MULTINATIONAL CORPORATIONS AND THE PROFIT-SHIFTING LURE OF TAX HAVENS

Christian Aid Occasional Paper Number 9

By Petr Janský, Economist, Charles University in Prague and
Alex Prats, Principal Economic Justice Policy Adviser, Christian Aid

March 2013

CONTENTS

Christian Aid's Occasional Paper (OP) series reflects work carried out by Christian Aid staff and others on a range of development topics. Although OPs are addressed to an audience that includes policy-makers, academics, the media, other non-governmental organisations and the general public, some prior knowledge of the topic may be needed to understand fully some of the papers.

This paper is coauthored by Alex Prats, Principal Economic Justice Policy Adviser at Christian Aid, and Petr Janský. Petr Janský is an economist. He is a lecturer in economics at the Institute of Economic Studies, Faculty of Social Science, Charles University in Prague and a researcher at a public policy think tank IDEA and at the Economics Institute of the Academy of Sciences of the Czech Republic.

Thank you to Heather Lowe (Global Financial Integrity), Joe Stead and Paul Connelly. Thanks also to the Task Force on Financial Integrity and Economic Development, which financially supported the research included in this report.

EXECUTIVE SUMMARY

In February 2013, the Organisation for Economic Co-operation and Development (OECD) published its report *Addressing Base Erosion and Profit Shifting*.[1] The report is the OECD's initial response to the mandate it received in 2012 from some political leaders in developed countries, which showed concern about the problem of tax-base erosion and profit shifting by multinational corporations (MNCs).

In the report, the OECD acknowledges that the current international tax system has not kept pace with developments in the business environment, providing MNCs with plenty of opportunities to exploit legal loopholes and enjoy double non-taxation of income (ie tax-free earnings).

The adoption of profit-shifting strategies by MNCs is identified as one of the main causes of base erosion. According to the OECD, abusive tax avoidance by MNCs raises serious issues of fairness and compliance.

How tax avoidance and evasion can hamper development efforts has been an important area of research in the past few years. This paper contributes to the debate by investigating the link between tax evasion and avoidance, profit shifting and tax havens. Our analysis of financial and ownership data of more than 1,500 MNCs operating in India (which is home to one-quarter of the world's population who are undernourished) shows that in 2010 those MNCs with links to tax havens reported 1.5 per cent less profits. They paid 17.4 per cent less in taxes per unit of asset and 30.3 per cent less in taxes per unit of profit than MNCs with no such links.

These results strongly suggest that MNCs with connections to tax havens engage in profit shifting more intensively than those with no tax haven links. This confirms the notion that when corporations have tax haven links they face higher incentives (because of the low tax rates in tax havens) and opportunities (because of the secrecy provisions tax havens offer) to shift income than other MNCs.

According to the OECD, the present situation calls for a review of the fundamentals of the international tax system. Changes to the current international tax rules should reflect how MNCs operate today, and seek to redress the unjust distribution of the global tax base. MNCs should report their profits and pay their taxes where their economic activities and investment are actually located, rather than in jurisdictions where the presence of the MNC is sometimes fictitious and explained by the adoption of tax-avoidance strategies.

Given the relevance of the analysis provided by the OECD in its report, which is supported by the findings of our own research, we suggest that the OECD and the United Nations Tax Committee jointly explore to what extent would an evolution towards unitary taxation with profit apportionment be more appropriate for the taxation of MNCs and lead to a fairer international tax system.

1 INTRODUCTION

In recent years, the link between international taxation and development has attracted increasing attention from academics, development agencies and policy-makers. Two of the major research areas, clearly interrelated, appear to be international tax evasion and avoidance by MNCs and high net-worth individuals, and the role played by tax havens in both increasing the incentives for, and enabling, tax evasion and avoidance practices.

In February 2013, the Organisation for Economic Co-operation and Development (OECD) published its report *Addressing Base Erosion and Profit Shifting*.[2] The report is the OECD's initial response to the mandate it received in 2012 from some political leaders in developed countries, which showed concern about the problem of tax base erosion and profit shifting by MNCs.

At their meeting in June 2012, the G20 leaders explicitly referred to 'the need to prevent base erosion and profit shifting' in their final declaration. This message was reiterated at the G20 finance ministers' meeting in November 2012, the final communiqué of which states: 'we welcome the work that the OECD is undertaking into the problem of base erosion and profit shifting and look forward to a report about progress of the work at our next meeting'.

Also in November, the UK's Chancellor of the Exchequer, George Osborne, and Germany's Minister of Finance, Wolfgang Schauble, issued a joint statement (which was backed by France's Economy and Finance Minister, Pierre Moscovici) calling for coordinated action to strengthen international tax standards and for states to back efforts by the OECD to identify loopholes in tax laws.

US President Barack Obama voiced similar concerns in the President's Framework for Business Tax Reform, which states that 'empirical evidence suggests that income-shifting behaviour by multinational corporations is a significant concern that should be addressed by tax reform'.

In its report, the OECD makes a comprehensive analysis of the underlying causes and main consequences of the problem of base erosion and profit shifting (BEPS). The OECD acknowledges that the current international tax system, characterised by inter-state tax competition, rather than by cooperation, has not kept pace with developments in the business environment, providing MNCs plenty of opportunities to exploit legal loopholes and enjoy double non-taxation of income (ie tax-free earnings).

According to the OECD, profit-shifting strategies by MNCs raise serious issues of fairness and compliance: 'What is at stake is the integrity of the corporate income tax'.[3]

This paper continues the debate by investigating the link between tax evasion and avoidance by MNCs and tax havens.[4] Our research, based on the analysis of financial and ownership data of almost 1,500 MNCs operating in India, strongly suggests that MNCs with tax haven links use profit-shifting strategies to evade and avoid taxes. As a result, the government of India may have lost tax revenues that could otherwise have been used to invest in human development.

Although India's gross national income (GNI) has more than doubled between 1995 and 2010,[5] the country is still home to one-quarter of the world's population who are undernourished,[6] and is far from achieving the first of the millennium development goals (MDGs).[7] As the Nobel Prize winner Amartya Sen put it: 'there is probably no other example in the history of the world development of an economy growing so fast for so long with such limited results in terms of broad-based social progress'.[8]

Chapter 2 of this paper briefly explores the connections between tax evasion and avoidance, and development. Chapter 3 explains our research goals and methodology, and chapter 4 shows our research results. Chapter 5 concludes and provides some suggestions for further research.

2 HOW TAX AVOIDANCE AND EVASION HINDER DEVELOPMENT

Tax evasion and avoidance strategies adopted by MNCs in developed countries have been well documented. Research conducted by several authors[9] shows that MNCs use various strategies to shift income from high-tax to low-tax countries. Strategies include the distortion of intra-firm transfer prices, the distortion of the corporate debt-equity structure, and the strategic location of assets and overhead costs.[10] Evidence for developing countries is more limited however. The lack of reliable and consistent data is often one of the most significant constraints faced by researchers.

The current global financial recession and the associated policies for fiscal consolidation have made tax evasion and avoidance a prominent issue for developed countries. However, the effects of tax avoidance and evasion are probably more significant for developing economies. While tax revenues in OECD countries represent around 35 per cent of their gross domestic product (GDP), developing countries obtain on average only 13 per cent.[11] The low amount of tax raised by developing countries often leads to a situation where governments cannot obtain the financial resources required to guarantee citizens' access to essential services, such as healthcare, clean water and sanitation, and education. In addition, low tax revenues often imply the need for governments to increase debt and aid levels, which in turn can skew accountability towards creditors and donors.

The low level of tax revenues raised in developing countries is caused by a number of reasons. The existence of large informal sectors, high levels of poverty and the consequent inability of poorer citizens to pay taxes, the abuse of tax incentives (eg tax holidays) to attract foreign direct investment, and tax avoidance and evasion by corporations and individuals can be identified as the most relevant causes, coupled with the existence of weak institutional capacity to expand the tax base and enforce taxpayers' compliance.

Determining the economic and social impact of each of these factors is not an easy task to accomplish, not even at a national level. Nonetheless, research available provides useful insights. In relation to the losses caused by the existence of a shadow economy, Schneider estimated that developing countries could lose as much as US$285bn (£188.6bn).[12] As for the revenue foregone because of tax incentives, the government of India indicated that losses could have represented in 2011 as much as 5 per cent of GDP.[13] Similar staggering figures were suggested in recent research by ActionAid and Tax Justice Network-Africa on the use of tax incentives in east and central Africa.[14] Finally, the OECD has stated that developing countries could be losing three times the amount they receive in aid because of tax evasion and avoidance through tax havens.[15]

This OECD statement would justify why tax havens have been incorporated into the analysis as one of the fundamental elements of the systems and strategies associated with tax evasion and avoidance practices. Two main reasons may explain why tax havens play an important role:

1. Tax havens offer nil or low tax rates, so they can produce an important incentive for corporations and individuals to shift income from high-tax jurisdictions.

2. Tax havens often offer secrecy provisions (eg banking secrecy, lack of exchange of tax information with other jurisdictions, disguise of beneficial ownership, etc), so they enable tax evasion and avoidance practices, allowing the taxpayer to remain hidden from tax authorities elsewhere.

Both elements – low tax rates and secrecy – combine to increase the capacity of tax havens to attract foreign capital, which is much easier to move between countries as a result of intensive globalisation and financial de-regulation since the 1970s. However, secrecy jurisdictions should not be seen as just geographical locations. Because of their connectedness to major international financial centres, tax havens need to be understood as a fundamental element of a broader system and industry that supports tax evasion and avoidance.[16]

One of the research avenues in past years has focused on estimating the wealth stock deposited in tax havens' bank accounts and its associated tax losses for developing countries. A recent report by Tax Justice Network, for instance, estimates that as much as US$32tn (£21.2tn) could be held offshore.[17] The same report states that developing countries could be losing US$189bn (£125.1bn) in associated tax revenue every year.

The importance of and role played by tax havens in today's world economy becomes clear by looking at some Foreign Direct Investment (FDI) figures. According to the OECD,[18] in 2010 Barbados, Bermuda and the British Virgin Islands received more FDI (combined 5.11 per cent of global FDI) than Germany (4.77 per cent) or Japan (3.76 per cent). During the same year, these three jurisdictions made more investments into the world (combined 4.54 per cent) than Germany (4.28 per cent). On a country-by-country position, in 2010 the British Virgin Islands were the second largest investor into China (14 per cent) after Hong Kong, while Mauritius is the top investor into India (24 per cent).

Other studies have focused on the losses caused by MNCs' tax evasion and avoidance through profit-shifting strategies. Much of the existing research exploring the impact of tax evasion and avoidance by MNCs on developing countries uses trade price data,[19] including research conducted by Christian Aid.[20] The general idea of these studies is to identify abnormally priced import and export transactions through a so-called 'price filter matrix'. In its report *False Profits: Robbing the Poor to Keep the Rich Tax-Free*, Christian Aid, using trade data available from the EU and the US, calculated the amount of money lost by non-EU countries into the EU and the US through trade mispricing.[21] It is estimated that during 2005-07 the capital flow through mispricing was in the region of £229.7bn to EU countries and £351.7bn to the US: a total of £581.4bn from non-EU countries to the EU and the US. As a consequence, the overall tax loss to particularly poor countries is estimated at US$160bn (£105.9bn). While this research approach presents some data and methodological challenges,[22] it has been useful to illustrate how tax evasion and avoidance can hamper development efforts.

Other recent research methodologies have also suggested that MNCs widely engage with profit-shifting strategies. Fuest and Riedel analysed data at firm level from a variety of countries and concluded that a) MNCs report less profit and pay less in tax than national companies, and b) MNCs with links to tax havens report less profits and pay less taxes than MNCs with no links to tax havens.[23]

The importance of tax variables as determinants of foreign direct investment has been very much debated, too. Research conducted by the Ruding Committee Report[24] shows that variables such as the market size, and the quality of labour force and of infrastructures are some of the most often-mentioned determinants of FDI, but tax factors have become increasingly relevant as criteria for corporations to choose the location of their foreign investment. In effect, tax competition to attract FDI (often manifested in the progressive reduction of corporate income tax rates,[25] the proliferation of tax incentives, and the increase in the number of secrecy jurisdictions) has led to the prominence of tax-driven investments, ie those whose main goal is precisely to help the corporation reduce its tax bill.

The lack of capacity in most developing countries to obtain useful information on taxpayers and counter tax evasion and avoidance practices by some MNCs significantly contributes to the problem. In the past, many developed countries have adopted measures to prevent profit outflows from their borders, such as general anti-avoidance rules, thin-capitalisation rules, specific transfer pricing legislation, and controlled foreign company (CFC) rules. These strategies often focus on deterring, detecting and responding to aggressive tax planning.[26] However, these measures do not exist in many developing countries, and where they do exist, research on their effectiveness has not been carried out. In the case of India, the country explored in this paper, the government reported to have made transfer pricing adjustments of close to US$9bn (£6bn) for fiscal year 2007-2008,[27] and the tax losses due to abusive transfer pricing in 2011-2012 were estimated at US$12.6bn (£8.3bn). Currently, around 3,500 cases are in litigation.[28]

In February 2013, the OECD launched its report *Addressing Base Erosion and Profit Shifting* (BEPS),[29] which clearly identifies profit shifting by MNCs as a fundamental cause of base erosion.

In line with the conclusions reached by the Ruding Committee, the BEPS report acknowledges the increased segregation between the location where actual business activities and investment take place and the location where profits are reported for tax purposes. More concretely, the OECD describes how some MNCs transfer mobile activities to where they benefit from a favourable tax treatment, thus avoiding the payment of tax.

Within this context, identifying new research avenues to explore the magnitude and mechanics of profit-shifting strategies by MNCs operating in developing countries can provide valuable information for policy-makers.

3 INVESTIGATING THE LINKS BETWEEN CORPORATE PROFIT SHIFTING AND TAX HAVENS

In our research, we seek to obtain new empirical evidence about the links between corporate profit shifting and tax havens. Our identification strategy, which is largely based on Fuest and Riedel,[30] builds on the notion that MNCs operating in developing countries differ with respect to their ability and opportunities to shift income out of their host countries. More concretely, our hypothesis is that firms that belong to multinational groups with tax haven links have greater incentives and better opportunities to transfer income out of developing countries than those MNCs without tax haven connections. Of course, this approach requires access to detailed information on the MNCs' financial accounts and ownership structures.

According to previous empirical research on corporate income-shifting activities in developed countries, and as stated above, some MNCs use different mechanisms to transfer taxable resources to other jurisdictions, mainly the distortion of intra-firm trade prices and the debt-equity structure, as well as the relocation of profitable assets (often intangible assets such as corporate patents). To test for this type of profit shifting, we use information on corporate pre-tax profits, corporate tax payments and debt ratios, because profit-shifting outflows are expected to lower the first two variables and increase the third one. Thus, following our identification strategy, we expect MNCs with tax haven connections to report lower pre-tax profits per unit of assets,[31] pay less in taxes per unit of assets and per unit of profit, respectively, and hold higher fractions of intra-firm debt than MNCs with no connections to tax havens.

As stated by Fuest and Riedel, one of the challenges of this identification strategy is to account empirically for a potential selection of firms with differing characteristics. Strategies to solve this problem have been presented in earlier papers for the developed world.[32] If, after accounting for all these issues, no differences between the considered profit-shifting variables are found, our profit-shifting hypothesis would be rejected. In our own research, we opted to introduce concrete specifications in our regression model in order to control for differences in companies' size and sector.

Our research is based on one specific country (India) and uses financial and ownership data compiled in Orbis, a private database commercialised by Bureau van Dijk (company information specialists). Orbis contains information on 108 million corporations worldwide. Data is derived from the official balance sheets, profit and loss accounts, and financial statements notes, and is complemented with news, market research, and information from official bodies, stock exchanges and private correspondence. The producer of the data has developed a uniform format that is applied to each entity analysed in order to address comparison issues stemming, for example, from differences in accounting standards across countries.

Orbis includes a number of variables that are relevant for our analysis. Financial data includes consolidated and unconsolidated sales, pre-tax profits, tax payments and debt. The financial variables are recorded in US$1,000s, with the exchange rate at each closing date of the year. Ownership variables include country and name of all direct and indirect shareholders, as well as of all direct and indirect subsidiaries up to a tenth level of ownership relationship.

However, as shown in Fuest and Riedel, where research results are based on eight Asian developing countries but driven mainly by China, data for corporations operating in developing countries is sometimes scarce. Some countries, especially in Africa, are comparably poorly represented. The possibility of obtaining a reasonable amount of data on MNCs operating in India, coupled with the fact that India, presents a relative low level of tax revenue as a share of GDP – 16.7 per cent[33] – given its upper-middle income status, explains why India was considered as an interesting case to explore.

Although our research methodology is based on the one developed by Fuest and Riedel, some important differences need to be noted. First, we analyse data of all firms available in Orbis, while Fuest and Riedel use only large and very large firms in their analysis. Second, we use more recent data from 2010 instead of pre-global financial crisis data from 2006. Finally, tax havens are defined differently: while Fuest and Riedel define tax havens according to the OECD's tax haven list,[34] we define tax havens on the basis of 13 different lists. In our research, we consider a jurisdiction a tax haven if it is considered as such in at least seven of the 13 lists explored.[35]

In our research, we define MNCs, as opposed to national corporations, as those firms that belong to a group with subsidiaries in at least two different countries. We consider an MNC to have links to tax havens, as opposed to MNCs with no links to tax havens, when at least one of the subsidiaries is located in a jurisdiction that has been considered a tax haven by at least seven of the 13 lists explored, as mentioned above. According to these definitions, we could classify firms into three different groups: national firms, MNCs with no connections to tax havens, and MNCs with connections to tax havens.

To avoid distortions through outliers, four companies with a negative value of assets were deleted, and observations with a pre-tax profitability below -100 per cent or a pre-tax profitability above 100 per cent were dropped, in line with the approach taken by Fuest and Riedel.

Although 46,276 companies are registered in Orbis as companies operating in India, a large percentage of the registries did not contain all the information we required to conduct our analysis. For instance, for our first ratio in our descriptive statistical analysis, we could work with a sample of 9,545 corporations, of which 8,020 were national and 1,525 multinational. Within the group of MNCs, 738 were found to have links to tax havens, and 787 were not found to be connected to tax havens.

4 RESULTS OF OUR RESEARCH

We first used simple descriptive statistics to compare our two main treatment groups on a number of variables:

- profitability (defined as pre-tax profits per 100 units of assets, and used as a proxy for the corporation's tax base)
- tax payments per 100 units of profits (used as a proxy for the corporation's effective tax rate)
- tax payments per 100 units of assets and
- debt ratio (defined as the corporation's total debt as a share of total assets).

Table 1 below shows our key findings on the basis of the mean values obtained for each ratio explored, while appendix 1 shows the results including our values for standard deviations.

The results obtained thus confirm our established hypotheses (ie they cannot be rejected). On the basis of our sample of MNCs operating in India, we find that MNCs with tax haven connections:

- report 1.5 per cent less profits
- pay 17.4 per cent less in taxes per unit of asset
- pay 30.3 per cent less in taxes per unit of profit
- have 11.4 per cent higher debt ratios than MNCs with no connection to tax havens.

Our results are also consistent with those found by Fuest and Riedel, largely driven by observations of corporations operating in China.

Results obtained in our descriptive statistics were confirmed in our regression model (see appendix 2), where different specifications were established in order to control for size and sector, two of the most relevant potential sources of heterogeneity. Our regression model is based on a sample that includes national companies for which data is available.

The table in appendix 2 shows the results for nine regressions (three per each of the variables analysed): profitability, taxes paid per unit of assets, and taxes paid per unit of profit.

The first specification in each block of regressions (specifications 1, 4 and 7) shows the results for a simple ordinary least squares model that regresses the dependent variable on two dummy variables: MNCs with connections to tax havens and MNCs with no connections to tax havens.

Specifications 2, 5 and 8 control for sector heterogeneity. This is done by incorporating a full set of two-digit industry dummies, as provided by the Orbis database.

Finally, specifications 3, 6 and 9 control for corporations' size by including the logarithm of the firm's total assets as an additional control variable. As the parameters for industry dummies and total assets are largely significant, their inclusion improves the regression specifications. Therefore, regressions 3, 6 and 9 (ie those that include all these explanatory variables) can be considered as the most suitable for interpretation.

In contrast with Fuest and Riedel, the results obtained indicate that firms belonging to multinational groups report higher pre-tax profits per total assets and pay more in taxes than national firms, whereas the corporations with tax haven links report lower profits and pay less in taxes than corporations with no tax haven links. All the specifications yield comparable results and show evidence that is consistent with the descriptive analysis.

Why national firms in India are found to report less profits and pay less in taxes than MNCs would require further research. However, it needs to be noted that profit shifting by domestic companies in India that try to benefit from the tax incentives offered in special economic zones (SEZ) has been identified as a problem by the Indian tax revenues authorities and researchers.[36]

Table 1

India	MNCs with no tax haven links		MNCs with tax haven links		How much less profits reported, less paid in taxes and higher debt fraction when the MNC has a tax haven link
Indicator	Number of observations	Results obtained for our sample	Number of observations	Results obtained for our sample	
Profits reported per 100 units of assets	787	6.6	738	6.5	1.5%
Taxes paid per 100 units of assets	722	2.3	685	1.9	17.4%
Taxes paid per 100 units of profits	714	24.1	683	16.8	30.3%
Debt ratio	544	21.9	615	24.4	11.4%

5 CONCLUSION AND RECOMMENDATIONS

Our findings strongly suggest that MNCs with connections to tax havens engage in profit shifting more intensively than those MNCs with no tax haven links. This confirms the notion that when corporations have tax haven links they face higher incentives (because of the low tax rates in tax havens) and opportunities (because of the secrecy provisions tax havens offer) to shift income than corporations that do not have any tax haven links.

It needs to be noted that reasons different to profit shifting and more generally aggressive tax planning may have also influenced our results, for example the impact of tax incentives or the effects of the existence of Advanced Pricing Agreements (APAs), but it seems to be very unlikely that these factors alone explain the significant differences observed between the groups of MNCs.

Our results are aligned with the analysis made by the OECD in its recent report.[37] Our research indicates that profit shifting to low tax jurisdictions could be a major cause for base erosion in India. The findings also suggest that the current transfer pricing rules and counter measures (at least those adopted by the government of India) might not be effective to tackle tax evasion caused by corporate's profit shifting.

Profit shifting by MNCs can significantly reduce the tax revenues raised by governments. In countries where taxes raised as a percentage of GDP are very low, the revenue foregone can seriously undermine efforts to tackle poverty and invest in human development.

As the OECD states, the current international tax system has not kept pace with the business environment. One of the key problems relates to the fact that the different separate legal entities that form an MNC are still treated from a tax perspective as if they were independent. However, reality shows that these different legal entities follow an overall business strategy, and their managing and reporting structures have links that clearly go beyond the national boundaries.

According to the OECD, this situation calls for a 'review of the fundamentals of the current international tax system'. In our view, any changes to the current international tax rules should seek to:

- **Redress the unjust distribution of the global tax base. Each country should be able to tax a fair share of the profits earned by MNCs operating in its territory.**
- **Treat MNCs as what they really are: complex structures that are bound together by centralised management, functional integration, and economies of scale.**
- **Ensure MNCs pay their taxes where their economic activities and investment are really located, rather than in jurisdictions where the presence of the MNC is sometimes fictitious and explained by tax avoidance strategies.**

Many authors support the evolution towards a unitary approach for the taxation of MNCs. Given the relevance of the analysis provided by the OECD in its BEPS report,[38] which is supported by the findings of our own research, we suggest that the OECD and the United Nations Tax Committee jointly explore to what extent an evolution towards unitary taxation with profit apportionment would be more appropriate for the taxation of MNCs and lead to a fairer international tax system.

Unitary taxation would not be a perfect system, so there are a number of areas that would require further research, such as what constitutes a unitary business, how to define an MNC's global tax base, finding formulas that fairly split profits among the different jurisdictions where the company operates, and how to adapt the system to the nature of different sectors, for example the extractive industries.

However, a unitary approach to the taxation of MNCs could better reflect how MNCs operate today. It could also lead to a more transparent and easy-to-administer system. Under unitary taxation of MNCs, artificial profit-shifting to companies based in tax havens, often with no real economic activity, would become pointless.

APPENDIX 1

	Number of observations	Mean	Standard deviation
Assets (in US$1,000s)			
MNCs without links to tax havens	787	1,223,353.1	5,968,631.2
MNCs with links to tax havens	738	3,506,718.5	19,370,857.0
Profits reported per 100 units of assets			
MNCs without links to tax havens	787	6.6	11.1
MNCs with links to tax havens	738	6.5	11.3
Taxes paid per 100 units of assets			
MNCs without links to tax havens	722	2.3	2.6
MNCs with links to tax havens	685	1.9	2.7
Taxes paid per 100 units of profits			
MNCs without links to tax havens	714	24.1	52.4
MNCs with links to tax havens	683	16.8	142.4
Debt ratio			
MNCs without links to tax havens	544	21.9	22.3
MNCs with links to tax havens	615	24.4	21.2

APPENDIX 2

Regression number	1	2	3	4	5	6	7	8	9
Dependent variable:	Profitability	Profitability	Profitability	Tax per assets	Tax per assets	Tax per assets	Tax per profits	Tax per profits	Tax per profits
MNCs with no tax haven links	4.104***	3.608***	1.905***	1.087***	0.851***	0.724***	19.31	31.49	26.84
	(0)	(6.7e-11)	(0.000734)	(0)	(1.98e-09)	(6.27e-07)	(0.558)	(0.352)	(0.443)
MNCs with tax haven links	3.952***	3.443***	0.806	0.671***	0.441***	0.247	10.26	23.54	16.30
	(0)	(1.17e-09)	(0.178)	(2.44e-06)	(0.00253)	(0.109)	(0.760)	(0.498)	(0.662)
Total assets (log, 2010)			0.721***			0.0572***			2.332
			(0)			(0.000132)			(0.597)
Industry NACE dummies included	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Number of observations	9,545	9,466	9,466	9,212	9,135	9,135	7,988	7,916	7,916
p-value in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Appendix 2 shows the results for nine regressions, three per each of the variables analysed: profitability, taxes paid per unit of assets and taxes paid per unit of profit. The first specification in each block of regressions (specifications 1, 4 and 7) shows the results for a simple ordinary least squares model that regresses the dependent variable on two dummy variables: MNCs with connections to tax havens and MNCs with no connections to tax havens. Specifications 2, 5 and 8 control for sector heterogeneity. This is done by incorporating a full set of two-digit industry dummies, as provided by the Orbis database. Finally, specifications 3, 6 and 9 control for corporations' size by including the logarithm of the firm's total assets as an additional control variable. As the parameters for industry dummies and total assets are largely significant, their inclusion improves the regression specifications. Therefore, regressions 3, 6 and 9 (ie those that include all these explanatory variables) can be considered as the most suitable for interpretation.

ENDNOTES

1 OECD, *Addressing Base Erosion and Profit Shifting*, Paris, February 2013, available at www.oecd.org/tax/beps.htm

2 Ibid.

3 Ibid.

4 Please note that the terms 'tax havens' and 'secrecy jurisdictions' are used interchangeably in this paper.

5 United Nations Development Programme, *Human Development Report 2011*, New York, 2011.

6 Food and Agriculture Organisation of the United Nations, 'The State of Food Insecurity in the World', Rome, 2012, available at fao.org/docrep/016/i3027e/i3027e.pdf

7 Ibid. The prevalence of hunger in India in 1990 was 26.9 per cent. In 2012, it decreased down to 17.5 per cent, which is still far away from the 2015 goal of 13.45 per cent.

8 J Dreze, and A Sen, 'Putting Growth in its Place', 2012 available at outlookindia.com/article.aspx?278843

9 See for instance Clausing (2003), Bartelsman and Beetsma (2003), Huizinga, Laeven and Nicodeme (2008), Büttner and Wamser (2012), Karkinsky and Riedel (2012).

10 C Fuest, and N Riedel, 'Tax Evasion and Tax Avoidance: The Role of International Profit Shifting', in P Reuter, *Draining Development? Controlling Flows of Illicit Funds from Developing Countries*, World Bank, 2012, available at https://openknowledge.worldbank.org/handle/10986/2242

11 International Development Committee, *Tax in Developing Countries: Increasing Resources for Development*, 4th Report of the International Development Committee of the House of Commons (UK), available at http://www.publications.parliament.uk/pa/cm201213/cmselect/cmintdev/130/13002.htm

12 F Schneider, *Shadow Economies of 145 Countries all over the World: What do we really know?,* CREMA Working Paper 2005-13, Center of Research in Economics, Management and the Arts, Zurich, 2005, available at http://ideas.repec.org/p/cra/wpaper/2005-13.html

13 Government of India, Revenue Foregone statement, Union Budget, 2008-2012.

14 Tax Justice Network-Africa and Action Aid International, *Tax Competition in East Africa: A Race to the Bottom?*, 2012, available at actionaid.org/sites/files/actionaid/eac_report.pdf

15 A Gurria, 'The Glonal Dodgers', the *Guardian*, 27 November 2008, available at http://bit.ly/nArYb8

16 N Shaxson, *'Treasure Islands: Tax Havens and the Men Who Stole the World'*, McGrave Millan, New York, 2012.

17 Tax Justice Network (2012), *The Price of Offshore Revisited*, available at http://www.taxjustice.net/cms/upload/pdf/Price_of_Offshore_Revisited_120722.pdf

18 See note 1.

19 Research based on trade price data usually explores trade mispricing, which includes transactions between both related and unrelated parties.

20 A Hogg, J Melby, A Kwatra et al, *Death and Taxes: The True Doll of Tax Dodging*, Christian Aid, 2009, available at christianaid.org.uk/images/deathandtaxes.pdf

21 A Hogg, D McNair and S Pak, *False Profits: Robbing the poor to keep the rich tax free,* Christian Aid, 2009.

22 See note 10.

23 See note 10.

24 M Gammiee, *The Harmonisation of Corporate Income Taxes in Europe: The Ruding Committee Report*. Fiscal Studies, 1992.

25 See note 1. According to the OECD, the statutory corporate income tax rate in OECD member countries dropped on average of 7.2 percentage points between 2000 and 2011, from 32.6 per cent to 25.4 per cent.

26 See note 1, page 37, for details.

27 Sol Picciotto, *Towards Unitary Taxation of Transnational Corporations* Tax Justice Network, December 2012, available at taxjustice.net/cms/upload/pdf/Towards_Unitary_Taxation_1-1.pdf

28 A Prats, *Who pays the prize? Hunger: the hidden cost of tax injustice*, Christian Aid, 2013.

29 See note 1.

30 See note 10.

31 Profitability can be expressed using different measures of one of two generic types of performance: how much a firm makes with what it has (eg return on assets, profit per assets), and how much it makes from what it takes in (eg profit margin, profit per revenue). The downside of using the latter measure based on revenue is endogeneity. Revenue, or turnover, is directly affected by profit-shifting activities (eg by transfer price distortions). Hence, assets-based measures are preferred for our research.

32 See, for example, these three:
M A Desai, C F Foley, and J R Hines, 'The demand for tax haven operations', *Journal of Public Economics*, 90(3), 513–531, 2006.
P Egger, W Eggert, and H Winner, 'Saving taxes through foreign plant ownership', *Journal of International Economics*, 81(1), 99–108, 2010.
G Maffini, 'Tax Haven Activities and the Tax Liabilities of Multinational Groups', *Oxford University Centre for Business Taxation Working Papers*, 2009. Retrieved from http://econpapers.repec.org/RePEc:btx:wpaper:0925

33 See note 28.

34 See www.oecd.org/ctp/harmfultaxpractices/listofunco-operativetaxhavens.htm

35 The source of the 13 lists used is the following: Financial Secrecy Index 2009 and Financial Secrecy Index 2011 come from financialsecrecyindex.com The remaining 11 lists come from Richard Murphy, *Where are the world's secrecy jurisdictions?*, Mapping the Faultlines project by Tax Justice Network, 2009, http://www.secrecyjurisdictions.com/PDF/SJ_Mapping.pdf, which lists them as International Bureau of Fiscal Documentation 1977, Charles Irish (1982), Hines and Rice (1994), Financial Stability Forum (2000), International Monetary Fund (2000), OECD (2000), Financial Action Task Force (2000/02), Hampton and Christensen (2005), Lowtax.Net, Zorome (2007), Senator Carl Levin (2007).

36 D Narasimha Reddy, *Tax Evasion, Tax Avoidance and Tax Revenue Loss in India: A report towards creation of public awareness and action*, Centre for Education and Communication, January 2012, http://works.bepress.com/cgi/viewcontent.cgi?article=1007&context=narasimha_reddy

37 See note 1.

38 Ibid.

UK registered charity number 1105851 Company number 5171525
Scotland charity number SC039150
Northern Ireland charity number XR94639 Company number NI059154
Republic of Ireland charity number CHY 6998 Company number 426928