more complicated than in the case of indirect taxes. Additional efforts are therefore needed, combined with progress in generalizing at-source withholding systems as a way of complementing government action.

In the case of corporate income tax, the analysis of the situation in Central American countries shows that the revenue potential of that tax has not been fully exploited because of shortcomings in the capacity of the tax base to capture the changes that have occurred in their economies. Although substantial improvements

¹⁵ The rules of the Internal Revenue Service of the United States provide a model that could be emulated.

have been made to the tax structure in recent years, with inappropriate progressive taxes on business profits being turned into proportional taxes, tax bases still need to be modernized and generalized. The reform proposal prepared in Costa Rica in late 2001 is aimed in that direction, although its parliamentary approval is not without difficulty.

It would be helpful to resume the charging of minimum taxes on presumed income, based on the value of assets or gross sales. This would help to close the funding gap and strengthen direct taxation, while effectively implementing underlying reforms. In the case of IRP, it would be advisable to move towards a scheme of taxation based on global income, even though the administration of the tax is considered more complicated than that of the existing schedule-based taxes.

4. Improve the income distribution

Additional efforts are also needed to substantially improve the effectiveness and efficiency of tax and customs administration. Otherwise no tax reform will be successful. A start should be made by swiftly approving modern tax codes that clearly establish the rights and obligations of the parties involved, thereby affording certainty, objectivity and transparency to the Treasury-taxpayer relationship.

Moreover, given the highly concentrated nature of the subregion's economies and shortcomings in tax administrations, criteria for tax differentiation need to be established on the basis of the size and characteristics of the taxpayers in question. Large- and small-scale taxpayers should not be treated with the same criteria and administrative rules. Rules for small-scale taxpayers should be adapted in view of their large number and small revenue impact. It would therefore be advisable to design a simplified declaration and payment system for microenterprises and small businesses, encompassing VAT, income tax and, where appropriate, social security contributions. This would facilitate administration and reduce compliance costs and informality.

The trend towards eliminating minor taxes, rates, duties, contributions, and licence fees should also be intensified, since these small levies generate little revenue but require the mobilization of a large number of people and paperwork that distract the Treasury from its main objectives.

Lastly, mechanisms such as tax courts for appealing against administrative decisions need to be strengthened. This type of appeals process, separate from the administrative apparatus, would facilitate the implementation of expeditious systems, making it possible to validate the tax liability assessed by the administration while at the same time protecting taxpayers' rights.

APPENDIX

Econometric estimations

In the estimated model, the fiscal variables normalized on GDP are adequately explained by GDP per capita and the income distribution (Gini coefficient). Two hypotheses were expounded in the text: tax revenue and public expenditure as a proportion of GDP vary (i) directly with per capita income; and (ii) inversely with inequality in the income distribution. The results, calculated for the late 1990s using World Bank (2004) data, can be summarized as follows:

$$T/Y = 1.45 + 3.97 \log YPC - 0.36 GINI \quad (1)$$

(0.18) (5.20)** (-4.93)**

Adjusted $R^2 = 0.469$; Number of observations = 95. Figures in parentheses correspond to the t-statistic; an asterisk indicates that the coefficient in question is statistically significant at the 5% confidence level, and two asterisks indicate significance at the 1% level.

$$G/Y = 19.50 + 2.66 \log YPC - 0.36 GINI \quad (2)$$

(2.42)* (3.57)** (-4.42)**

Adjusted $R^2 = 0.307$; Number of observations = 120.

$$GSAL/Y = -4.36 + 1.10 \log YPC - 0.039 GINI \quad (3)$$

(-3.54)** (9.67)** (-3.19)**

Adjusted $R^2 = 0.555$; Number of observations = 121.

$$GED/Y = 0.74 + 0.54 \log YPC - 0.02 GINI \quad (4)$$

(0.44) (3.49)** (-1.12)

Adjusted $R^2 = 0.138$; Number of observations = 120.

The variables are defined as follows:

T/Y	=	Tax revenues as a proportion of GDP (Y)
YPC	=	GDP per capita
GINI	=	Gini coefficient of income distribution
G/Y	=	Total public expenditure as a proportion of GDP
GSAL/Y	=	Public expenditure on health as a proportion of GDP
GED/Y	=	Public expenditure on education as a proportion of GDP

In all equations GDP per capita appears as highly significant in explaining the behaviour of fiscal variables. The Gini coefficient

is also significant in all equations except (4), which explains the variations between countries in public expenditure on education. Naturally this model is extremely parsimonious. An attempt was also made to include a variable that would measure natural resource wealth (exports of minerals as a

proportion of total exports), but this proved not to be significant. The possible endogeneity of the Gini coefficient with respect to GDP per capita (as suggested by Kuznets' inverted-U) does not cause problems of multicollinearity that invalidate the results obtained.

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