Foreword

This publication is a compendium of key policy related articles and research published by Department of Finance staff in 2013.

Articles are reproduced here with the kind acknowledgement of the various publications in which they first appeared: the Irish Tax Review, the Economic and Social Review, the European Commission European Economy Journal, and the IPA Administration Journal.

In some cases these are staff papers therefore the views expressed in them are personal and should not be attributed to the Department of Finance.

Staff also contributed to a wide range of publications and media throughout the year on issues related to the Department’s work including articles on topics ranging from aviation finance to Islamic finance.

In addition to these publications, each year the Department of Finance publishes around 25 separate policy papers as part of the Tax Strategy Group process, which is part of the annual Budget process. For copies of these papers please go to: http://www.finance.gov.ie/what-we-do/tax-policy/tax-strategy-group.

In 2013, the Department of Finance also hosted an international economics and tax policy conference in Dublin in June attended by over 150 academics, stakeholders and policy makers. The conference papers are available on the Department’s website using the following link: http://bit.ly/1ktdNvP.

December 2013
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1. The Impact of the Patent Cliff on Pharma-Chem Output in Ireland

Shane Enright and Mary Dalton
Department of Finance Working Paper Series

Abstract

Given the weight of the pharmaceutical sector in Irish GDP, this paper seeks to assess the impact of the current ‘patent cliff’ in the pharmaceutical sector on the Irish economy. Ireland has a well-established specialisation in pharma-chem production, with nine of the top ten multinational corporations located in Ireland. The sector accounts for approximately a quarter of total Irish exports though, due to its knowledge-intensive nature, its employment share and the labour income share in value add terms is relatively modest by comparison.

The clustering of a number of patented drugs going off patent in quick succession, including the global bestseller in 2011, which is assumed to be produced in a small number of locations including Ireland, is having an impact on pharma-chem output in Ireland. Both output and exports are down from their mid-2012 peaks, although the headline impact is likely to be offset to an (uncertain) extent by reduced imports of royalties.

Ireland is likely to continue to feel the impact of the patent cliff as drugs being produced in Ireland continue to come off patent. However, the magnitude is unlikely to be as great as has been felt in 2012 as drugs due to expire and are produced in some part in Ireland are of less value than those that have already come off patent to date. The impact on employment is unlikely to be as large as suggested by the fall in aggregate demand.

The patent cliff has been known about for a considerable length of time and the pharmaceutical industry has been planning for this event for a number of years through agreements with generic producers post-patent expiry, mergers and acquisitions, productivity improvements and a move towards the biopharmaceutical end. Of particular note, is the continued investment by the large multinationals in Ireland, which have experienced patent expiration, in the biopharmaceutical space. In terms of the biopharmaceutical sector, IDA figures suggest that €2 billion in capital expenditure is planned over the next three years, following €1 billion of investment over the past two to three years.

This paper sets out a number of simulations which use various export declines and import responses and suggests a net impact of a loss of 2 to 4 percentage points from GDP over a four-year horizon, depending on assumptions used. Corporation tax would probably reduce due to lower profitability in the sector. These simulations are illustrative only, and do not account for substitution on the supply or demand sides of the economy.

More generally, Ireland is a small open economy and has seen considerable shifts in the composition of economic activity over the years. The current growth in services exports points to the capacity for considerable change in the export mix over time.

The views expressed in this paper are those of the authors only and do not necessarily reflect the views of the Minister or the Department of Finance. The authors acknowledge all those that commented on the paper.
1. Introduction

Given the weight of the pharmaceutical sector in Irish GDP, this paper seeks to assess the impact of the current ‘patent cliff’ in the pharmaceutical sector on the Irish economy. The paper begins with an overview of the sector both at a global and national level. The second section examines recent trends in export and output data to assess the formal impact of the patent cliff on economic and fiscal activity. The third section models the potential impact on GDP, with the final section taking a more qualitative approach to the future of the sector in Ireland.

2. Overview

a. Global pharmaceutical sector

The global pharmaceutical sector was valued at just under €750 billion\(^1\) in 2011. The sector is highly concentrated, with the top ten companies in the world accounting for a third of global sales. Currently, North America and Europe account for almost two thirds of the global market\(^2\).

The sector is facing a number of challenges at present relating to over-capacity, significant R&D costs, a weak pipeline of new products and downward pricing pressures from healthcare payers\(^3\). However, the focus of this paper is the impact of the expiration of patents in the sector in Ireland.

Figure 1 shows the lifecycle of an innovative medicine. For every 5,000 to 10,000 compounds that enter the R&D pipeline, the pharmaceutical industry reports that only one receives approval\(^4\). To compensate for the high costs involved in researching and developing a new drug, companies may file a patent which protects them from competition for a specified period of time. Of the typical 20 year patent period – firms typically only get 8-10 years of effective patent protection before facing generic competition\(^5\). The average cost of researching and developing a new medicine is claimed by the pharmaceutical industry to be approximately €1.4 billion\(^6\). It is estimated that only three out of ten marketed medicines produce revenues that match or exceed R&D costs before they lose patent protection\(^7\).

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\(^1\) All figures converted from US prices using average exchange rate for 2012 of €1 = $1.29
\(^2\) IMS Health
http://www.imshealth.com/portal/site/imshealth/menuitem.18c196991f79283fddc0ddc01ad8c22a/?vgnextoid=6521e590cb4dc310VgnVCM100000a48d2ca2RCRD&vgnextfmt=default
\(^3\) Forfás (2013) Making it in Ireland: Manufacturing 2020
\(^5\) Pharmaceutical Healthcare Facts and Figures 2012
\(^6\) Association of the British Pharmaceutical Industry data (2012)
\(^7\) Pharmaceutical Healthcare Facts and Figures 2012
What is known within the industry as a ‘blockbuster’ drug is a drug that generates more than a billion US dollars in revenue each year. Only a small number of drugs become blockbusters. Typically, companies are able to price well above the marginal cost of output due to patent protection. This is designed to allow companies to recoup the cost of research and development and in practice to cross-subsidise unsuccessful R&D. The current ‘patent cliff’ refers to a number of blockbuster drugs with about €200 billion in total global annual sales, which are set to go off patent between 2011 and 2016, the majority of which are concentrated up to 2013\(^8\). Taken as a percentage of global sales, the patent cliff impacts on about a quarter of the value of the sector.

b. Pharmaceutical industry in Ireland

Up until the 1960s there was little or no pharmaceutical production in Ireland. This was altered significantly following the targeting of the fine chemicals industry, which included

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\(^8\) EvaluatePharma http://www.pharmaceutical-technology.com/features/featurethe-patent-cliff-rise-of-the-generics
pharmaceuticals, by the IDA in the 1970s and the subsequent location of a number of foreign multinationals to Ireland\(^9\). The sector has continued to grow and in 2011 Ireland’s share of global trade SITC\(^{10}\) codes 51 and 54 is particularly high. While the majority of these are involved in active pharmaceutical ingredients (API) and finished products in small molecules (chemical pharmaceuticals), Ireland has a strong and increasing capability in large molecules (biopharmaceuticals)\(^{11}\). A number of factors have led to this growth:

- **Demonstration effect** - Ireland has built up a cluster of pharmaceutical companies over the past thirty years. The demonstration effect of a few successful early leaders is likely to have contributed to this growth, resulting in nine of the top ten global companies locating in Ireland.

- **Comparative advantage** - a study carried out by the Central Bank shows that Ireland has a high comparative advantage in predominantly foreign-owned sectors and principally in the broad chemicals sector\(^{12}\).

- **Track record** - many foreign multinationals in the pharma sector located in Ireland 20 to 30 years ago. As a result, they have established a history of compliance with the regulatory agencies.

- **A young highly-skilled workforce** - 34 per cent of the population are under 25 years of age in 2011\(^{13}\). In addition, 47 per cent of those aged 25-34 years old have a tertiary education. This compares to an OECD average of 39 per cent for the same cohort in 2011\(^{14}\). The IMD World Competitiveness Yearbook 2012 ranks Ireland 1st in the world for availability of skilled labour, flexibility and adaptability of workforce and attitudes towards globalisation.

- **Corporation tax rate** - Ireland has a corporation tax rate on trading income of 12.5 per cent.

Ireland is home to nine out of the top ten global pharma/biopharma companies and manufactures in part or full six of the top ten blockbusters drugs\(^{15}\) coming off patent between 2011 and 2016\(^{16}\). This includes the bestselling drug in the world in 2011.

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\(^{11}\) Forfás (2013) Making it in Ireland: Manufacturing 2020


\(^{13}\) CSO

\(^{14}\) OECD (2013) Education at a Glance 2013: OECD indicators

\(^{15}\) Based on global sales in 2011

\(^{16}\) IDA Ireland
3. Recent trends in the Irish pharmaceutical sector

a. Impact on economic activity

The share of pharma-chem in the Irish economy can be looked at on an expenditure\(^{17}\) basis and an output\(^{18}\) basis. The expenditure measure looks at exports of pharma-chem products, in particular organic chemicals (SITC category 51) and medical and pharmaceutical products (SITC category 54) which are reported on monthly by the CSO in the merchandise trade release. The sum of these two exporting sectors was just over €44 billion in 2012, about 27 per cent of GDP, and just under half of all merchandise exports (Figure 2) and just over €6.5 billion of merchandise imports, about four per cent of GDP. Much of the import content in the pharma sector relates to service imports in the form of royalties and licences, expanded upon in a later section. Ireland’s share of global trade SITC codes 51 and 54 is particularly high at over 7 per cent in 2011 (see Figure 3), given Ireland’s share in global trade of under 1 per cent. Obviously, the net impact on GDP of these exports is reduced by any import content, a topic which will be considered in a further section.

Figure 2. Irish merchandise exports (2012)  
Figure 3. Irish share of global pharma-chem exports 2011

The other method for estimating the contribution of the sector is to look at the value added component using the output approach to estimating gross value added (GVA)\(^{19}\). The most recent data are for 2012, and show that gross value added in the pharmaceutical sector was about 12 per cent of economy-wide GVA\(^{20}\).

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\(^{17}\) GDP on an expenditure basis measures final expenditure on goods and services in the economy. Demand by foreign residents for Irish goods and services (exports) is added to domestic demand and demand by Irish residents for foreign goods and services (imports) is subtracted to calculate GDP. (Final domestic demand + exports – imports = GDP)

\(^{18}\) The output measure of GDP measures the output of the economy by sectors, subtracts intermediate consumption (domestic and imported) to get value added by sector. (Output - intermediate consumption – imports = value added).

\(^{19}\) Gross value added is conceptually similar to GDP but examines production on a sectoral level rather than final expenditure type. Gross value added excludes product taxes and subsidies, although these are largely irrelevant for the pharma-chem sector.

b. Exports

The tradable outputs of the pharma-chem sector include SITC\(^{21}\) categories 51 and 54, (see table 1 below)\(^{22}\). Broadly speaking, 51 consists of the active pharmaceutical ingredient (API) or bulk chemicals with 54 consisting of tableted or bottled (fill /finish) pharmaceuticals for final use\(^{23}\). Both are produced in large volumes in Ireland with medical and pharmaceutical products (54) taking a slightly larger share (see below).

Table 1. Pharma products by SITC code

<table>
<thead>
<tr>
<th>SITC Code</th>
<th>Title</th>
<th>Description</th>
<th>Value, (€m) 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>Organic chemicals</td>
<td>Bulk chemicals (includes some non-pharma chemicals)</td>
<td>20,078</td>
</tr>
<tr>
<td>54</td>
<td>Medical and pharmaceutical products</td>
<td>Mainly tableted pharmaceuticals (includes some non-pharma products such gauze, etc)</td>
<td>24,520</td>
</tr>
</tbody>
</table>

Source: CSO External Trade Figures

Exports of pharma-chem products (using our definition of SITC categories 51 and 54 in value terms) grew solidly to almost 30 per cent of GDP in 2011. Since mid-2012, exports of both categories in value terms have been on the decline (Figure 5), although the pace of decline has slowed in the early months of 2013. The year-on-year fall in pharma-chem products is the largest sustained decline in recent years. It contrasts sharply with strong performance over the past half-decade or so, which included only a very slight contraction in 2008 when global trade was particularly weak. The weakness in pharma-chem exports has also been reflected in overall merchandise trade performance too. In real (volume) terms merchandise exports fell by 5.5 per cent year-on-year in the first half of 2013, leading to six successive quarters of year-on-year contraction.

\(^{21}\) SITC stands for standard international trade classification (http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=28)

\(^{22}\) http://www.cso.ie/en/releasesandpublications/externaltrade/

\(^{23}\) These categories contain some elements which are not strictly pharmaceutical products but they are sufficiently clear for high-frequency analysis.
c. Industrial production and turnover

An alternative source for looking at the output of the pharma-chem sector is the CSO’s industrial production and turnover series. Production is classified by NACE code and the volume index measures physical output with the turnover index measuring value-based sales. Analysis focuses on NACE code 21 ‘basic pharmaceutical products and preparations’. Movement of the production and turnover series respectively can differ for two main reasons. One is that production can differ from turnover in a given month, with stock adjustments accounting for the difference. The second is that the turnover index takes into consideration price effects while the production index is volume only.

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24 For the latest release see here: http://www.cso.ie/en/releasesandpublications/industry/
26 More background on the methodology can be found here: http://www.cso.ie/en/surveysandmethodology/industry/centennial/production/
Table 2. Industrial production by NACE code

<table>
<thead>
<tr>
<th>NACE Code</th>
<th>Title</th>
<th>Description</th>
<th>GVA, €m, 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Basic pharmaceutical products and preparations</td>
<td>Includes the majority of active ingredient and final outputs</td>
<td>10,081</td>
</tr>
</tbody>
</table>

Note: NACE code 20 chemicals and chemical products may contain some pharmaceutical content but is excluded from the analysis due to its size (8% of category 21) and as it may include other non-pharma-related chemicals.

Figure 6 shows the evolution of industrial production and turnover in level terms for NACE code 21 since 2007. The data are quite volatile despite smoothing by way of three-month moving average. Nonetheless the pattern is consistent with that of the export data. Production of pharmaceutical products peaked in the summer of 2012 and has fallen subsequently. There was some recovery in the early months of 2013 (in line with exports) but the highs of mid-2012 have not been recovered. On a three-month moving average basis production is down 14 per cent from peak. In recent months turnover (which measures value) has been weaker than production (which measures volume), which may be indicative of weakness on the price side in the post-patent environment. On a three-month moving average basis turnover is down 20 per cent from peak. To note, production of pharma-chem products which is not exported goes to the domestic Irish market. However the impact of domestic developments is essentially negligible given that over 90 per cent of production is destined for export.

Figure 6. Industrial production and turnover for NACE 21, 3mma, y-o-y change

Source: CSO, authors’ calculations

27 The most recent GVA weights used are from 2005
d. Matching production and exports

Both production in and exports from the sector have shown similar dynamics in recent years. Since 2006 the trend in the level between turnover (by value) in industrial production (NACE 21) and exports (by value) of medical pharmaceutical products and preparations (SITC 54) has been broadly similar (Figure 7).

Figure 7. IP turnover (value) and NACE 54 (value) exports 2006-13

![Graph showing IP turnover (value) and NACE 54 (value) exports 2006-13](image)

Source: CSO, authors’ calculations

e. Labour market impact of pharma-chem sector

Direct employment in the pharma-chem sector is considerably lower than its share in value added or exports. Quarterly national household survey (QNHS) data on employment in NACE codes 20 and 21 showed an average of 36,800 employees in the sectors in early 2013 (Figure 8)\textsuperscript{28}. Both the absolute number and share have remained reasonably stable over the last decade or so and account for about 2 per cent of economy-wide employment. By comparison the share of pharma-chem in GVA is closer to 12 per cent. The very high GVA-per-worker numbers are more likely due to the highly profitable nature of production (explained later) than strong labour productivity \textit{per se}.

\textsuperscript{28} The CSO Census of Industrial Production suggests that 21,500 were employed in sectors 20 and 21 in 2011, considerably lower than the QNHS estimates. This may be due to both differences in survey definitions and sampling techniques.
Data on numbers employed in agency-assisted firms\(^{29}\) in the chemicals sector shows employment of 25,200 in 2012\(^{30}\). This figure is up 1.3 per cent on the previous year. Employment in the sector is highly skilled with approximately half of those working in the sector having a third level qualification and a quarter of all PhD researchers in Irish industry employed in the sector. Consequently the average wage level is significantly higher in the chemicals sector compared to the manufacturing sector as a whole. 2011 figures show average payroll costs per employee of €73,000 in the chemicals sector versus €50,000 in the manufacturing sector as a whole\(^{31}\).

f. Geographical destination of exports

Pharmaceutical exports from Ireland are highly concentrated with North America and Europe accounting for approximately 85 per cent of exports. Exports of pharma-chem products by destination has shown a marked compositional shift since the start of 2012 however, with the share of exports destined for the US down considerably, possibly indicative of patent expiry. Overall, exports of pharmaceutical products and preparations (SITC code 54) fell 7 per cent in value terms in 2012, and are down 10 per cent year-on-year in the twelve months to July 2013. By contrast exports to the US fell by almost half in 2012, much greater than the aggregate fall, and are down a fifth in the twelve months to July. In compositional terms the falls were offset initially by growth to all other geographical areas, in particular EU excluding UK, although this is now falling too. Exports of organic chemicals (51) although not presented are not showing as pronounced a geographical trend.

\(^{29}\) Agency assisted firms refers to all manufacturing and services companies supported by the enterprise development agencies of IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta.


There are several potential explanations (not necessarily mutually exclusive) as to why this fall in exports to the US might be the case:

- Patents generally expire first in the US, and the decline may be a leading indicator of reduction in production for other geographical destinations.

- A contrasting explanation is that the primary destination after Ireland for some drugs can be trans-shipment hubs such as Belgium, and may not reflect changes in geographical demand but firm-specific changes in supply chain management.

- Finally, concentration in the sector is large and the fall-off in supply to the US may reflect product-specific production decisions.

g. Import share of pharma-chem sector

In calculating the net impact on macroeconomic aggregates of any pharma downturn it is essential to have an estimate of the import content of the sector as a whole. For this approach we examine the sector using the output approach, looking specifically at gross value added (GVA). GVA is calculated by taking the output of a sector and subtracting ‘intermediate consumption’, essentially everything that takes place before the production process in a particular sector commences and before product taxes and subsidies are paid. Estimates of the intermediate consumption of each sector of production broken down by NACE code are estimated by the CSO most recently in the 2009 ‘Supply and Use Tables for Ireland’[^32], in particular Table 2 ‘Use Table at purchasers’ prices’. Estimates are produced for 58 sectors, some by individual NACE code and some which aggregate NACE codes. Outputs of specific sectors by value are shown in columns, with intermediate consumption by value from other sectors are shown in the rows. It shows both how much the intermediate consumption is for each sector, and from which sectors they have come. Once intermediate consumption is accounted for, gross value added then consists of compensation of

employees, net operating surplus (profits), consumption of fixed capital (depreciation) and taxes less subsidies. Of relevance for this exercise are chemicals and chemical products (20) and pharmaceutical products and preparations (21). Table 3 sets out the main results of the tables in stylised form.

Table 3. Main results supply and use tables – Ireland

<table>
<thead>
<tr>
<th>Industry</th>
<th>Chemicals and Chemical Products (20)</th>
<th>Basic pharmaceutical products (21)</th>
<th>All pharma-chem (20 &amp; 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>€m</td>
<td>% of sectoral output</td>
<td>€m</td>
</tr>
<tr>
<td>Rental and leasing services (77)</td>
<td>(a) 421</td>
<td>18.6</td>
<td>12662</td>
</tr>
<tr>
<td>All other inputs</td>
<td>(b) 869</td>
<td>38.3</td>
<td>8520</td>
</tr>
<tr>
<td>Total intermediate consumption (a+b)</td>
<td>(c) 1290</td>
<td>56.9</td>
<td>21182</td>
</tr>
<tr>
<td>Of which imported (share imputed from 2005)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>(d) 350</td>
<td>15.4</td>
<td>1188</td>
</tr>
<tr>
<td>Net operating surplus</td>
<td>(e) 469</td>
<td>20.7</td>
<td>11975</td>
</tr>
<tr>
<td>Consumption of fixed capital</td>
<td>(f) 148</td>
<td>6.5</td>
<td>494</td>
</tr>
<tr>
<td>Net taxes on production</td>
<td>(g) 9</td>
<td>0.4</td>
<td>47</td>
</tr>
<tr>
<td>Gross value added at basic prices (d+e+f+g)</td>
<td>(h) 976</td>
<td>43.1</td>
<td>13705</td>
</tr>
<tr>
<td>Output at basic prices (c+h)</td>
<td>(i) 2266</td>
<td>100.0</td>
<td>34887</td>
</tr>
</tbody>
</table>

There are four key points to note from this table. First, the share of intermediate consumption in pharma-chem output (at about 61 per cent) is high. Second, a full 35 per cent of gross output is accounted for by rental and leasing services, which are to a large extent the payment by Irish production facilities for the right to produce patented drugs, with the payment usually flowing to a multinational parent or otherwise in the form of a royalty. Third, the sector is particularly profitable, with net operating surplus at one third of gross output. The high profitability of the sector is likely reflective of the large intellectual property content and monopoly production granted to patent holders, with pricing at substantially above marginal cost. Finally we assume the import share of gross output is 51 per cent, on the assumption that 84 per cent of intermediate consumption is imported. This final assumption is sourced from 2005 input-output tables, as no more recent data are available.

An import share of 50 per cent suggests import elasticity to GDP of about one half\(^{34}\), namely that a one per cent change in exports is associated with a half per cent change in imports. The elasticity of pharma-chem exports to GNP (gross national product) is much smaller, and probably close to zero. This is because the sector is dominated by multinationals so we assume that most profits are recorded as factor outflows in the balance of payments, which accounts for some of the difference between GDP and GNP. However the component of profits which is taxed in Ireland would not be repatriated and would be recorded as GNP.

h. Accounting for the price-volume split

Any shift from patent to generic production is likely to be treated as a decline in volume rather than a decline in price, which is a somewhat counter-intuitive result. Consider the example where an Irish plant continues to manufacture the same drug (in chemical compound terms) where the patent has been lost. In a given month the patented version will leave the relevant price index and the generic equivalent will enter. The CSO will treat the generic equivalent as a new product, rather than the same product at a lower price. This will mean that any decline in the value of production would be accounted for as a volume shift\(^{35}\) as there is no change in the price index per se.

In practice the process may be more gradual and nuanced. Residual brand loyalty can exist in a post-patent environment, and production is unlikely to decline to zero immediately after patent expiration. However, from discussions with industry experts it is unlikely that large pharma companies based in Ireland will continue to manufacture off-patent equivalents on the same assembly lines as patent production.

4. Quantitative simulations on the impact of the patent cliff

a. Simulations of the impact of pharma-chem output loss on GDP

This section sets out the impact of a decline in overall pharma-chem exports on Irish GDP over a number of years under a number of different assumptions. A series of simulations of the net impact on GDP of a loss of pharma-chem output are set out below. Two scenarios for export performance are modelled (large decline and small decline); and the impacts of three import intensities are modelled as well (low import intensity, medium import intensity and high import intensity). The impact of a change in GDP is also a function of the weight of the pharma-chem export sector in GDP. An assumption of a four-year loss period is made with reference to industry estimates of patent loss occurring mainly between 2012 and 2016\(^{36}\). The approach is ‘top-down’ in nature by necessity. More detailed data on which drugs are manufactured in Ireland and in what magnitude are not available for commercial reasons. As such it is not possible to model the falling off patent of certain drugs and their precise impact on production and exports.

\(^{34}\) However, a considerable degree of caution surrounds input-output estimates. They are generally valid for changes at the margin, a more structural decline in output could potentially be accompanied by a shift in the profit/import mix, particularly if the average value-added content of post-patent pharma output was lower.


Table 4. Simulations of output decline

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Four-year GDP loss</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Large pharma-chem export decline (8 per cent p/a)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import content</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High import content (66%)</td>
<td>100.0</td>
<td>99.4</td>
<td>98.9</td>
<td>98.4</td>
<td>97.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Baseline import content (50%)</td>
<td>100.0</td>
<td>98.8</td>
<td>97.8</td>
<td>96.8</td>
<td>95.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Low import content (33%)</td>
<td>100.0</td>
<td>98.6</td>
<td>97.2</td>
<td>96.0</td>
<td>94.9</td>
<td>5.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Four-year GDP loss</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small pharma-chem export decline (4 per cent p/a)</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Import content</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High import content (66%)</td>
<td>100.0</td>
<td>99.7</td>
<td>99.4</td>
<td>99.2</td>
<td>98.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Baseline import content (50%)</td>
<td>100.0</td>
<td>99.4</td>
<td>98.9</td>
<td>98.3</td>
<td>97.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Low import content (33%)</td>
<td>100.0</td>
<td>99.3</td>
<td>98.6</td>
<td>97.9</td>
<td>97.3</td>
<td>2.7</td>
</tr>
</tbody>
</table>

**Figure 11. Large output decline**  
**Figure 12. Small output decline**

Source: author’s calculations

The results suggest a central estimate of a 4 per cent loss of output in the large output decline scenario. In the small output decline scenario a central estimate of a loss of 2 per cent is found. In both scenarios the results depend on the assumed import intensity in each case, if the import response is smaller than the export decline then the net impact on GDP will be lower, and vice versa. The annual impact tapers slightly over time in response to the shrinking weight of pharma in GDP as exports contract.
These simulations should be considered in conjunction with a number of key facts:

- Trend growth is generally assumed to be positive over the medium term and the simulations should be benchmarked against a baseline of positive growth.
- Furthermore, this is a partial equilibrium approach which does not account for any structural change in response to the pharma-chem sector or for any other reason. Ireland’s economy is particularly open and several large structural changes have been observed in recent decades. For example, computer, electronic and optical products shrank from 3.8 per cent of GVA in 2001 to 1.8 per cent in 2011. By contrast computer programming, consultancy and information service activities (62,63) grew from 1.5 per cent of GVA in the 1990s to just under 3 per cent in the years to 2011. The potential for growth in one sector to substitute for loss in another is very real over the medium to long term.
- The ending of patent protection is likely to reduce exports which are recorded as debits in the balance of payments. However repatriated profits and imports (both credits) would both decline substantially as well - meaning a slightly negative impact on the current account is to be expected. This is not modelled.

b. Corporation tax implications

Ireland’s corporation tax take measured just over €4bn in 2012 (2.4 per cent of GDP), and discussions with the Irish Revenue Commissioners suggest that the share sourced from NACE codes 2110 and 2120 is substantial. For the purposes of the paper, the baseline working assumption is that a reduction in pharma-chem output would result in reduced profitability for the sector, with an associated fall in taxable profits. However profitability could be maintained to some extent in the face of output loss if reduced output means a reduction in imports of licences. The specific implications for the corporation tax take from any decline in pharma-chem output are not modelled in this paper.

In more qualitative terms, Ireland’s corporation tax take has always been both concentrated and more prone to changes in composition over the years, compared to more stable forms of revenue such as labour taxation or VAT. The patent cliff is unlikely to have net positive implications for the revenue take over the medium term, and the risks are clearly weighted to the downside in this regard.

c. Implication of fiscal consolidation

In Ireland, the Health Service Executive (HSE) accounts for a large share of drug purchases, although developments domestically are unlikely to have a noticeable impact on production in Ireland due to the size of the export market. As part of the government’s multi-annual fiscal consolidation strategy, a series of measures designed to reap savings from drug purchases have been introduced. The Health (Pricing and supply of medical goods) Act 2013 was enacted in May 2013. The Act provides for the introduction of a system of generic substitution and reference pricing to promote price competition and deliver lower medicine prices for both the state and patients in coming years. Total HSE spend on drugs in 2011 was estimated at €1.8 billion in 2011, or (1.1 per cent of GDP). By comparison with the scale of exports in the same year (€47 billion, or 29 per cent of GDP), the impact of any domestic reforms to reduce prices in Ireland is likely to be very small on Irish output. Nonetheless, fiscal consolidation in Europe has focussed on drug prices in recent years, given that other health inputs such as wages tend to be less negotiable. This process is likely to continue over the medium term and will weigh on values (if not necessarily volumes) over this period.

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d. Upside risks

Industry has been planning for the patent cliff for a number of years now and has taken several steps to try and mitigate the impact of the patent cliff:

- In the lead up to the expiration of specific patents, companies have taken a number of initiatives to try and lessen the immediate impact. Some branded pharmaceutical companies have signed exclusive supply agreements with generic distributors to manufacture and sell generic tablets for a specified time period. Some companies have also succeeded in extending patent protection.\(^{38}\)

- There has been significant merger and acquisition activity in recent years as many of the larger pharmaceutical multinationals attempt to diversify operations and enhance their product pipeline. Some of the most high profile mergers of recent years include Pfizer’s acquisition of Wyeth and Merck’s merger with Schering-Plough.

- Irish subsidiaries are repositioning themselves in the global value chain as ‘strategic launch plants and flexible multi-product plants’ that can produce the high-value stages of the chemical pharmaceutical process as well as small volume, high value niche products.\(^{39}\)

- Companies are investing more in R&D as Ireland has improved its R&D offering in recent years through the introduction and subsequent enhancement of the R&D tax credit. Added to this, Ireland has invested heavily in science and technology infrastructure over the last decade making it a more attractive location to conduct high value R&D.

- Companies are moving more towards the production of biopharmaceuticals which requires a greater level of skill and process R&D effort and as a result is harder to replicate. Biopharmaceuticals account for around 10 to 15 per cent of the current pharmaceutical market and growing at a faster rate than the market as a whole.\(^{41}\) Ireland now has over ten large-scale biopharmaceutical facilities.\(^{42}\)

It is also worth highlighting that the pharmaceutical sector has large sunk costs associated with its plants, with individual plants costing in the region of €250 million. Therefore the mobility of the sector may be restricted in a way that many service sectors would not be.

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38 Davy (2012) Ireland and the Pharma Patent Cliff
40 Biopharmaceuticals are defined as pharmaceuticals manufactured by biotechnology methods, with the products having biological sources, usually involving live organisms or their active components.
5. Future of the sector

Despite the known impact of the patent cliff, the future of the pharmaceutical sector is assessed to be stable over the medium term according to Moody’s Investor Services as fewer major blockbusters expire and firms return to earnings growth in 2013\(^\text{43}\). Research conducted by Accenture in August 2012 showed that forecast global sales lost to patent expiry would peak in 2012 at approximately €30 billion before falling back to €17 billion in 2013 and hovering around the €14 billion per annum mark to 2016\(^\text{44}\).

Global spending on pharmaceuticals is set to continue to grow, however it is expected there will be a change in the composition of growth. The US and Europe are forecast to decline in market share as patents continue to expire and economies attempt to cut costs. In addition, spending on generic pharmaceuticals is expected to increase at a faster rate than global brands\(^\text{45}\).

Globally, innovation in the pharmaceutical sector is now shifting towards personalised healthcare. This effectively means developing solutions that are tailored to the needs of the patient. Personalised healthcare is leading growth in innovative delivery mechanisms, companion diagnostics, niche busters and a shift toward biologics - which at the same time is seeing consolidation in the market\(^\text{46}\). This is likely to be low-volume but a high-value area. Biopharmaceuticals will account for an increased share of spending by 2016, with spending set to double from €72 billion in 2006 to approximately €160 billion by 2016\(^\text{47}\).

6. Conclusions

Given the weight of the pharmaceutical sector in Irish GDP, this paper seeks to assess the impact of the current ‘patent cliff’ in the pharmaceutical sector on the Irish economy. Ireland has a well-established specialisation in pharma-chem production, with nine of the top ten multinational corporations located in Ireland. The sector accounts for approximately a quarter of total Irish exports though, due to its knowledge-intensive nature, its employment share and the labour income share in value add terms is relatively modest by comparison.

The clustering of a number of patented drugs going off patent in quick succession, including the global bestseller in 2011, which is assumed to be produced in a small number of locations including Ireland, is having an impact on pharma-chem output in Ireland. At the time of writing (late-2013) both output and exports are down from their mid-2012 peaks, although the headline impact is likely to be offset to an (uncertain) extent by reduced imports through royalty payments.

Ireland will continue to feel the impact of the patent cliff as drugs which are aware of being produced in Ireland continue to come off patent. However, the magnitude is unlikely to be as great as has been felt in 2012 as drugs due to expire that are produced in some part in Ireland are of less value than those that have come off patent to date. The most significant drug left to come off patent that is produced in Ireland is due to expire in 2016\(^\text{48}\).

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\(^{43}\) http://www.moodys.com/research/Moodys-Stable-outlook-for-global-pharmaceutical-industry-due-to-return--PR_271447

\(^{44}\) Accenture (2012) Beyond the Patent Cliff – Signs of Recovery on Biopharma’s New Normal


\(^{46}\) Forfás (2013) Making it in Ireland: Manufacturing 2020


\(^{48}\) Davy (2012) Ireland and the Pharma Patent Cliff

http://www.davy.ie/content/pubarticles/patentcliff20121128.pdf
The impact on employment is unlikely to be as large as suggested by the fall in aggregate demand. Employment in the sector accounts for less than 2 per cent of total employment. Those employed are highly skilled and in general better-educated employees are less likely to face skills mismatches in the event of a demand shock, compared to, say, and the situation in the wake of the construction collapse.

In addition, the pharmaceutical industry has been planning for this event for a number of years through agreements post-patent, mergers and acquisitions, productivity improvements and a move towards the biopharmaceutical end. Of particular note, is the continued investment of the large multinationals in Ireland, which have experienced patent expiration in the biopharmaceutical space. In terms of the biopharmaceutical sector, IDA figures show that €2 billion in capital expenditure is planned over the next three years, following €1 billion of investment already over the past two to three years.

A number of illustrative simulations which use various export declines and import responses suggest a cumulative loss 2 per cent of GDP in a small decline scenario and 4 per cent of GDP in a large decline scenario over a five-year horizon. Corporation tax would probably fall due to lower profitability in the sector.

More generally, Ireland is a small open economy and has seen considerable shifts in the composition of economic activity over the years. The current growth in services exports points to the capacity for some substitution on the supply side of the economy.

Brendan O’Connor100

The Jobs Initiative

In May 2011 the Government announced a Jobs Initiative which involved a series of measures to boost employment. A key aspect of the Jobs Initiative involved a reduction in the rate of VAT which was targeted mainly at labour intensive goods and services relating to tourism. In this context, a new temporary second reduced rate of VAT at 9% was introduced with effect from 1 July 2011 until end-December 2013.

The 9% rate applies to the following categories which had previously been subject to VAT at 13.5%:

- The supply of food and drink (excluding alcohol and soft drinks) in the course of catering or by means of a vending machine;
- Hot take-away food and hot drinks;
- Hotel lettings, including guesthouses, caravan parks, camping sites etc;
- Admissions to cinemas, theatres, certain musical performances, museums, art gallery exhibitions;
- Amusement services of the kind normally supplied in fairgrounds or amusement park services;
- The provision of facilities for taking part in sporting activities by a person other than a non-profit making organisation;
- Printed matter e.g. newspapers, brochures, leaflets, programmes, maps, catalogues, printed music (excluding books); and,
- Hairdressing services.

The exact items from these categories which are included in the CPI basket are set out in the Annex to this paper.

This measure was estimated to cost €120 million in 2011 and €350 million in a full year.

All other goods and services to which a reduced rate had applied remained subject to the 13.5% rate. In addition, the Finance Act 2012 provided that admissions to historic houses, open farms and built & natural heritage facilities became subject to the 9% VAT rate from 1 January 2012. However, as these services had formerly been exempt from VAT, they are not part of the services being analysed in this study.

VAT receipts in the ‘Accommodation and Food Services’ economic sector have trailed their level in the same month in the preceding year for each of the months in which the 9% VAT

99 This article was originally published by the Department of Finance in November 2012 with the Department’s Medium Term Fiscal Statement. Any views and opinions expressed in this paper are solely those of the authors and do not necessarily reflect the views of either the Minister or the Department of Finance.

100 The author is a senior economist in the fiscal section of the Department of Finance’s Economics Division. An earlier draft was submitted to the Tax Strategy Group. The author thanks colleagues in the Economics and Fiscal Divisions as well as members of the Tax Strategy Group for helpful comments.
rate has applied. This is shown in Figure 1. Whilst this is not necessarily driven exclusively by the rate change it is likely to have been a key driver.

**Figure 1: Change in VAT receipts versus same month in previous year, Accommodation and Food Services**

![Change in VAT receipts versus same month in previous year - Accommodation and Food Services](chart)

*June 2011=100*

*Source: The Revenue Commissioners*

The reduction in VAT targeted from the tourism sector is consistent with the economic literature which suggests that the price elasticity of demand for tourism related goods is relatively elastic.\(^{101}\) This means that consumer demand increases by proportionately more than the percentage reduction in prices in the tourism sector. It was hoped that this demand side stimulus would increase the demand for jobs in the sector through consumer responses to lower prices and by sustaining employer margins.

The Minister for Finance announced in his Jobs Initiative speech that to ensure that the tourism sector is delivering added employment from the 9% rate of VAT, the effects of the changes will be assessed and the measures reviewed before the end of 2012 in the context of preparing Budget 2013.

One of the means of testing the effectiveness of the stimulus would be an examination of rate of pass through of the VAT reduction to lower consumer prices. Data limitations mean that a study of employer level margins is not possible.

A full year of monthly price data has been provided by the CSO for the affected goods and services. It is therefore timely to analyse the price trends that have emerged.

**The Data**

The CSO publishes monthly changes in the consumer price index relative to a base year price (currently December 2011). The CSO ordinarily publishes changes in twelve sub-indices (food and non-alcoholic beverages, clothing and footwear, etc.) which are further disaggregated

on the CSO databank. The published sub-indices do not correspond to the categories for which the 9% VAT rate was introduced.

On foot of a special request from the Department, the CSO in consultation with the Revenue Commissioners constructed price series that match with the goods and services at the reduced 9% rate. In all, an index of prices has been constructed for each of the eight reduced VAT categories as well an overall series that covers all of the 9% VAT rate items. The relevant items and their respective series are listed in the Annex to this paper.

Employment data is available from the CSO quarterly national household survey (QNHS). The level of aggregation of activities only permits a meaningful analysis of the employment impact in food and accommodation services (NACE economic sector I). All other categories for which the 9% reduced VAT rate applies are small components of wider economic sectors in the context of the QNHS. Whilst it is not possible to analyse the employment impact for these other activities, accommodation and food services account for over 70% of expenditure on the 9% items and can thus be considered a reasonable proxy for the overall employment impact of the 9% items.

**VAT rate pass through**

The price level for each series in June 2011 – the month prior to the VAT rate reduction – has been set as a base for this analysis. The trends in prices are compared to this month. Price data are available up to June 2012. Between June 2011 and June 2012 overall economy wide inflation increased by 1.7%, whereas aggregate inflation for the sectors covered by the VAT reduction fell by 1.5%. It should be noted that the headline inflation rate as measured by the CPI was influenced by higher than headline rates of inflation in energy and administered prices. To get an understanding of underlying inflation in the economy an inflation series excluding these two categories has been constructed. This series recorded a 0.3% price rise over the same period. The reduction in price in the affected sectors following the VAT reduction is still favourable when compared to underlying inflation.

**Figure 2: Inflation June 2011 to June 2012, overall inflation, underlying inflation, and Jobs Initiative items**

![Inflation graph](image-url)

*June 2011=100
Source: Central Statistics Office*
Whilst overall prices covered by the VAT reduction fell compared with economy wide headline and underlying inflation, different rates of inflation occurred in the various categories covered by the Jobs Initiative.

For example clear evidence of pass through occurred in the following series:

- Meals out;
- Hairdressing;
- Admissions to cinemas, theatres, musicals, museums and art galleries; and,
- Newspapers.

Significant price volatility occurred in the ‘hotels and other accommodation’ series which fell by 13% from July 2011 to January 2012, and recovered to within 1% of the June 2011 price level by June 2012. This is driven by the cyclical nature of hotel prices which peak in mid-year and decline thereafter. Another series impacted by seasonality is hairdressing services with a clear ‘December effect’ causing a temporary spike in prices around the Christmas period.

The price changes in each of the series are summarised in Table 1. For convenience, the price changes for June-December 2011 and January-June 2012 are separately identified as well as the overall June 2011-June 2012 price change.

**Table 1: Rates of Inflation June 2011 – June 2012**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Cinemas, theatres, musicals, museums, art galleries</td>
<td>-2.8%</td>
<td>2.4%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Hairdressing services</td>
<td>3.5%</td>
<td>-4.3%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>Hot take away foods and hot drinks</td>
<td>-0.4%</td>
<td>-0.4%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Hotels and other accommodation</td>
<td>-10.2%</td>
<td>13.6%</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Meals out including rail car dining</td>
<td>-1.3%</td>
<td>0.1%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>-1.7%</td>
<td>-0.5%</td>
<td>-2.2%</td>
</tr>
<tr>
<td>Sport</td>
<td>0.0%</td>
<td>-4.5%</td>
<td>-4.5%</td>
</tr>
<tr>
<td>All 9% items</td>
<td>-2.5%</td>
<td>1.9%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Headline CPI</td>
<td>0.5%</td>
<td>1.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Underlying CPI</td>
<td>0.0%</td>
<td>1.4%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

*Source: Central Statistics Office*

The only sector where prices actually rose in the first six months following the VAT reduction was in hairdressing services, although this increase was a seasonal effect around the Christmas period and a price reduction was observed either side of the Christmas increase (see Figure 11).

No price change was observed for sporting facilities in the first six months after the reduction. This reflects annual pricing by sporting facilities and club memberships (e.g. gyms and sports clubs). Full pass-through was observed for this sector from January 2012.
Prices for the remaining items all fell during June-December 2011. For some categories this represented a reversal of earlier increases and for others it represented an acceleration of an existing downward trend.

For the period January – June 2012 an upward trend was observed for ‘cinemas, theatres, musicals, museums, and art galleries’ and for ‘hotels, and other accommodation’ with a 13.6% rise experienced in the latter series. The overall effect of the increase in the ‘hotels and other accommodation’ category was to restore the prices in this category back to within 1% of the June 2011 level. This is reflective of the seasonality of hotel and accommodation pricing which increase during the first half of a calendar year with a mid-year peak and price reductions thereafter (see Figure 7).

Looking at the 9% VAT rate items as a group, it is interesting that following a 2.5% price reduction in the first six months, prices increased by 1.9% in the second six month period, resulting in an overall price reduction of 1.3% by June 2012 compared with June 2011. It is also noteworthy that the rate increase in the second six month period outpaced both headline and underlying inflation. This rate rise was however accounted for mainly by seasonally driven price increases in ‘hotels and other accommodation’ in the first half of 2012.

The cyclical nature of pricing in hotels and other accommodation overstated the decline in the overall Jobs Initiative series in the final six months of 2011 and similarly overstated the price increase in the overall series in the first six months of 2012. By excluding hotels and other accommodation from the overall Jobs Initiative series a more modest decline in prices of just under 2% relative to June 2011 can be observed for most of the period with the exception of a slight increase around Christmas 2012 which was largely accounted for by seasonal hairdressing prices driven by supply and demand factors in that sector. Controlling for the impact of this “Christmas effect” on hairdressing prices, the overall pass-through of close to 2% held consistently since the 9% reduced VAT rate came into existence. This suggests that close to half of the VAT reduction has been passed through to consumer prices.

Given that headline inflation ran at close to 2% for the full period it is likely that some of the gap between the actual price decrease in the affected sectors and the rate reduction is accounted for by economy wide inflation.
Employment Impact

The CSO releases employment data quarterly through the QNHS. The most recent QNHS release was in respect of Q2 2012. The 9% reduced VAT rate came into existence at the start of Q3 2011. Thus there are four quarters of out-turn data on the employment impact available, including the quarter in which the rate change occurred.

The QNHS data are published by reference to NACE REV 2 economic sectors. Based on the data that are publicly available from the CSO the most relevant economic sector that is mainly accounted for by 9% VAT rate items is NACE sector I – ‘accommodation and food services’. All other 9% VAT rate items form small parts of broader economic sectors and an analysis of these sectors would not be informative in terms of the specific impact of the 9% reduced VAT rate.

Whilst it therefore not possible to look at the impact of the Jobs Initiative across every 9% VAT rate category, the food and accommodation services covers 70% of the Jobs Initiative basket according to expenditure data provided by the CSO as part of its price series. It is therefore reasonable to analyse the food and accommodation services economic sector as proxy for the overall impact.

According to the QNHS there were 114,500 people employed on a seasonally adjusted basis in the accommodation and food services economic sector in Q2 2012, compared with 108,300 in Q2 2011, the quarter that immediately preceded the introduction of the 9% rate. This represented a net increase in the sector of 6,200 jobs (+6%).

\[102\] The unadjusted employment series increased by 6,300 during the same period.
Quarterly increases in employment in this sector were recorded in Q2 2011 (+5%), Q3 2011 (+3%), Q4 2011 (4%) and Q2 2012 (3%) with a quarterly fall in Q1 2012 (-4%).

While a lag would normally be expected between a policy change and an impact on the labour market, there appears to be reasonable evidence of the desired employment impact in the accommodation and food services sector.

It is worth comparing the observed employment impact with a counterfactual. While the theoretical counterfactual would be the impact on employment and food services over the same period at the old 13.5% rate, this obviously cannot be observed. A counterfactual must therefore be formed from observable outcomes, for instance the employment outcomes in comparable sectors.
One possible comparable sector is overall economy-wide employment which fell by 2% over the same period. However this contains construction, manufacturing and public sector jobs which may not be relevant for this analysis. Another possible sector is overall services employment which also fell by 2% over the same period. However the overall services series includes accommodation and food services as well as public sector employment.

A useful comparison may therefore be overall services excluding accommodation and food services and public sector employment (including health and education). This series, which captures employment in market services excluding accommodation and food services, fell by 3% over the same period. The quarterly changes in accommodation and food services and this counterfactual series are graphed overleaf.

Compared with the range of possible counterfactuals discussed above, there has been a net employment growth differential of 8%-9% since the introduction of the 9% VAT rate with the reference series growing by 6% and the counterfactual series falling by 2%-3%.

**Figure 6: Quarterly employment changes**

![Graph of quarterly employment changes](image)

*Source: Central Statistics Office
QNHS NACE Rev 2 Economic Sector I*

Whilst there were 6,200 additional employees in the sector in Q2 2012 relative to Q2 2011, given that an upward trend was in existence in Q2 2011 (+5%) it is possible that some of the increases were due to reasons other than lower VAT rate. However given the clear evidence of price pass through in food services categories, and similar though less conclusive evidence in accommodation services, the evidence appears to support the view that the 9% reduced VAT rate has had the desired employment impact.

It should also be noted that this analysis is by its nature backward looking and is not an indication of sustained or further employment growth in the future. It is therefore not possible to state whether the employment response is likely to have been temporary or permanent. It should also be noted that a substitution effect may have drawn consumer demand away from other sectors and towards accommodation and food services as a result of consumer price reductions.
Detailed analysis of price pass through

The various 9% VAT rate categories are discussed individually below. A chart accompanying each category is presented with each chart comparing the out-turn inflation in the category - with the price in June 2011 set to 100 - against a counterfactual or ‘modelled’ series in which the VAT reduction is immediately passed through and the rate of inflation thereafter is assumed to move forward in line with underlying inflation – i.e. headline inflation less energy prices and administered prices. This facilitates a comparison not only of the speed of pass through but the general price trend in each category against underlying inflation in the economy.

Hotels and other accommodation

Following the July 2011 VAT reduction a slight increase in prices occurred that month followed by a decrease of 10% in the period to December 2011 compared with June 2011 levels. Prices continued to fall in January 2012 with the price index for the hotels and other accommodation series reaching a level 13% below that of June 2011.

The reduced price levels of 2011 were reversed in 2012 with prices approaching their June 2011 levels by June 2012. This increase is consistent with a cyclical pattern of prices in this sector with prices tending to increase in the first half of each year towards a mid-year peak and reduce in the second half.

The trend in hotel prices since June 2007 is presented below with the counterfactual or ‘modelled’ series included from June 2011. It is clear that a downward trend in prices has been occurring since 2007, though with a deceleration in the rate of reduction in recent years. The cyclicality in prices is clearly evident with very obvious mid-year peaks and year end troughs occurring annually. The low-point in the post Jobs Initiative price cycle occurred in January 2012 and was just under 2% below the January 2011 level, while the June 2012 price level is within 1% of the price level in June 2011.

The evidence of pass through in the hotels and other accommodation sector is not conclusive. On the one hand the price decreases throughout the second half of 2011 could be interpreted as the continuation of an existing trend. Alternatively it could be interpreted as evidence of pass through given that the January and June 2012 prices are below the equivalent levels in 2011. Ultimately it is impossible to know what would have happened to the price trend in the absence of the VAT reduction.
Meals out

The meals-out category experienced an overall price reduction of 1.3% for the period. There was an immediate pass through of 1.5% in the first six months following the rate reduction with prices largely static thereafter.

Figure 7: Hotels and other accommodation – actual and counterfactual ‘modelled’ inflation

Figure 8: Meals Out – actual and counterfactual ‘modelled’ inflation
While the full VAT reduction does not appear to have been passed-though in its entirety, it should be noted that food prices, a key input into this activity, can have volatile levels of inflation.

By way of comparison, the diagram overleaf compares the inflation rate for the meals out category against prevailing food price inflation as measured by both upstream industrial (wholesale) price inflation for food items and downstream consumer food prices from the CPI. It is clear that the inflation rate for meals out is less than the rate of consumer and industrial price inflation for food items generally.

This suggests that the partial pass through could have been reflective of the interaction between upward cost pressure due to rising food prices and pass through of the lower VAT rate. It appears that some of the rate reduction was offset by higher input food prices.

**Figure 9: Meals Out – comparison with industrial and consumer prices for food items**

![Figure 9: Meals Out – comparison with industrial and consumer prices for food items](image)

*June 2011=100
Source: Central Statistics Office*

**Hot take away food**

After a slight increase in the first two months following the VAT reduction the price series for ‘hot food and take away’ trended around the June 2011 price level until June 2012. This suggests limited evidence of pass through for this item. However as with the meals out category it should be noted that there has been inflation in wholesale and consumer prices for food items.

As evidenced in Figure 10 there has been a lower rate of inflation in the hot take away food series than in the wholesale and consumer food price series. The wholesale food price series is of particular interest given that this is an input cost to vendors of hot take away food.
It appears that the VAT reduction has largely been absorbed by increases in wholesale food prices.

**Figure 10: Hot takeaway food, comparison with wholesale and consumer food prices indexes**

![Graph showing price indexes for hot takeaway food, industrial food prices, and consumer food prices from June 2011 to June 2012.]

*June 2011=100*

*Source: Central Statistics Office*

**Hairdressing services**

The price index for hairdressing services was on a downward trend for the first 6 months of 2011. After the VAT reduction an immediate pass-through of approximately 2% was observed. This was maintained for most of the following six months with a sharp increase in December 2011 which brought the series to a level close to 4% above June 2011 prices. This increase is consistent with a regularly occurring “Christmas effect” caused by seasonal demand increases in the sector at that time of year. The “Christmas effect” was reversed in early 2012 with the price series returning to that prevailing up to November 2011.

Figure 11 sets out the price path for hairdressing services since June 2009. The “Christmas effect” can clearly be seen each year. While an existing downward trend in 2011 should be acknowledged there is clear evidence of pass through in this sector.
The modelled series represent a counterfactual in which the full 4.5 percentage point VAT reduction was passed through in July 2011 and projects forward in line with underlying inflation. Source: Central Statistics Office

Cinemas, theatres, musicals, museums, art galleries

The full 4.5 percentage point VAT reduction appeared to have been passed through by November 2011 but this has been reversed in 2012 with the price series trending back towards the level seen in June 2011, the month prior to the rate reduction. This series has experienced price increases in 2012 in excess of underlying inflation. This series is presented in Figure 12.

Newspapers

The newspaper series experienced full and immediate pass through of the VAT reduction with the price level falling to 95.5 in July 2011 relative to the base of 100 in June 2011. A trend increase which began in October 2011 has brought the series back to with 2% of its June 2011 one year later. This series is presented in Figure 12.
Sporting facilities

There was a six month lag for the pass through of prices for sporting facilities with full pass through occurring in January 2012. This is reflective of annual subscription charges for the use of sports facilities and the admission to sports clubs and societies where clubs and other membership subscriptions are determined at the start of a calendar year and only change in the following membership year. This is the only series where full pass through occurred and remained persistent.

Figure 12: cinemas and other cultural admissions, newspapers – actual and counterfactual ‘modelled’ inflation

The modelled series represent a counterfactual in which the full 4.5 percentage point VAT reduction was passed through in July 2011 and projects forward in line with underlying inflation

Source: Central Statistics Office


**Conclusion**

The 9% reduced VAT rate appears to have had the desired impact both in terms of price pass through and by contributing to employment gains, with an additional 3,000 jobs in quarter 1 2012 relative to quarter 2 2011 in the labour intensive food and accommodations services sector of the economy.

When considered as an overall group there is evidence of pass through of the VAT rate reduction, though not the full amount, with an aggregate reduction of 1.3% recorded between June 2011 and June 2012 and 1.7% when the highly seasonal hotel price series category is excluded. This compares favourably with economy wide inflation which increased by 1.7% over the same period on a headline basis and underlying inflation which increased by 0.3%.

The evidence in respect of pass through in the hotels and other accommodation sector is inconclusive. Whilst the price level for this sector in June 2012 was below the level of June 2011 it may be attributable to either a Jobs Initiative effect or a continuation of a multi-year trend of falling prices.

The evidence is clearer in respect of the two food categories with meals out falling by 1.3% and hot take away food falling by 0.5% relative to June 2011 despite inflationary pressures in wholesale and consumer food prices.

There is some evidence of pass through to consumer prices in all of the other reduced rate categories.

It is likely that the VAT rate reduction on some of the categories acted as a temporary employment stimulus, either through direct pass through or by enabling the retention or expansion of labour demand without offsetting reductions in firm margins.
## Annex: List of Jobs Initiative items at new 9% VAT rate

<table>
<thead>
<tr>
<th>Jobs Initiative list of items</th>
<th>CPI sub-index</th>
<th>CPI BASKET Items (Base: December 2011=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The supply of food and drink (excluding alcohol and soft drinks) in the course of catering or by means of a vending machine</td>
<td>9% VAT Meals out including rail car dining</td>
<td>- Chips - small single</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Lunch</td>
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<td></td>
<td></td>
<td>- Dinner</td>
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<td></td>
<td></td>
<td>- Fast food meal</td>
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<tr>
<td></td>
<td></td>
<td>- Meal in ethnic restaurant</td>
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<td></td>
<td></td>
<td>- Canteens</td>
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<td></td>
<td></td>
<td>- Rail catering</td>
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<tr>
<td></td>
<td></td>
<td>- Tea/coffee - eat-in (hot)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Sandwich/wrap/roll/bagel - eat-in</td>
</tr>
<tr>
<td>Hot take-away food and hot drinks</td>
<td>9% VAT Hot take away foods and hot drinks</td>
<td>- Hot deli foods</td>
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<tr>
<td></td>
<td></td>
<td>- Take-away meal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Chicken - cooked whole</td>
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<tr>
<td></td>
<td></td>
<td>- Tea/coffee - take-away (hot)</td>
</tr>
<tr>
<td>Hotel lettings, including guesthouses, caravan parks, camping sites etc</td>
<td>9% VAT Hotels, guesthouses, hostels</td>
<td>- Guest houses and B&amp;Bs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Hotels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Hostels</td>
</tr>
<tr>
<td>Admissions to cinemas, theatres, certain musical performances, museums, art gallery exhibitions</td>
<td>9% VAT Cinemas, theatres, musicals, museums, art galleries</td>
<td>- Cinema</td>
</tr>
<tr>
<td>Amusement services of the kind normally supplied in fairgrounds or amusement park services</td>
<td></td>
<td>NO RELEVANT ITEM IN BASKET</td>
</tr>
<tr>
<td>The provision of facilities for taking part in sporting activities by a person other than a non-profit making organisation</td>
<td>9% VAT Sport</td>
<td>- Sports participation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Club &amp; society subscriptions</td>
</tr>
<tr>
<td>Printed matter e.g. newspapers, brochures, leaflets, programmes, maps, catalogues, printed music (excluding books)</td>
<td>9% VAT Printed matter - newspapers, comics, magazines</td>
<td>- Newspapers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Comics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Magazines</td>
</tr>
<tr>
<td>Hairdressing services (Note: beauty treatments:- for example, facials, massages, nail treatments, tanning or sunbed services etc., remain liable at the 13.5% rate)</td>
<td>9% VAT Hairdressing services (beauty treatments are excluded - remain at 13.5%)</td>
<td>- Gents - dry haircut</td>
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<tr>
<td></td>
<td></td>
<td>- Gents - wash, cut &amp; blowdry</td>
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<tr>
<td></td>
<td></td>
<td>- Ladies - shampoo &amp; set</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ladies - wash, cut &amp; blowdry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ladies - perm/bodywave</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ladies - hair colour &amp; highlights</td>
</tr>
</tbody>
</table>
3. Priorities of Ireland’s Presidency of the Council of the European Union 2013 in the area of Taxation Policy

Declan Kelly and Gary Tobin
Irish Tax Review, Issue 1, 2013

Introduction
On 1 January 2013 Ireland assumed its seventh Presidency of the Council of the European Union. This Presidency is of particular importance to Ireland and from a taxation perspective it is expected to be very busy. As the Presidency Ireland will have the responsibility of chairing the Council formations and technical working parties. As chair the Presidency not only sets the agenda for the 6 month Presidency but also has responsibility for drafting and preparing compromise legislative proposals.

The taxation agenda of the Irish Presidency will be a challenge and an opportunity for Ireland. Key legislative dossiers in the areas of VAT, Energy Tax, the Common Consolidated Corporate Tax Base and the Financial Transactions Tax will all feature during the course of our Presidency.

Objectives of Ireland’s Presidency
The overriding priority for the Irish Presidency is to foster a sustainable and job-rich economic recovery. As Presidency Ireland will be aiming to manage the work of the Council in the best interests of the Union in general and not to adopt a narrow national perspective. 2013 will be a particularly challenging year for Ireland. As well as holding the rotating Presidency, the Government’s objective is to exit the EU/ECB/IMF Programme of Assistance. Running in parallel to the Presidency in the first quarter of 2013 will be the ever important legislation for the annual Finance Bill.

Financial Transaction Tax (FTT)
In September 2011 the Commission published a proposal for a directive on a common system of Financial Transaction Tax. The aim of the Commission proposal is a fair contribution of the financial sector to the costs of the current crisis, avoiding fragmentation of the single market, and creating appropriate disincentives for transactions that do not enhance the efficiency of financial markets.

From the beginning it was clear that this proposal would struggle to get unanimous agreement from the 27 Member States as required under the Treaties for taxation proposals. Nevertheless, for a number of Member States, it was essential that agreement on an FTT would be reached if not at the level of 27 then with a smaller group of member states. During the course of the Danish Presidency (January-June 2012) technical work was undertaken on the proposal culminating in a debate at the June 2012 ECOFIN Council. This Council concluded that the FTT proposal could not be adopted within a reasonable time and a number of Member States indicated that they were prepared to consider a proposal for enhanced cooperation.

In order to trigger the provisions of the Treaties on enhanced cooperation a minimum of 9 Member States have to indicate in writing to the Commission that they would like a proposal for enhanced cooperation to be put forward. Eleven Member States – Germany, France, Austria, Belgium, Spain, Italy, Slovenia, Slovakia, Estonia, Portugal, and Greece – wrote to the Commission asking for a decision to authorise enhanced cooperation on the FTT.
On 23 October 2012 the Commission adopted a decision confirming that a proposal for a FTT complies with the obligations set out under the Treaty and forwarded this authorising decision to the ECOFIN Council for consideration. Since that authorising decision was published the Netherlands indicated that it would be prepared to join enhanced cooperation FTT on three conditions:

1. That pension funds were exempt,
2. The Revenues were not used to fund the EU Budget and
3. The overall burden on the financial sector taking into account other taxes and levies was not too large.

In order to permit enhanced cooperation to proceed, the Treaty sets out clear conditions including the assent of the European Parliament, which was granted on 12 December 2012. Enhanced cooperation has only previously been used on two occasions, one related to divorce provisions and the other related to a common European patent. The decision to authorise enhanced cooperation in the area of taxation is considered to be a very significant step and could set a precedent for other taxation dossiers. At the January, 2013 ECOFIN the Council voted under the qualified majority procedure to authorise enhanced cooperation. The Irish position on the FTT, as set out by the Minister for Finance, is that we support the overall aims of a FTT, and that it should be introduced globally. If this is not possible it should be introduced at EU 27 level. Ireland does not propose to participate in the FTT under enhanced cooperation. The main concerns relate to the possible impact on the Irish financial services sector given that the United Kingdom has indicated that it will not participate in the FTT.

As Presidency Ireland has an obligation to chair the technical working groups dealing with the FTT even though Ireland has not opted to participate in the enhanced cooperation procedure. The Treaties set out clearly that all Member States may participate in the discussions but only those Member States who have opted in may vote. The work on this dossier will be difficult both technically and politically for all Member States to ensure that the final proposal is designed not to negatively impact on the functioning of the internal market.

Common Consolidated Corporate Tax Base (CCCTB)

The Commission published its proposal for a Common Consolidated Corporate Tax Base (CCCTB) on 16 March 2011. The Commission considers that the proposal would help to establish a common EU wide system for the calculation of corporate tax bases, which would be an optional system operating in parallel to existing national tax systems, and to allow for consolidation of profits and losses of the groups of companies that have opted in to the system.

In a previous edition of Irish Tax Review we set out an update on the current state of play on the CCCTB proposal. Since that article was published the Cyprus Presidency finished a first read through of the proposal. In the December 2012 report to the European Council on progress on tax dossiers Member States indicated that they see the need for orientations in order to carry forward work at the technical level.

103 Article 330—Treaty on the Functioning of the European Union
The Irish Presidency will hold the necessary discussions to seek to help Member States agree a way forward on this proposal.

**Value Added Tax (VAT)**
In the area of VAT, the Commission has come forward with two important directives. The two main proposals are the Treatment of Vouchers and the Quick Reaction Mechanism. In addition the Commission has recently published the implementation Regulation on the Place of Supply of business-to-consumer transactions.

**VAT Treatment of Vouchers**
The Commission published the proposal on 10 May 2012. The aim of the proposal is to adopt common rules on the treatment of vouchers for the purposes of VAT by clarifying and harmonising the rules on the treatment of Vouchers in European legislation. Further detail on this proposal can be found in issue 3 of Irish Tax Review in 2012 in an article by Richard Cowley\(^{105}\).

This dossier is technically challenging but not considered politically difficult. The Irish Presidency intends to clarify the technical application of this proposal and ensure that all Member States have a common understanding of the key issues. It is not considered that this proposal will be adopted under the Irish Presidency.

**VAT Quick Reaction Mechanism**
On 31 July 2012 the Commission published a proposal for a quick reaction mechanism to deal with urgent cases of sudden and massive VAT fraud. The proposal would speed up the period for authorisation to derogate from the provisions of the VAT Directive in very specific situations. This proposal is a priority action for the Commission and for Member States as the issue of sudden and massive tax fraud can have a major impact on national budgets. The Irish Presidency is actively working towards reaching agreement among Member States on this proposal.

**Regulation on the Place of Supply of business-to-consumer transactions**
New rules provided in Directive 2008/8/EC relating to the place of supply of cross-border business-to-consumer (B2C) broadcasting, telecommunications and electronic services will take effect from 1 January 2015. At which point, the VAT on such services will be chargeable in the Member State of the consumer and not the Member State of the supplier, as is the case at present. This proposal, which will amend the VAT Directive Implementing Regulation (282/2011), was published on 18 December 2012. The objective of the proposal is to ensure a common understanding of the new rules among tax authorities and business.

Given the importance of this implementing regulation and the tight deadline it is the intention of the Irish Presidency to begin early technical work on the proposal with a view to possible adoption during the Irish Presidency.

**Energy Tax Directive (ETD)**
In April 2011 the Commission published an amending proposal to Directive 2003/96/EC on restructuring the Community framework for the taxation of energy products and electricity. The aim of the revised proposal is to bring the 2003 Directive into line with the EU’s energy and climate change objectives as requested by the March 2008 European Council.

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Discussions on this proposal have been ongoing and progress has not been as rapid as hoped despite an ECOFIN Ministers orientation discussion in June 2012. Significant issues remain: these include the minimum levels of taxation to be laid down in the Directive, the reference components (CO2 and energy component) for setting the single minimum level of taxation including permitting Member States to express their national levels of taxation as one single tax or as separate taxes provided the minimum levels laid down in the Directive are respected.

The Irish Presidency is intent on building on the good progress of the Cypriot Presidency (July-December 2012) and are hopeful of progressing the proposal.

*Commission Action Plan fighting tax fraud and tax evasion (including Aggressive tax planning and tax havens)*

The Commission published its Action Plan on fighting tax fraud and tax evasion on the 6 December, 2012. In addition to a prioritisation of actions following the June 2012 Communication on fighting tax fraud and tax evasion the Action Plan contains two Recommendations from the Commission. The first recommendation relates to measures intended to encourage third countries to apply minimum standards of good governance in tax matters and the second recommendation relates to aggressive tax planning. The Irish Presidency intends to prioritise the work of the Council in examining the two Recommendations with the intention of agreeing a common position from the Member States.

*High Level Tax Group*

During the Presidency Ireland will chair the High Level Group on Taxation. This Group is composed of senior officials from Finance Ministries and Revenue Agencies and discusses tax policy issues relevant to the Union.

Among the topics that will be discussed will be the tax aspects of the European Semester process, the CCCTB, FTT, the Future of VAT and also it is proposed to have a dialogue on current international taxation topics.

*Finally*

In the area of taxation each six month Presidency is required to prepare a report indicating the progress that has been made on individual dossiers and also in fulfilling the commitments to taxation as set out in the Euro Plus Pact document. This requirement makes it very difficult for Member States to simply ignore dossiers that may be problematic. Ireland’s report to the European Council will be published on 28 June 2013. Ireland’s seventh Presidency of the European Council of Ministers presents a big opportunity for a small member state to advance and influence the European policy agenda. Ireland’s previous Presidencies have been well regarded in terms of their achievements. It is to be hoped that in this instance seven will indeed prove to be a lucky number.
4. Real Estate Investment Trusts (REITs) – Tax Policy Rationale

Deirdre Donaghy
Irish Tax Review, June 2013

Introduction
Finance Act 2013 saw the introduction of a substantial new body of legislation into Irish law, providing a tax framework for Real Estate Investment Trusts (REITs). The detailed provisions of the legislation were outlined in Finance Act 2013: REITs by Jim Clery in Volume 26 of the Irish Tax Review. The purpose of this article is to provide some details of the policy rationale underlying the introduction of REITs, and to promote a discussion as to how Irish REITs may develop in the future.

Property market – structural issues
The development of new legislation in a time of fiscal consolidation comes with its own specific set of constraints. In the absence of a budgetary surplus, it becomes very clear that the tax ‘cost’ of any new measure (i.e. the amount of any reduction in tax revenue to the Exchequer) must be paid for by the raising of additional tax revenue from another source. It is therefore important to target new measures at specifically identified issues within a market, and, where possible, take steps to mitigate any tax cost to the Exchequer.

In the case of the investment property market in Ireland, a number of structural issues of concern were identified.

Double Layer of Taxation:
Prior to the introduction of REITs, investment in property via corporate vehicles was not generally a tax efficient option, due to the double layer of taxation which applies on profits earned within a company and then paid out to shareholders in the form of dividends. Corporation tax at the higher non-trading rate of 25% is payable by companies on rental profits, and shareholders are liable to income tax at marginal rates on dividends paid from the after-tax profits of the company.

A company may not have any obligation to pay after-tax profits out to shareholders, and may instead hold the profits within the company. This can in itself give rise to further taxation, as rental profits retained within a company can be liable to the close company surcharge, where applicable.

Investors in both commercial and residential property therefore tended either to invest personally, concentrating risk into a small portfolio of assets, or to use other vehicles such as investment funds which generally were suitable for high-value investors only.

Concentration of Risk:
This lack of a suitable avenue for collective investment, particularly for the smaller investor, led to structural issues within the property market. According to a report produced by Daft.ie, the average Irish residential landlord owns between 1.6 and 2.1 properties, and less than 1.25% owns 10 or more properties.  

106 The Daft.ie Rental Report, an analysis of recent trends in the Irish rental market 2012 Q3, (Daft.ie, 2012)
These figures indicate a significant concentration of risk into one or two buy-to-let properties for the majority of residential landlords. Any significant negative movement in the value of just one property would therefore have the potential to wipe out the value of the investment.

In addition, investment in residential buy-to-let property typically involves a significant level of borrowing by the investor, exposing them to a number of risks in a time of financial contraction:

- Risk of negative equity, if the property value falls to less than the total amount of borrowings outstanding against it.
- Risk of mortgage arrears from a number of causes, including:
  - A fall in rental values to less than the amount of the repayments due on the borrowings,
  - Inability to let the property due to net migration from the area following job losses, and
  - A rise in interest rates, increasing mortgage repayments beyond the rental revenue.

Evidence of the effect of this risk concentration has crystallised in the Irish market – Central Bank figures indicate that indicate that 25.2% of mortgages in the buy-to-let sector are in arrears, with 18.9% of these being in arrears of over 90 days.\(^\text{107}\)

Finally, the proliferation of small landlords leads to a lack of consistent standards in the residential property market. This creates difficulties for tenants seeking accommodation, but also for landlords who may find it difficult to find good long-term tenants in a rented sector that has not traditionally been geared towards this market.

**Access to Capital & NAMA:**
Another structural issue of significant relevance to the Irish property market, and indeed to the wider economy, is the restricted availability of investment capital from the banking sector due to the financial crisis.

These difficulties are particularly pronounced in Ireland and throughout Europe due to a strong reliance on bank financing over other sources of capital investment. In the US commercial banks are responsible for an estimated 25% – 30% of lending, with the remainder coming from a variety of sources including capital markets and investors in securitised assets. In contrast, the picture throughout Europe is almost the reverse, with banks accounting for the bulk (c.83%) of corporate financing activity – there is approximately €8 trillion of corporate debt on European bank balance sheets, and only €1.3 trillion in the bond markets.\(^\text{108}\)

The attraction of alternative sources of investment capital to the property sector therefore has the potential to provide benefits across a broad spectrum of the Irish economy – firstly by allowing banks to concentrate their available loan financing on other investors such as SMEs and retail customers, but also by showing to other sectors the potential for accessing corporate finance from sources other than banks.

\(^\text{107}\) *Residential Mortgage Arrears and Repossessions Statistics: December 2012*, (Central Bank of Ireland, 31 December 2012)

\(^\text{108}\) *Filling the bank-shaped hole*, (The Economist, 15 December 2012)
In the property sector, attraction of new investment capital may be of particular benefit to the commercial property market, as there are indications that certain sectors of the commercial property market are showing strong growth, and possibly even a shortage in supply.

The Investment Property Databank (IPD) Ireland Q3 2012 Briefing shows that the year-to-date total return for investment grade property in the category Office Dublin Docklands was 6.5%, exceeding even City of London offices which had a total return in the same period of 5.4%. The total return in the Office Dublin City category was not far behind, at 4.3% in the same period. ‘Total Return’ encompasses both income return and capital growth.

Finally, no review of structural issues in the Irish property market would be complete without reference to the National Asset Management Agency (NAMA). NAMA has acquired loans (land and development and associated loans) with a nominal value of €74 billion from participating financial institutions, and its objective is to obtain the best achievable financial return for the State on this portfolio over an expected lifetime of up to 10 years.

NAMA, through its debtors and receivers, is directly involved in the management and sale of commercial and residential property assets, interacting with the property market on a number of fronts, including:

- The holders of the distressed loans may choose or be obliged to dispose of property holdings in order to reduce or resolve the outstanding debts.
- The Agency may acquire property assets through enforcement proceedings on non-performing loans.
- The Agency may facilitate the completion of certain developments with sound commercial prospects, increasing supply to the property market.

It is in the interests of both NAMA and of other owners of property in the Irish market that property disposals are conducted in a way which does not result in a negative ‘fire-sale’ effect on general property values.

Potential for REITs to address these issues

With these structural issues in mind, what potential does the introduction of REITs to the Irish market have to address these issues?

Double Layer of Taxation:
REITs are specifically designed to remove the double layer of taxation which otherwise applies to property investment via corporate vehicles. Subject to meeting a number of criteria, including a requirement to distribute annually at least 85% of net rental income to its shareholders, a REIT may qualify for an exemption from tax on qualifying income and gains within the REIT.

The distribution requirement has two drivers. First, it protects tax revenues for the State by ensuring that the majority of rental profits are distributed each year for taxation at the level of the shareholder. Second, it ensures a regular income flow from the REIT to its shareholders, making REIT investments suitable as a long-term investment alternative to traditional pension funds, equity shares and direct property investment.

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109 IPD Ireland Q3 2012 Briefing (IPD, 26th October 2012)
Risk Diversification:
By removing this double layer of taxation, REITs provide a framework for collective investment in property assets. Instead of purchasing a single entire property, investors can instead buy shares in a REIT holding a diversified property portfolio, thereby spreading risk across a range of different property types, locations and sectors.

Ownership of REIT shares also allows an investor to participate in returns from the property market without the need to personally manage and maintain a property. REITs are typically managed by professional property asset managers, allowing shareholders to benefit from their expertise in selection and management of assets, and allowing tenants to benefit from consistent and professional management standards.

Investing via a REIT can have particular benefits for small investors, allowing them to access returns from investment-grade property which would be beyond their reach as an individual investor. This can also be achieved without recourse to the mortgage borrowings typically associated with property investment. REITs are quoted companies, so the minimum investment could be the price of a single REIT share.

Attraction of Capital:
REITs originated in the USA in the 1960s, and are now well-established in the US, Europe, Australia and Asia. Approximately 35 countries worldwide currently have REIT or REIT-like legislation. The REIT model is recognised and understood by large and institutional investors throughout the world, and is therefore more attractive to these investors than unique Irish products, which may require considerably more due diligence work on the part of large investors before they feel sufficiently comfortable to invest.

REITs meeting the recognised criteria for the format may be listed with international REIT associations – EPRA (the European Public Real Estate Association) in Europe and NAREIT (the National Association of Real Estate Investment Trusts) in the US – which are recognised forums for the attraction of investors to REIT products.

A REIT vehicle would also provide a mechanism for property specialists to assemble a portfolio of investment property assets, and then float that portfolio to retail and institutional investors worldwide.

By providing a suitable investment framework, it is hoped that REITs will help to attract investment capital to the Irish property market, including new foreign sources of investment capital. This should add to various other initiatives undertaken by NAMA, including joint venture transactions and vendor finance initiatives, to facilitate the disposal of NAMA assets over time at the best possible return to the taxpayer.

New sources of investment capital, particularly if backed by professional property asset management within REITs, could also have the potential to finance the completion or development of commercially viable property assets, which may otherwise struggle to find financing from traditional banking sources. This could address shortages of supply occurring in specific sectors, such as the Dublin commercial property market, and provide a basis for responsible property development in the future. REITs are not restricted to investing in any specific asset class or location, and so no tax bias should influence the selection of property assets.

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110 Global REIT Survey 2011, (European Public Real Estate Association (EPRA), 2011)
Policy constraints – protection of tax revenue

Having identified REITs as a potential method to address the structural issues in the property market, the potential cost of introduction then had to be considered.

While REITs are obliged to distribute the majority of rental profits annually for taxation at the level of the shareholder and should therefore maintain a certain continuity of existing Case V tax receipts, a potential loss of tax revenue was identified to the extent that REIT shares were owned by non-resident shareholders.

The REIT framework of a tax exemption on rental income at the corporate level tied to a distribution requirement effectively converts Case V rental profits into company dividends, for taxation in the hands of the shareholder.

Under current domestic tax legislation, dividends paid by an Irish company to a shareholder resident in a tax treaty country are specifically exempted from the charge to income tax under section 153, Taxes Consolidation Act 1997 (hereafter referred to as TCA 1997), and an exemption from Dividend Withholding Tax (DWT) also applies under section 172D, TCA 1997. In addition, under section 29 TCA 1997 an exemption from CGT applies to all non-residents in respect of gains derived from listed shares, even in cases where the shares derive their value from immoveable Irish property.

If a REIT structure were to be established under existing dividend rules, foreign shareholders resident in treaty countries would therefore have no liability to Irish tax in respect of dividend streams or capital gains derived from immoveable Irish property.

This loss derives from the displacement of the current taxable owners of the fixed stock of Irish property, and not specifically from the entry of new investors who may not have participated in the Irish market in the absence of a REIT regime.

A secondary exposure to tax loss could also arise to the extent that REIT shares were held by Irish resident companies. Under the existing section 129, TCA 1997, dividends would be exempt from tax in the hands of the Irish company as Franked Investment Income (FII), and any subsequent taxation of that income on distribution would depend on the tax residence of that company’s shareholders. There may also have been some potential for REIT dividends to be rolled-up tax free by an Irish company shareholder, but the application of the close company surcharge to FII may have discouraged this practice.

The combination of these potential tax leakages, particularly in view of the fact that a specific objective of introducing REITs was to attract foreign investment capital to the Irish property market, would have made the introduction of REITs impossible in the current fiscal environment.

However, further review of international REIT regimes provided a solution to this problem, that it is hoped will not undermine the international competitiveness of the Irish REITs regime. Most foreign jurisdictions with REIT regimes retain a certain level of taxing rights over their REIT dividends, often in the form of a withholding tax on dividend payments. In fact, when the UK introduced a REIT regime in 2007, a new category of ‘property income dividend’ was specifically created, in order to provide a method for collection of tax from foreign REIT investors.
It was therefore decided that, in view of the fact that REITs are a tax-exempt vehicle and therefore fundamentally different to other Irish corporate entities, the tax treatment of REIT dividends could be separated from that of other dividends from Irish companies. REIT dividends would be specifically carved out from the exemptions in sections 129, 153 and 172D, TCA 1997, thereby preserving Irish taxing rights on REIT dividends to Irish companies and foreign investors.

This does not wholly eliminate the potential tax leakage, as relief from double taxation may still be available to foreign shareholders under relevant double tax agreements (treaties vary, but in general source countries retain taxing rights in the range of 5% to 15% on such income), but it does mitigate the potential loss to a level that is acceptable within current Budgetary constraints when considered in conjunction with the potential benefits REITs may bring to the Irish property market.

A REIT regime may also have the potential to increase certain other tax receipts, which may mitigate this tax leakage. Uptake of a REIT regime in Ireland would result in the transfer of property into newly-formed REIT vehicles, generating Stamp Duty revenue on formation at rates of 2% on commercial property and 1% to 2% on residential property.

In the longer term, the borrowing limits integral to the REIT model which ensure that rental income is not wholly or even largely offset by interest payments should result in consistent profitability within the REIT vehicle, and consequent taxable income distributions to REIT shareholders. Taxation of these regular income streams should provide a more reliable source of tax revenue to the State than the highly-geared investment structures used to date.

**Post Finance Act 2013 – Where to from here?**

The introduction of a new tax regime is often an incremental process. Finance Act 2013 has established a REIT framework in Irish tax legislation, and development of the REIT regime will be ongoing for some time. The Irish Stock Exchange is currently developing a listing regime for Irish REITs, and the position of Irish REITs with respect to the Alternative Investment Fund Managers Directive (AIFMD) is also under review.

The future development of Irish REITs will depend very much on market response to the product. Ireland has international renown as a centre for the management and administration of investment funds – at the end of 2012 almost €2.2 billion in investment fund assets were under administration in Ireland, and over 40% of the world’s Alternative Investment Funds are administered from Ireland.\(^{111}\)

Building on this knowledge, can Ireland become a hub for the financing and management of tax-efficient cross-border investment in rental property assets? Source country taxing rights in multiple jurisdictions create difficulties in developing cross-border REITs, but it appears that this problem is not insurmountable – Europe’s leading REIT is Unibail-Rodamco SE, a French company with a presence in 12 European countries, and a portfolio of assets valued at €29.3 billion in December 2012, generating a mix of both taxable and qualifying exempt income for the company.\(^{112}\)

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The launch of a new tax regime is very much like a maiden flight – a huge amount of work goes into designing a product in the hope that it will take off, and not fade away on the statute books unused and forgotten. Once released however, it becomes a public property, free to be examined and commented upon, and perhaps developed and refined in future Finance Bills.

*The views expressed in this article are purely personal and should not, in any way, be attributed to the Irish Department of Finance.*
5. Tax Policy in Times of Fiscal Consolidation: Consolidation on the Revenue Side: Ireland

Paper by Gary Tobin*, Department of Finance, Ireland to the DG ECFIN Workshop entitled ‘The Role of Tax Policy in Times of Fiscal Consolidation’

*The author would like to thank colleagues in the Irish Ministry of Finance for their useful comments in the preparation of this Paper. In particular: Derek Moran; Alan Mahon; Keith Hennessy; and Brendan O’Connor. The views expressed in this paper are entirely those of the author and should not be attributed to the Irish Ministry of Finance.

1. Introduction

There were three component elements which resulted in the economic and fiscal crisis which hit the Irish economy in the latter part of the last decade:

- a steady loss of competitiveness during a prolonged boom;
- the bursting of a property bubble; and
- an international banking crisis which triggered a worldwide recession.

In a similar way, there will be arguably three elements to a successful Irish economic recovery:

- restoring order to the public finances
- restructuring the banking system; and
- regaining competitiveness and returning the economy to sustainable growth

There are positive signs that the Irish economy is on the path to recovery. Real GDP grew by 1.4% in 2011 (the first year of growth since 2007) and the economy continues to grow. And while the domestic economy remains subdued, exports are leading the recovery, with growth of 5.1% in 2011 with very strong growth in services exports evident in particular, up 9.6% in 2011. Continued wage moderation coupled with productivity growth has seen unit labour costs come down significantly in recent years and inflation remains low. 2011 also saw the second consecutive year of a balance of payments surplus and this is expected to strengthen over the medium term.

Unemployment, usually a lagging indicator, however remains stubbornly high at over 14.5%. The EU-ECB-IMF Programme of External Support also remains very much on track. In fact the EU-ECB-IMF targets have been consistently bettered. The Government remains committed to returning fully to the capital markets as soon as possible. In this regard, the National Treasury Management Agency has already had considerable success in raising new funds.

Given the particular focus of this DG ECFIN Workshop, this paper only focuses on the first element of Ireland’s recovery strategy: namely restoring order to the public finances.

2. Path to Recovery in Ireland

Successive Irish Governments, since the onset of the crisis, have recognised that radical broadening of the tax base was needed in Ireland to restore the public finances to a sound footing by making the tax system more sustainable and moving away from reliance on transactional taxes which by their very nature are reliant on the economic cycle\textsuperscript{114}. The collapse in transactional tax revenues, post crisis, stamp duty and capital gains tax in particular, also presented the Government with an opportunity to reform the taxation of property.

In particular it was recognized that throughout the Celtic Tiger years, the tax base was narrowed and ‘hollowed out’ and that post crisis more than anything else we simply needed to increase the numbers paying tax. Arguably, Ireland, pre crisis, had a model tax system with low taxes on labour with a significant emphasis on consumption taxes. But an income tax system where more than 45% of tax units paid no income tax was simply not sustainable. Partly as a result of successive social partnership agreements between the Government, trade unions and employers, during the period after 2000 the entry point to income tax increased from €7,238 to €18,300 at its peak and since the introduction of individualisation, bands widened by 105% for the single person and married two earners while credits increased by 92% since their introduction in 2001. The proportion of tax units exempt from income tax had thus increased from 34% in 2004 to an estimated 45% in 2010. At the same time the proportion paying at the higher rate had fallen from 23% to just 13%.

It was also recognized by the Government that tax expenditures and reliefs must be abolished or restricted: in particular higher income earners should not be able to shelter themselves from paying their fair share of tax. By broadening the base at both ends of the income spectrum, the strategy is to keep nominal rates of tax lower while the effective rate can be raised in a way that is fair. The aim is to be fair but also confront the pervasive structural problems of the income tax system and recognise that excessively high marginal tax rates damage economic activity.

It was also agreed that revenue raising measures across all areas would be implemented – income, capital, indirect, expenditures, reliefs and incentives. For example, capital tax rates have been increased by 50% from 20% to 30% and exemption limits were reduced by 60%.

The Government strategy however has remained steadfastly committed to the maintenance of the 12½% corporate tax regime as a cornerstone of industrial policy. Research by the OECD\textsuperscript{115} points to the importance of low corporate tax rates to encourage growth. In ranking taxes by their impact on economic growth, corporate tax was found to be most harmful. In other words, governments seeking additional tax revenues would be advised to consider increasing all other types of tax (property, consumption and income) before increasing corporate taxes.

\textsuperscript{114} See: http://www.budget.gov.ie/The\20National\20Recovery\20Plan\202011-2014.pdf.

3. Front Loaded Fiscal Consolidation

The process of fiscal consolidation has been underway since mid 2008, long before Ireland entered an EU-ECB-IMF Programme. To date adjustments designed to save/yield approximately €25 billion (around 16% of 2011 GDP) have already been implemented with around €10 billion of adjustments on the revenue / tax side (equivalent to about 6% of GDP). A significant element of the revenue / tax adjustment was front loaded, particularly so in the Supplementary Budget which was announced in April 2009.

In a relatively short presentation it is not possible to discuss all of the various revenue / tax reform measures that have been put in place over the past five years but two case studies are presented below.

4. Case Study: Universal Social Charge

This section of the presentation draws heavily from a Review of the Universal Social Charge carried out and published by the Irish Ministry of Finance in 2011.116

The Universal Social Charge (USC) was introduced in Budget 2011 and replaced the Income and Health Levies. By 2010 almost half of income earners were not liable to income tax. The structures of the Income and Health Levies and PRSI were over-complex and relied on a narrow base which differed for each charge. In addition, the interaction of the levies and, to a lesser extent, PRSI with Income Tax, created a number of anomalies which discouraged employment and did not fully reflect the differences in gross incomes.

Therefore, the main reasons for introducing the USC were as follows:

- To broaden the Tax Base
- To simplify the Taxation Structure
- To remove Poverty Traps and
- To create a sustainable and efficient charge

The Universal Social Charge applied from 1 January 2011 at the following rates:

- 2% on the first €10,036 (€193 per week)
- 4% on the next €5,980 (€193.01 to €308.00 per week) and
- 7% on the balance.

It is estimated that in 2011 approximately 514,000 more income earners paid the USC than had previously paid the Income Levy. The breakdown is as follows:

- The estimated number of income earners paying the Health Levy in 2010 was 989,000.
- The estimated number of income earners paying the Income Levy in 2010 was 1,469,000.
- The estimated number of income earners paying the USC in 2011 is 1,984,000

The USC operates on a much wider income base than income tax. It applies to all taxpayers and the scope, for example, for the wealthy to avoid the charge through large contributions to pension funds is not available. Also, for example, there are no exemptions for income from forestry, mining or artistic pursuits. Passive investors cannot reduce their liability to it through capital allowances.

Given the width of the base and its simple structure, the USC is an efficient charge. It is estimated that a one percentage point increase in the three standard rates of USC (i.e. 2%, 4% and 7% to be increased to 3%, 5% and 8%) would yield €745 million in a full year. To raise the same through the income tax system would require a two percentage point increase on the standard rate or a four percentage point increase on the higher rate or a combination of both.

One of the distortionary effects of the Health Levy was caused by its very high entry point. Income earners did not pay the Health Levy until their income exceeded €26,000 per annum (€500 per week) and then they paid Health Levy on their entire income. This is known as a “step effect”. The doubling of the Health Levy in 2009 exacerbated the impact of this “step effect”. The “step effect” resulted in an anomalous situation where an individual earning €25,500 per annum could receive a pay rise of €1,000 per annum but receive a lower net pay. This sudden liability to a charge can lead to “poverty traps” which can discourage people from working, taking on extra work or progressing in their place of work. The USC is designed to apply across income levels in a smoother progression while also addressing the irregularities caused by the ‘step effects’ in the levies and PRSI.

The Universal Social Charge, like any tax increase, was not welcomed by the public. Taxpayers experienced a drop in net income in Budget 2011. Many people thought the USC was the reason for the reduction in their net income. This was not the case for many taxpayers. The reason many income earners saw reductions in their net income was due to the reduction in income tax credits and bands that also occurred in Budget 2011. Most taxpayers earning over €26,000 per annum would have benefited from the introduction of the USC all other things being equal; particularly those earning between €26,000 and €35,000 who had been suffering disproportionately from the sudden impact of the 4% Health Levy.

While many income earners would be better off under the USC than the Income Levy and Health Levy combined, there are a significant number who will pay more tax as a result of the introduction of the USC. This is due to the fact that there were many exemptions from the Income Levy and Health Levy. The entry points to paying these charges were relatively high and the numbers of exempt individuals were also high. For example, only 989,000 income earners paid the Health Levy – this is less than half the total number of income earners on the tax record and was due to the high exemption threshold to the levy as well as the different types of income and income earners that were exempted from the levy.

5. Case Study: Jobs Initiative – Targeted Temporary Reduction in VAT

This section of the presentation draws heavily from research carried out by Brendan O’Connor, Senior Fiscal Economist in the Irish Ministry of Finance in a 2012 paper entitled ‘Measuring the Impact of the Jobs Initiative: Was the VAT Reduction Passed On and Were Jobs Created’.

In May 2011 the Government announced a Jobs Initiative which involved a series of measures to boost employment. A key aspect of the Jobs Initiative involved the introduction of a new, temporary, second reduced rate of VAT at 9% which was targeted mainly at labour intensive goods and services relating to tourism. It was introduced with effect from 1 July 2011 and applies until end-December 2013.

The 9% rate applies to the following categories which had previously been subject to VAT at 13.5%:

- The supply of food and drink (excluding alcohol and soft drinks) in the course of catering or by means of a vending machine;
- Hot take-away food and hot drinks;
- Hotel lettings, including guesthouses, caravan parks, camping sites etc;
- Admissions to cinemas, theatres, certain musical performances, museums, art gallery exhibitions;
- Amusement services of the kind normally supplied in fairgrounds or amusement park services;
- The provision of facilities for taking part in sporting activities by a person other than a non-profit making organisation;
- Printed matter e.g. newspapers, brochures, leaflets, programmes, maps, catalogues, printed music (excluding books); and, Hairdressing services.

The Minister for Finance announced in his Jobs Initiative speech that to ensure that the tourism sector is delivering added employment from the 9% rate of VAT, the effects of the changes would be assessed and the measures reviewed before the end of 2012 in the context of preparing Budget 2013.

One of the means of testing the effectiveness of the stimulus is an examination of the rate of pass through of the VAT reduction to lower consumer prices.

Whilst overall prices covered by the VAT reduction fell compared with economy wide headline and underlying inflation, different rates of inflation occurred in the various categories covered by the reduced VAT rate.

For example, clear evidence of pass through occurred in the following series:

- Meals out;
- Hairdressing;
- Admissions to cinemas, theatres, musicals, museums and art galleries; and,
- Newspapers.

Significant price volatility occurred in the ‘hotels and other accommodation’ series which fell by 13% from July 2011 to January 2012, and recovered to within 1% of the June 2011 price level by June 2012. This is driven by the cyclical nature of hotel prices which peak in midyear and decline thereafter. Another series impacted by seasonality is hairdressing services with a clear ‘December effect’ causing a temporary spike in prices around the Christmas period.
The Central Statistics Office releases employment data quarterly through the Quarterly National Household Survey (QNHS). The most recent QNHS release was in respect of Q2 2012. The 9% reduced VAT rate came into existence at the start of Q3 2011. Thus there are four quarters of out-turn data on the employment impact available, including the quarter in which the rate change occurred. Based on the data that are publicly available from the CSO the most relevant economic sector that is mainly accounted for by 9% VAT rate items is – ‘accommodation and food services’. All other 9% VAT rate items form small parts of broader economic sectors and an analysis of these sectors would not be informative in terms of the specific impact of the 9% reduced VAT rate.

Whilst it is therefore not possible to look at the impact of the Jobs Initiative across every 9% VAT rate category, the food and accommodation services covers 70% of the Jobs Initiative basket according to expenditure data provided by the CSO as part of its price series. It is therefore reasonable to analyse the food and accommodation services economic sector as a proxy for the overall impact. According to the QNHS there were 114,500 people employed on a seasonally adjusted basis in the accommodation and food services economic sector in Q2 2012, compared with 108,300 in Q2 2011, the quarter that immediately preceded the introduction of the 9% rate. This represented a net increase in the sector of 6,200 jobs (+6%).

6. Concluding Remarks

While a lot has been achieved in terms of fiscal consolidation in Ireland since the crisis commenced, at a not insignificant cost to Irish society in terms of jobs and living standards, certain challenges remain, not least the introduction of a new property tax system. This is a priority item for Budget 2013.

As a final comment, it should be remembered that no matter how innovative the tax policy responses to the need for fiscal consolidation, a well functioning revenue collection system is essential if these changes are to be successfully implemented. In this regard, Ireland is fortunate in having arguably one of the best performing Revenue authorities in the world.
6. What Makes a Country a Tax Haven?
An assessment of international standards shows why Ireland is not a tax haven

Gary Tobin and Keith Walsh
Economic and Social Review, September 2013

Abstract

This paper explores the issue of tax havens and tax competition. The recent intensified debate on tax havens is summarised, as is the important work of the OECD, the EU and the G-20 in this area and the ongoing research on the economic effects of tax havens. Ireland does not meet any of the OECD criteria for being a tax haven but because of its 12.5% corporation tax rate and the open nature of the Irish economy, Ireland has on a few occasions been labelled a tax haven. There are three primary reasons for this identified, each addressed in the paper: a failure to distinguish between legitimate and abusive transfer pricing; a misunderstanding of the role and regulation of IFSC; and a dated but influential academic paper from 1994 that incorrectly included Ireland in a list of tax havens, based on a reason that has long since lost any validity.

Keywords

Tax havens; corporation tax; transfer pricing.
1. Introduction

For a variety of reasons the issue of tax havens has been receiving worldwide attention of late.

In 2008, a global tax scandal erupted after a former employee of a Liechtenstein trust company provided tax authorities around the world with account data on about 1,400 clients of the company. Since then, a number of similar scandals have broken. There have been increased investigations by both governments and non-governmental organisations into the role of tax havens.

In response, actions by the Organisation for Economic Cooperation and Development (OECD) and the G-20 group of industrialised and developing nations began to target more attention on tax havens. In 2009, a so-called “black list” of territories that refused to exchange tax information was published by the OECD. Since the publication of this list events have moved quite rapidly. This can be seen in European Commission proposals, published in 2012, that aim to tackle tax fraud and aggressive tax planning.

In February 2013, the OECD published a new report on Base Erosion and Profit Shifting (BEPS – OECD, 2013a). In July, the OECD published an Action Plan on BEPS that will be developed over the coming months (OECD, 2013b).

Also recently, the so-called ‘off shore leaks’ story by the International Consortium of Investigative Journalists has further sharpened the focus on this issue.

Tax transparency remains at the top of the global economic agenda. On occasions in recent years, this debate has focused attention on Ireland’s tax system. While Ireland does not display any of the characteristics of a tax haven, it has sometimes been incorrectly labelled as one. This was seen again in the recent coverage of a US Senate subcommittee. But as this paper demonstrates, this labelling is wrong and misleading.

A central problem in the debate on tax havens is that there is no agreed definition of what the term “tax haven” actually means. Typically, the term is applied to countries or territories that offer favourable tax regimes for foreign investors. Low income or corporate tax rates are often a feature, but there are a variety of other elements, such as bank secrecy laws, that are equally or more important.

This paper explores the policy debate on the issue of tax havens, both in Ireland and internationally. The aim is to provide an overview of the current state of play in policy making and academic understanding. The paper does not take any ideological perspectives but rather focuses on the evidence based arguments around the definition of tax havens.

The next section examines internationally recognised definitions of tax havens and the impact of tax havens from an economic perspective. The recent intensified debate on tax havens is summarised in Section 3. Finally, in light of the above, the paper discusses whether Ireland can reasonably be labelled a tax haven. Three key topics are examined: the tax practices of multinational companies (including transfer pricing issues), the role of the IFSC and academic research on tax havens.

\[118\] The term ‘offshore financial centre’ is used to describe some countries with tax haven characteristics. Notwithstanding that there may be technical differences between a tax haven and an offshore centre, in this paper the term tax haven is used throughout.
2. The Impact of Tax Havens

2.1 Definitions of Tax Havens

Given the importance of the issue and the international commitments in this area, it might be expected that identifying tax havens would be straightforward, but this is not the case. There is no agreed definition of what the term “tax haven” actually means.

Probably the best known definition of a tax haven is that used by the OECD (1998). Four key indicators of tax havens are identified:

1. No or only nominal taxes (and offering, or being perceived as offering, a place for non-residents to escape tax in their country of residence);
2. Lack of transparency (such as the absence of beneficial ownership information and bank secrecy);
3. Unwillingness to exchange information with the tax administrations of OECD member countries; and
4. Absence of a requirement that activity be substantial (transactions may be “booked” in the country with no or little real economic activity).

The US Government Accountability Office (GAO, 2008) conducts an extensive review and finds no agreed definition of a tax haven. However, in broad terms the GAO finds that the OECD definition to be representative. As a consequence of the lack of an agreed upon definition of the term tax haven, it is not surprising that lists of tax haven countries also differ quite widely.

Gravelle (2013) in a report on tax havens by the US Congressional Research Service includes a long list of countries with tax haven characteristics including: the UK, Denmark, the Netherlands and Portugal among others. Gravelle also notes that in the US the states of Delaware, Wyoming and Nevada, have certain features of tax havens.

Shaxson (2011) focuses on the UK and connected tax havens from a more historical context. Shaxson identifies a “spider’s web” of havens, centred around the City of London: Britain’s crown dependencies (Jersey, Guernsey and the Isle of Man), overseas territories that are substantially controlled by Britain (e.g., the Cayman Islands) and a more diverse array of havens outside Britain’s direct control but with strong links (e.g., Hong Kong).

Others have examined the common characteristics of tax haven countries. Many of the most recognised tax havens are very small in size and often island states (Dharmapala, 2008). Dharmapala and Hines (2009) find that tax havens are on average substantially more affluent than non-havens. Tax havens are likely to be well governed and are more likely to have British legal origins (many remain dependent territories as opposed to sovereign states). In addition to being smaller in population and more likely to be island countries, havens’ geographical characteristics also lead them to be more inclined towards economic openness.

In addition to the criteria listed by the OECD, the GAO found that self-promotion as an offshore centre was another commonly found characteristic of tax havens.
2.2 The Potential Costs of Tax Havens are High

The Tax Justice Network (TJN), an NGO that seeks to promote transparency in international tax and finance matters, argues that tax havens undermine the interests of poor countries. They estimate the cost of tax havens to the global economy to be in the trillions of dollars. TJN (2012) argues that secret bank accounts and offshore trusts in tax havens provide wealthy elites and companies with the means to escape their tax obligations, thus depriving poorer nations of the tax revenue they need and allowing multinationals to substantially lower their taxable income by routing capital flows through mailbox companies in tax havens to gain unfair advantage over competitors. Banking secrecy and offshore trusts offered by financial institutions in tax havens make it possible to launder the proceeds of corruption, illicit arms deals, embezzlement and the drugs trade.

The use of havens for tax avoidance and evasion can fall into two broad categories. The first is individuals seeking to avoid taxes such as those on dividends, interest or capital gains. The second is companies that seek to artificially inflate profits in low tax countries at the expense of those in higher tax countries. In the Irish case, there tends to be more focus on the latter but it is important to note the relative sizes of each in the global context.

Gravelle (2013) surveys the literature and finds that the estimated tax revenue cost to the US from the use of tax havens by companies is in the range of $10 billion to $90 billion per year. By contrast the cost of tax haven use by individuals is estimated to be in the range of $40 billion to $70 billion.

Tax avoidance and evasion is potentially very important in monetary terms. By its nature, measuring the scale of tax evasion and avoidance activity in tax havens is difficult. If the estimates above are accurate, they represent significant tax revenue losses to governments that could otherwise be used to alleviate poverty or redistribute welfare in societies affected.

2.3 Tax Competition: Rates, Effective Rates and Tax Complexity

From a theoretical perspective, the standard approach to tax havens, for example as modelled in Slemrod and Wilson (2009), is based on the belief that tax havens encourage or intensify international tax competition. This forces countries to compete on declining tax rates to attract investment (encouraging a “race to the bottom”) and therefore lowers tax revenue in affected countries.

Corporation tax rates do impact on investment. In a review of empirical studies, de Mooij and Ederveen (2003) find an average semi-elasticity of −3.3 (i.e., a 1% reduction in a country’s corporation tax rate increases inward foreign direct investment (FDI) by 3.3%). An OECD study (2008) finds an elasticity of -3.7.

Figure 1 compares the statutory and effective tax rates in several countries. Ireland is unusual in that its effective rate is above the statutory rate – the result of a low rate applied to a broad tax base. In many countries a high statutory rate is mitigated by its application to a relatively narrow base and so producing a lower effective rate. In terms of tax havens and their impact on tax competition, it’s clear that looking at the statutory rate alone is not sufficient.

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120 Comparing effective tax rates is difficult and the subject of an entire literature of its own. For the analysis here (Figure 1), data are sourced from a recent study for the European Commission.
The theory of tax competition suggests that tax havens may have a negative impact by intensifying tax competition and encouraging the lowering of tax rates. Globalisation of flows of investment and the increasingly international structure of supply chains of multinational companies has been a factor in falling corporation tax rates (Figure 2).

Despite reductions in rates, the empirical evidence shows that increased tax competition has not resulted in an erosion of the US or EU corporate tax bases. Figure 3 shows the share of total tax revenue from corporation taxes in several countries over recent decades.
OECD countries have made considerable reductions in their statutory corporation tax rates. However, revenues from corporation tax have remained relatively stable in the OECD and EU over that period and actually increased in some cases (Nicodeme, 2006). Dharmapala (2008) notes that the share of US tax revenue from corporate taxes increased between 1994 and 2006 despite an increase in the share of US outward FDI in tax havens over the same period (the US statutory corporation tax rate did not change).

Aside from the tax rate, the other key tax-related determinants of company behaviour are the tax base (affecting the effective tax rate) and tax complexity.

The relative size of an economy’s tax base depends on the rules defining what constitutes taxable income. Given the international nature of FDI, flows of money into or out of a country can also affect the absolute size of the base. These flows are affected by tax rates and can themselves have significant impacts on the effective rate in a country. De Mooij (2005) finds a semi-elasticity of \(-2\) for the tax base (i.e., a 1% reduction in a country’s corporation tax rate increases the tax base by 2%), suggesting that taxable profit increases in a country as tax rates decrease. One potential source for an increase in tax base is profit shifting via transfer pricing (explored in detail in Section 5.3 of this paper). Tax havens or low tax countries may be used to facilitate base erosion, as the OECD BEPS report shows (OECD, 2013a).

Tax complexity, or the ease of fulfilling a company’s tax obligations in a country, plays a role in tax competition also. Lawless (2009) finds that a 10% reduction in tax complexity has an equal effect on FDI to a 1% reduction in the effective corporation tax rate. When examining competition between countries, this is an important element to consider, as the operating environment can be as important as the tax rate in determining the attractiveness to investment. In the annual World Bank / IFC and PWC (2012) Doing Business study, Ireland is ranked as the sixth easiest place to pay taxes globally (the only EU country in the top ten).

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121 Base broadening and increased rates of incorporation have contributed to this effect (OECD 2013a).
122 There are other important, non-tax determinants but the focus in this paper is on tax havens.
123 Tax complexity is measured as the time required dealing with tax obligations and the number of tax returns needed for a representative company in each country.
In all three of these areas (corporation tax rates, bases and complexity), tax havens may accentuate tax competition, by advantaging some companies that use the features of havens to reduce their tax liabilities, and the negative consequences that occur if that causes a damaging “race to the bottom”.

2.3 Are There Factors that Mitigate the Effects of Tax Competition?

Two papers by Desai, Foley and Hines (2006a, 2006b) offer insights into why tax havens may not intensify tax competition to the extent that might be expected. Desai et al. (2006a) model demand for tax havens. As would be expected, demand arises from companies’ desire to reduce their taxes and is found to be highest with larger, more complex companies. However, Desai et al. (2006b) show that increased use of tax havens does not appear to divert activities from non-haven countries. Investments in haven and non-haven countries are found to be complimentary rather than substitutes. Hong and Smart (2010) also find evidence that tax havens allow multinational companies to lower their investment costs in both haven and non-haven countries (lower costs encourage further investment in both types of country).

A particular example of this effect is the structure of the US tax system, which taxes income on a residency basis (rather than a source basis) and taxes US companies on their total worldwide income. As Barry (2008) explains, with reference to Hines and Rice (1994), US multinationals are provided with a credit by the US tax administration for their aggregate tax paid abroad. This tax credit does not provide any rebate for taxes paid above the US corporation tax rate. If a US company operates in a country with a higher corporation tax rate, the option of paying tax in a low tax country (lower than the US rate) reduces the disincentive of the company to invest in the higher tax country.

On the broader issue of low corporation tax rates and their impact on growth, there is evidence of a “tax and growth ranking” (Johansson, Heady, Arnold, Brys and Vartia, 2008). Johansson et al. (2008) show that some taxes are more harmful than others to economic growth (measured as GDP per capita). From most to least harmful: corporate income, personal income, consumption and property taxes. If tax competition encourages lower corporation taxes, the other taxes that may be increased to provide alternative revenue sources are less harmful to overall economic growth.

Baldwin and Krugman (2004) show differences in corporation tax rates may be beneficial, as opposed to encouraging a harmful race to the bottom, when they are used to address differences in the economic and geographic characteristics of countries. For example, for a “peripheral” country, such as Ireland, a lower tax rate attracts investment and compensates for other limitations that would not impact a centrally located or “core” European country.

3. International Initiatives to Reduce the Harmful Effects of Tax Havens

As Section 2 discusses, the impact of tax havens may not be universally negative. Nevertheless, concern about the use of tax havens to erode the tax bases of higher tax countries has prompted a major effort by the OECD to combat tax havens. More recently, other international organisations, such as the G-20 and the EU, have taken an increasing interest in the area.

The OECD started the process with its 1998 report Harmful Tax Competition: An Emerging Global Issue. The report established a recognised OECD definition of tax havens (described in Section 2). This definition, which remains in force, includes the existence of no or only nominal taxes but also a lack of transparency and an unwillingness to exchange information between tax administrations.
Following this report, a dialogue commenced between the OECD members and other jurisdictions. In 2002, a working group developed the OECD model Tax Information Exchange Agreement (TIEA).124,125 Afterwards, a number of OECD members, including Ireland, commenced negotiations with other committed jurisdictions with a view to concluding bilateral TIEAs based on the OECD model. Progress was initially slow. However, the position recently changed dramatically.

In April 2009, the G-20 countries issued a list identifying jurisdictions that were not in compliance with the OECD standard on exchange of information. The G-20 communiqué set a threshold of 12 international agreements being in place, either TIEAs or double taxation agreements (DTA) that allow for information exchange.126 Until a country reaches this threshold, it will not be regarded as having substantially implemented the OECD standard.

A number of countries that previously wanted to maintain bank secrecy in relation to tax matters (Switzerland, Luxembourg, Austria and Belgium) committed to the OECD standard in the wake of the G-20 communiqué. So too have important non-OECD financial centres such as Singapore and Hong Kong.

The OECD made it clear that 12 international agreements was just a starting point and jurisdictions will be required to sign agreements with all countries that ask them in the future. In 2009/10 the OECD reached agreement with members of the Global Forum (composed of OECD and Non-OECD members) to set up a new organisation, similar to the Financial Action Task Force, to drive the work forward on exchange of information and transparency for tax purposes globally.127

The new organisation, the Global Forum on Transparency and Exchange of Information for Tax Purposes, comprises over 100 countries and is responsible for implementing robust and transparent peer reviews of countries to ensure they meet the OECD standards on exchange of information. All information on the peer reviews is made public, including recommendations, actions to address deficiencies and material on exchange of information agreements. Table 1 shows the jurisdictions that are judged to have substantially implemented the internationally agreed tax standards at the end of 2012.

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124 Ireland was a member of this working group
125 A TIEA, based on the OECD model, allows the tax authorities in both countries to request their counterpart to provide information relevant to a tax investigation. Typical information requests relate to bank accounts and ownership information for companies and trusts. The information is exchanged directly between the tax authorities. Similar exchange provisions are found in double taxation agreements but those in a TIEA are spelt out in more detail. The agreement does not provide for automatic or spontaneous exchange of information. Requests must be specific and trawling exercises are not allowed.
126 A DTA, sometimes known as a tax treaty, is a bilateral agreement between two countries to prevent double taxation of an individual or entity on the same income in both countries.
127 The Global Forum is a multilateral framework within which work on transparency and exchange of information has been carried out by OECD and non-OECD members since 2000 (http://www.oecd.org/tax/transparency/abouttheglobalforum.htm). The Financial Action Task Force is an inter-governmental body established in 1989 to set standards and promote effective measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system (http://www.fatf-gafi.org/).
Table 1: Jurisdictions that have Substantially Implemented the Global Forum Tax Standard

<table>
<thead>
<tr>
<th>Andorra</th>
<th>Chile</th>
<th>Iceland</th>
<th>Montserrat</th>
<th>Slovenia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anguilla</td>
<td>China</td>
<td>India</td>
<td>Netherlands</td>
<td>Spain</td>
</tr>
<tr>
<td>Antigua &amp;</td>
<td>Cook Islands</td>
<td>Indonesia</td>
<td>New Zealand</td>
<td>South Africa</td>
</tr>
<tr>
<td>Barbuda</td>
<td>Costa Rica</td>
<td>Ireland</td>
<td>Norway</td>
<td>Sweden</td>
</tr>
<tr>
<td>Argentina</td>
<td>Curacao</td>
<td>Isle of Man</td>
<td>Panama</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Aruba</td>
<td>Cyprus</td>
<td>Israel</td>
<td>Philippines</td>
<td>Turkey</td>
</tr>
<tr>
<td>Australia</td>
<td>Czech Republic</td>
<td>Italy</td>
<td>Poland</td>
<td>Turks &amp; Caicos</td>
</tr>
<tr>
<td>Austria</td>
<td>Denmark</td>
<td>Japan</td>
<td>Portugal</td>
<td>Islands</td>
</tr>
<tr>
<td>The Bahamas</td>
<td>Dominica</td>
<td>Jersey</td>
<td>Qatar</td>
<td>United Arab</td>
</tr>
<tr>
<td>Bahrain</td>
<td>Estonia</td>
<td>Korea</td>
<td>Russian</td>
<td>Emirates</td>
</tr>
<tr>
<td>Barbados</td>
<td>Finland</td>
<td>Liberia</td>
<td>St Kitts &amp; Nevis</td>
<td>United</td>
</tr>
<tr>
<td>Belgium</td>
<td>France</td>
<td>Liechtenstein</td>
<td>St Lucia</td>
<td>United States</td>
</tr>
<tr>
<td>Belize</td>
<td>Germany</td>
<td>Luxembourg</td>
<td>St Vincent &amp;</td>
<td>Uruguay</td>
</tr>
<tr>
<td>Bermuda</td>
<td>Gibraltar</td>
<td>Macau, China</td>
<td>the Grenadines</td>
<td>US Virgin</td>
</tr>
<tr>
<td>Brazil</td>
<td>Greece</td>
<td>Malaysia</td>
<td>Samoa</td>
<td>Islands</td>
</tr>
<tr>
<td>British Virgin Islands</td>
<td>Grenada</td>
<td>Malta</td>
<td>San Marino</td>
<td>Vanuatu</td>
</tr>
<tr>
<td>Brunei</td>
<td>Guernsey</td>
<td>Mauritius</td>
<td>Singapore</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Hong Kong,</td>
<td>Mexico</td>
<td>Sint Maarten</td>
<td></td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>Hungary</td>
<td>Monaco</td>
<td>Slovak Republic</td>
<td></td>
</tr>
</tbody>
</table>

Source: OECD (2012).

At European level, in March 2012, the European Council invited Member States, to “review their tax systems with the aim of making them more effective and efficient, removing unjustified exemptions, broadening the tax base, shifting taxes away from labour, improving the efficiency of tax collection and tackling tax evasion” (European Council, 2012a).


The OECD has also made the issue of Base Erosion and Profit Shifting (BEPS) a central concern of its work in the area of tax. A report on BEPS was published in February 2013 (OECD, 2013a). The report provides an overview of the root causes of BEPS, and highlights the key areas to be considered in formulating a comprehensive action plan. The BEPS report makes clear that, given the international nature of business and trade flows in the modern global economy, it is unlikely that any single country can address these issues. Multilateral and coordinated actions by governments lie at the heart of the approach proposed to tackle BEPS issues.

The Irish Government welcomed the initial report on BEPS (OECD, 2013a). Ireland, along with all other OECD members, was actively involved in developing the action plan on BEPS recently published (OECD, 2013b) and this engagement will continue as a coordinated effort at OECD level is the most appropriate response for Ireland to address the challenges that BEPS poses.

There is interaction between the BEPS project and work at EU level in the area of tax havens and aggressive tax planning. In its recently ended EU Presidency role, Ireland invited the OECD to participate in discussions on BEPS. Ireland also chaired meetings to consider many of these issues including proposals to coordinate measures to address mismatches of treatment in the case of “hybrid” business entities that enable the double non-taxation of income flows across borders,
whether by deduction in one country with no matching taxable receipt in the other country or by obtaining a deduction for the same payment in more than one country. The exploitation of mismatches between countries of the treatment of entities for tax purposes also demonstrates the need for a coordinated response across countries to the avoidance opportunities presented to multinational corporations by their ability to operate across national borders.

The BEPS approach has been endorsed by the G-20. The April 2013 G-20 communiqué, re-iterating the fight against international tax evasion and emphasising the need for systematic exchange of information, confirms these issues remain highly topical.

4. Why Ireland is not a Tax Haven

4.1 An Open Economy with a Favourable Corporation Tax Regime

By any measure with regard to exports or FDI relative to size, Ireland is a very open economy (Forfas, 2012; FitzGerald and Kearney, 2013). Due to strong growth in services, Irish exports of services and merchandise goods are now broadly equal. Ireland’s share of global services trade is now nearly three times its share of goods trade.

Ireland’s success in attracting investment is due to several factors. A favourable tax regime that makes Ireland an attractive location for multinational companies is one factor but there are a range of other advantages that all contribute to encouraging investment in Ireland. These include access to the European market, membership of the Euro, an English speaking population and an institutional structure that adapts rapidly. A good education system and the accumulation of agglomeration effects are also important (Barry, 2006). The concentration of industries such as pharmaceuticals and ICT related activities shows that a relatively small country can achieve significant agglomeration effects.

Ireland maintains a low general corporation tax rate by ensuring a wide tax base. The Irish 12.5% corporate rate is a general rate on trading activity. As such, it is centred on activities with real substance and is not focused on any particular sector or segment of Irish industry. There is no distinction between small and large enterprises or between enterprises that service the local economy and those that have a multinational focus.

As Figure 3 (in Section 2) shows, corporation tax receipts in Ireland represent about the average collected by such taxes across the OECD, notwithstanding the importance of FDI in Ireland.

4.2 Why is Ireland Sometimes Described as a Tax Haven?

Ireland was on the OECD / G-20 white list of countries published in April 2009 (as it fully complies with OECD standards on exchange of tax information). As Table 1 shows, Ireland is also included in the list of countries that have substantially implemented Global Forum standards on transparency and exchange of information. The January 2011 Global Forum Peer Review Report on Ireland’s legal and regulatory framework for transparency and exchange of information finds that Ireland has an effective system for the exchange of information in tax matters and is fully compliant with OECD standards.

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128 The standard rate of Irish corporation tax rate on trading activity is 12.5%. The corporation tax rate on non-trading income is 25%. There is also a 25% rate that applies to oil and gas exploitation.
Ireland is not regarded as a tax haven by the US or any of the major industrialised countries of the world. This is evidenced by the large and growing network of tax treaties that Ireland has in place with other countries.\footnote{Ireland has signed 69 Double Taxation Agreements and 20 TIEAs.}

Ireland has fully implemented the EU Saving Directive, which collects and exchanges information on individuals in receipt of saving incomes between member states, since its inception in 2005.

In late 2012 Ireland concluded a new intergovernmental ‘FATCA’ agreement with the United States.\footnote{FATCA refers to the Foreign Account Transaction Compliance Act, US legislation that requires all financial institutions outside the US to report to the US tax authorities financial accounts held by US persons. The accompanying legislation was published and enacted in the Irish Finance Act, 2013.} FATCA provides for the automatic reporting and exchange of information in relation to accounts held in Irish financial institutions by US persons, and the reciprocal exchange of information regarding US accounts held by Irish people. The main purpose of FATCA is to combat international tax evasion, by preventing individuals from hiding money outside of either State in order to avoid paying tax. Ireland was only the fourth country in the world to have concluded such an agreement and it is a welcome opportunity to demonstrate Ireland’s commitment to helping combat international tax evasion.

Despite the above, Ireland, just like many other countries, has on occasion been criticised for having characteristics similar to a tax haven. The following sections explore three main reasons why and consider the validity of the arguments. First, because of the perceived interaction of Ireland’s 12.5% corporation tax rate and the tax planning behaviour of multinational companies, in particular the potential to abuse international transfer pricing regulations. Second, the role of the International Financial Services Centre (IFSC) in attracting investment to Ireland. And third, because of a rather obscure, but nonetheless influential, paper by Hines and Rice dating back to 1994.

### 4.3 Tax Planning and Transfer Pricing

OECD (2013a) notes that overlapping domestic tax systems can result in double taxation of companies or individuals (the taxation of the same incomes or corporate profit in separate countries). International rules seek to address overlaps to minimise such distortions. However, the interaction of domestic tax systems and international standards can also lead to gaps that provide opportunities to eliminate or significantly reduce taxation on income.

Double taxation of companies presents a serious disincentive to international investment and trade. The solution is that each jurisdiction in which a multinational operates should tax an “appropriate” share of the company’s profits (McDonald, 2008). In practice it is difficult to determine the appropriate share directly related to the pricing of the transactions between the affiliates of a multinational group.

To provide a practical and workable solution to this problem, the arm’s length principle has been adopted as the standard to which companies and countries aim in setting transfer prices. The OECD Transfer Pricing Guidelines (OECD, 2010, p17), quoting the OECD Model Tax Convention, describe the arm’s length principle as follows:\footnote{The OECD Transfer Pricing Guidelines are an agreed standard and a handbook for both tax administrations and multinational companies engaged in transfer pricing.} \footnote{The OECD Model Tax Convention is a template for bilateral tax treaties. All of Ireland’s recent DTAs are based on this model.}
“Where conditions are made or imposed between the two enterprises in their commercial or financial relations which differ from those which would be made between independent enterprises, then any profits which would, but for those conditions, have accrued to one of the enterprises, but, by reason of those conditions, have not so accrued, may be included in the profits of that enterprise and taxed accordingly”.

The arm’s length principle requires that a multinational group of companies price its intra-group transactions at the same price (the arm’s length price) that would arise between two independent companies carrying out the same transactions. The recommended methodology of the OECD (OECD, 2010) is to find comparable independent transactions from which to set transfer prices. This is quite difficult in practice even with fairly standard goods and services transactions. It becomes extremely complex when attempting to find comparables for transactions involving intellectual property (IP). This is an important aspect from the Irish perspective, as many of the multinational companies operating in Ireland are in high-tech areas of electronics, medical devices and pharmaceutical products. These areas typically involve considerable IP-related transactions.

Section 42 of the Finance Act 2010 inserted a new Part 35A into the Taxes Consolidation Act (TCA) 1997 formalising Ireland’s transfer pricing rules. It recognised the arm’s length principle and its application to trading transactions between associated parties. Prior to this, Sections 81 and 1036 of the TCA reinforced the principle of transfer pricing in accordance with the arm’s length standard. Ireland adheres closely to the OECD guidelines in dealing with transfer pricing cases and this is strengthened by the Finance Act 2010 provisions.

Across the world, multinational corporations have long been accused of utilising the difficulties in applying the arms length standard to facilitate so-called “income or profit shifting” from high tax countries to low tax countries so as to minimise their tax bills. Given the difficulties in determining arm’s length comparables and setting transfer prices, it is difficult to estimate the scale of the abuse of transfer pricing (through the setting of prices that are not arm’s length). A number of papers examine the available empirical data for evidence of profit shifting.

Typically, the approach uses aggregate level data. Barry (2005) notes that in Ireland, in the sectors with a significant foreign presence, the gross value added per employee is considerably higher than other western EU countries. Other studies have found that compared across locations, higher levels of profits tend to be reported in countries with low tax rates. The assumption made is that abuse of transfer pricing via profit shifting is driving the results.

One of the most commonly used data sources is the US Bureau of Economic Analysis (BEA) data. For example, using BEA data for 2003, Clausing and Avi-Yonah (2007) compare where US multinationals report income outside the United States. Table 2 shows reported income as a share of total sales by location, updated from Clausing and Avi-Yonah (2007) to include more recent years.

133 The BEA is an agency of the US Department of Commerce. The data on international investment by US companies are based on responses to surveys of those companies.

134 A point rarely noted in the US literature is that many US companies use Ireland (and other locations) as an export base to supply markets in other countries or regions. Looking at sales and profitability of Irish operations to compare to the size of the Irish market can be misleading in this respect. This is a point that has been developed in the debate surrounding the use of the destination sales factor in the CCCTB proposal (see Barry, 2008, for an overview on the CCCTB debate).
Table 2: Income as a Share of US Multinational Sales by Location

<table>
<thead>
<tr>
<th>Country</th>
<th>Income as a Share of Sales</th>
<th>Country</th>
<th>Income as a Share of Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>5.1%</td>
<td>Belgium</td>
<td>13.4%</td>
</tr>
<tr>
<td>Hungary</td>
<td>5.8%</td>
<td>Austria</td>
<td>20.5%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>6.3%</td>
<td>Switzerland</td>
<td>20.9%</td>
</tr>
<tr>
<td>Poland</td>
<td>6.5%</td>
<td>Denmark</td>
<td>26.4%</td>
</tr>
<tr>
<td>Russia</td>
<td>7.2%</td>
<td>Portugal</td>
<td>26.8%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>7.9%</td>
<td>Ireland</td>
<td>27.8%</td>
</tr>
<tr>
<td>Sweden</td>
<td>8.2%</td>
<td>Netherlands</td>
<td>45.7%</td>
</tr>
<tr>
<td>Spain</td>
<td>8.3%</td>
<td>Bermuda</td>
<td>81.2%</td>
</tr>
<tr>
<td>Norway</td>
<td>11.7%</td>
<td>Luxembourg</td>
<td>386.0%</td>
</tr>
</tbody>
</table>

Source: BEA data and authors’ calculations. Average for 2003 to 2007 used.

Ireland receives considerable investment from US companies (relative to its size) and the effective tax rates calculated from the BEA data for Ireland appear to be low (Clausing and Avi-Yonah, 2007). The assumption made is that high levels of profit in Ireland are due to abuse of transfer pricing and profit shifting into Ireland. There are other approaches to estimating the cost of abusive transfer pricing but the main assumption appears to remain the same. High profitability in low tax countries is assumed to result from profit shifting.

Given that Ireland has a relatively low statutory corporation tax rate and has been a significant recipient of US outward investment for 50 years, it is not surprising that Ireland features regularly in such analysis and as a consequence is drawn into the tax competition debate. However, there are several important shortcomings of the research on this topic that should be considered.

The data sources used are mostly available only at an aggregated level (e.g., sectoral level data). This type of data is likely to be misleading, as it does not allow for genuine differences at company level to be distinguished. McDonald (2008) notes that apparent income shifting in the aggregate data may in fact be fully supportable when specific transactions are analysed. Statistics such as those from the BEA discussed above or the US Internal Revenue Service (IRS) data on controlled foreign corporations, are notoriously volatile from year to year and in general one year’s data should not be looked at in isolation.

The BEA and IRS data are often used to calculate effective tax rates on US corporations registered in Ireland. The results suggest the effective rate is below the statutory rate in Ireland and thus used as further evidence for profit shifting. However, this contradicts the evidence, such as Spengel et al. (2012) in research for the European Commission (shown in Figure 1), that while Ireland may have a low tax rate, the tax base in Ireland is quite wide. This casts further doubt on the reliability of the data used in many studies suggesting very low effective corporation tax rates in Ireland. As Walsh (2012) shows, the BEA data inflate the profit levels of US companies in Ireland due to the inclusion of data on companies tax resident elsewhere and this distorts the effective rate calculations.

135 Transfer pricing detail at the transactional level may be “buried” within the aggregate macro data used for empirical analyses that makes isolating transfer pricing effects impossible (McDonald, 2008).

136 For example, the UK effective tax rate calculated from the BEA data goes from 20.1% in 2003 to 28.9% in 2005.
The underlying assumption that varying levels of profitability across locations are explained by abuse of transfer pricing is also questionable. Profitability across multinational companies is likely to differ depending on the activity (the good or service produced) and the stage of production. Multinational companies spread their operations across multiple locations. The activities of such companies are highly heterogeneous. Some functions are likely to be highly skilled and capital intensive while others will be low skilled (such as assembly or production type functions). Multinationals will choose location based on these characteristics (e.g., placing low skilled labour intensive stages in countries with low labour costs). Some activities will be more profitable and companies are likely to seek to locate them in lower tax countries.

The result is that multinationals may undertake low-value, routine activities with genuinely low profitability (when measured at arm’s length) in higher tax locations. They may simply invest more, and generate more profit, in lower tax jurisdictions. The differential in profitability may be related to differences in investment levels, not due to abusive transfer pricing.

This reflects an important issue for many of the multinational companies in Ireland. IP is a key driver of profitability in the modern sectors of the economy and the location of ownership of IP (and the payment for use of that IP) are important determinants of profits in many industries. Under the arm’s length standard, profits generated by the underlying IP should be taxed in the location of ownership of that IP. In the case of many multinationals with affiliates in Ireland, IP has not been developed or nor is it owned in Ireland. In such cases, it is appropriate to tax only the profits proper to functions undertaken in Ireland.

These systematic differences in the characteristics of companies that invest in lower tax countries can distort simple comparisons (such as those described above using the BEA data). However, they also impact on complex studies using regression analysis (de Mooij, 2005). If a variable that affects profit is correlated with the tax rate, the estimated coefficient may be biased due to the effect of the omitted variables.  

There is no research currently available that adequately controls for these factors, and the limited data, to demonstrate conclusively the existence of abuse of transfer pricing rules.

Recent criticism of the Irish corporation tax regime has focused the apparently low rates of tax paid by mostly US multinationals in Ireland. As noted above, this issue is often confused by the use of data such as the BEA that combines profits of resident and non-resident companies to suggest low effective tax rates on activity in Ireland. Under Irish law, companies’ residency is determined by the location of where they are managed and controlled. Ireland does not impose tax on companies that are tax resident in other jurisdictions.

There have also been suggestions of special tax rates for individual companies, for example during recent US Senate subcommittee hearings. Ireland’s corporation tax regime is set out in statute and there is no provision for special rates for individual companies. All Irish tax resident companies are liable for corporation tax at the 12.5% rate (25% on non-trading income).

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137 De Mooij (2005) also notes two other possible issues. First, tax rates may be endogenous to profit levels and so bias OLS estimated parameters. Second, differences in tax rates have other implications on profit levels. For example, high tax rates with loss-offset provisions may encourage risk taking and, if the average rate of return rises, positive estimated coefficients could be wrongly taken as evidence of profit shifting.  

138 Under US law, a company is resident where it is established.
4.4. The Role of the IFSC

The IFSC was established by the Irish Government in 1987 to create an international financial centre that would generate quality sustainable employment and contribute to the renewal and regeneration of a derelict part of the city of Dublin (the Custom House Docks area).

The IFSC tax regime was initially approved by the European Commission under EU state aid rules as an exceptional measure to promote employment. In 1998, the EU Commission reviewed its approval of the IFSC regime, on the basis that the regime had achieved the objectives for which it had originally been approved. Agreement was reached in July 1998 between the Commission and the Irish authorities on arrangements for phasing out the preferential IFSC regime in an orderly manner, in conjunction with the introduction of a new general 12.5% corporation tax rate from 1 January 2003.\(^{139}\)

The Centre has successfully attracted high-quality operations from amongst the most reputable and well-known companies in the world and now ranks amongst global locations of choice. Dublin is now established as a successful and reputable financial centre, providing substantial, high-quality employment over a broad range of services.

A considerable share of Ireland’s inward FDI flows into the IFSC. As this inward investment into the IFSC can be matched by similarly large outward investment, mostly between subsidiaries of financial companies and their foreign based parents, it can be argued that this investment has little impact on the rest of the domestic economy (Barry and O’Mahony, 2004). While this may be the case, there is still very substantial activity undertaken within IFSC companies, as reflected by the employment of over 25,000 people. It has always been the objective of the Irish government that the IFSC not become a base for “brass plate” operations. Low taxation is part of the package that attracts investment to the IFSC (and Ireland more broadly) but it is not the sole driver or applied at the expense of other factors.

4.5 Hines and Rice (1994)

Hines and Rice in a 1994 paper, produce a list of tax havens, one of which is Ireland. It may seem unusual to cite a 20-year-old academic paper as a reason to consider Ireland as a tax haven. While dated, the paper remains very influential today in policy-making circles. At least in part because of Hines and Rice (1994), Ireland has been included in lists of tax havens by the US Government Accountability Office (GAO) and the Congressional Research Service.\(^{140}\) Ireland’s inclusion in the original paper is deeply flawed for several reasons.

First, the list effectively dates from the early 1980s. Despite this, the list is assumed to be still accurate by later readers.\(^{141}\) To assemble their tax haven list, Hines and Rice cite a paper by Glautier and Bassinger (1987). Glautier and Bassinger use a list of tax havens from the IRS Internal Revenue Manual (no year is given but it appears to date from the early 1980s).

\(^{139}\) Projects approved prior to end July 1998, the effective date of the agreement with the EU, would continue to benefit from the preferential 10% rate until end 2005, while projects approved after July 1998 and before 1 January 2000 availed of this rate until end 2002 only. The preferential tax regime for qualifying firms located in the IFSC ended on 1 January 2006.

\(^{140}\) GAO (2008) and Gravelle (2013) respectively.

\(^{141}\) Even recent papers by Hines have not sought to update and correct the 1994 paper, for example or Desai, Foley and Hines (2012) or Dharmapala and Hines (2009) simply take the list as given.
Ireland is included on this older IRS list. It appears that Ireland may have been included on the list due to the zero rate of tax on income from export sales of manufacturing goods (“export sales relief”) introduced in the 1950s. This relief was phased out for new companies in 1980 and existing companies by 1990. If this was the reason for Ireland’s inclusion, it is clearly no longer valid. Glautier and Bassinger (1987) note that the IRS manual did not have a specific definition of a tax haven. Of the various criteria for tax havens presented in Glautier and Bassinger (1987), Ireland is noted as satisfying only one: taxing foreign income at a lower rate than domestic income (presumably export sales relief). This is no longer accurate, nor has it been for many years.

Finally, an adjustment made by Hines and Rice (1994) uses a 20% effective tax rate as a cut-off point to exclude several countries. There is no explanation why 20% was used and it is based on data from 1982. It seems arbitrary but clearly does impact on which countries are removed from the list. It may also have had the effect of excluding a country with banking secrecy laws (as an example of a common feature of tax havens) if its tax rate is above the threshold.

The intended audience for Hines and Rice (1994) is tax scholars – as noted earlier academic research tends to focus on low corporation tax rates as the feature to identify tax havens and this is the basic reason for Ireland’s inclusion in Hines and Rice (1994). However, the paper has been co-opted by others in the tax policy debate to brand Ireland as having characteristics similar to a tax haven even though Ireland does not meet any of the standard criteria based on the accepted definitions used in policy-making circles (such as the OECD criteria – a point accepted by Hines and Rice).

6. Conclusion

There is no single and agreed definition of a tax haven. In some of the academic literature simply having a low tax rate can constitute grounds for being considered a tax haven. In the policy-making domain, criteria such as those of the OECD are important determining factors: no or nominal tax, lack of transparency, unwillingness to exchange information and absence of economic substance. Transparency and exchange of information are now a main focus of the G-20 and the OECD.

Ireland does not meet any of the OECD criteria for being a tax haven. But because of its 12.5% corporation tax rate, and strong flows of FDI, Ireland has on a few occasions been incorrectly labelled as having characteristics similar to a tax haven. There are three main reasons for this.

First, transfer pricing and profit shifting. Given that Ireland has a relatively low statutory corporation tax rate and has been a significant recipient of US investment for 50 years, it is not surprising that Ireland features regularly in such analysis and as a consequence is drawn into the tax haven debate. In practice, Ireland adheres very closely to the standards agreed upon by the OECD for transfer pricing matters and companies operating in Ireland are also expected to meet this standard. Ireland is fully engaged in supporting the OECD BEPS project.

Second, due to the scale of investment into the IFSC and the nature of those flows, the IFSC has at times been described as having similar features to that of an offshore financial centre. Closer examination shows that this is not the case. The Irish government has always worked towards ensuring that the operations of the IFSC remain as open and transparent as possible.

Finally, Hines and Rice (1994) include Ireland in a list of tax haven countries. Although an academic paper that is now nearly 20 years old, Ireland has been included in recent lists of tax havens because of its inclusion in this paper. Ireland’s inclusion is incorrect for several reasons.
The common theme running through these issues is Ireland’s low corporation tax rate but this alone is not sufficient to consider Ireland a tax haven. For policy makers, issues related to transparency, exchange of information and economic substance are of more importance. These are not trivial matters and nor is Ireland’s inclusion on lists that ignore these considerations.

Ireland is on the OECD / G-20 white list of countries published in April 2009 and has since been subject to peer-reviewed under the Global Forum on Transparency and Exchange of Information for Tax Purposes process to implement robust standards on exchange of information.

The international community does not regard Ireland as a tax haven as evidenced by the large and growing network of tax treaties that Ireland has in place with other countries. These are bilateral agreements and other countries would not agree them if there were a perception that Ireland was not operating on a fair and level playing field in these matters. Ireland has a strong record of transparency in the exchange of information and has refused to sign tax treaties with countries that would not agree to the recognised principles on the exchange of information. The recent signature of a FATCA agreement with the US is a further example of Ireland’s ongoing commitment to the exchange of information.

Recent events at the G-20 and OECD have vindicated Ireland’s stance and Ireland’s policy to seek full exchange of information provisions in its tax treaties. The OECD BEPS project emphasises the importance of multilateral and coordinated actions by governments. The issues raised by tax havens, in particular their use and abuse by multinational companies, arise from the limitations of domestic tax systems but can only be resolved by international co-operation.
References


7. Tax Scorecard – Significant accomplishments for Ireland’s EU Presidency


Declan Kelly – Fiscal Attaché and Irish Presidency Chair of the CCCTB Working Group. Permanent Representation of Ireland to the EU
Ambrose Murray – Fiscal Attaché and Irish Presidency Chair of the FISCALIS Negotiations. Permanent Representation of Ireland to the EU

Introduction
On 30 June 2013 Ireland finished its seventh Presidency of the Council of the European Union. In the April 2013 issue of Irish Tax Review we outlined the priorities of Ireland’s Presidency of the Council of the European Union (EU) in the area of taxation policy. The focus of the Irish Presidency was on stability, jobs and growth and an open, transparent and fair international taxation system is an important prerequisite to this goal. Actions at EU level consistent with this priority area were concentrated on by the Government.

As well as being a key element of Ireland’s Presidency programme, Ireland’s Presidency coincided with tax policy issues taking centre stage in the international arena. Tackling tax fraud and tax evasion was a headline priority of discussions at the G20 Finance Ministers and Central Bank Governors in February at the European Council in May and the G8 leaders meeting in June.

Objectives of Ireland’s Presidency
Against this elevated profile for taxation, Ireland’s original Presidency plan from the outset of focusing work on tackling tax fraud and tax evasion was very much in line with this new international focus. At a practical level Ireland’s Presidency prioritised the theme of stability, jobs and growth. Taxation is a key element in the stability pillar for Ireland and the approach taken to prioritise those actions at EU level that in the short term would help Member States stabilise revenue and tackle tax fraud and tax evasion was an important early decision. In that context the work in the taxation area would focus on tackling tax fraud and tax evasion by achieving a mandate to negotiate with third countries on the Savings Taxation, tackling hybrid mismatches and enhancing Administrative Cooperation on tax. These measures, once enacted would help to improve revenue streams at a time of fiscal consolidation and improve transparency and administrative cooperation between Member States.

In addition, in line with the commitment of Government to act as an honest broker as President of the Council of the European Union, we planned to carry forward the work on the Financial Transaction Tax (FTT), Energy Tax Directive and the Common Consolidated Corporate Tax Base (CCCTB).

Tackling Tax Fraud and Tax Evasion

Given the international attention on the issue of tackling tax fraud and tax evasion Minister Noonan used the informal ECOFIN meeting in April in Dublin to coordinate efforts and lay the groundwork for agreement on concrete measures to be adopted very quickly by Ministers to tackle tax fraud and evasion. The Ministers also discussed the practical steps that could be taken at national, EU and international levels to better share information for tax purposes. Following this very productive debate, Minister Noonan wrote a joint letter with the EU Commissioner for Taxation Algirdas Šemeta that identified seven actions that would deliver concrete results in the short term if agreed. The focus for the remaining three months of the Presidency was therefore to deliver those priority items. Following the June ECOFIN in Luxembourg agreement had been reached on five out of the seven priority areas.

Below is a brief outline of the areas of achievement and progress made in tackling tax fraud and tax evasion during the Irish Presidency.

Firstly, a Mandate was adopted for the Commission to negotiate with Switzerland, Andorra, Liechtenstein, Monaco and San Marino on a revision to the bilateral savings tax agreements. These agreements are outdated and need to be updated.

Secondly, Agreement by ECOFIN on Council Conclusions on tackling tax fraud and tax evasion.

Thirdly agreement was reached on a VAT Anti-fraud package. This involves two Directives (Quick Reaction Mechanism and Reverse Charge Mechanism) and commitments in relation to the improvement of the VAT system. This agreement will give Member States the tools to tackle the very serious issue of VAT fraud.

Fourthly, agreement was reached on the Fiscalis 2020 Programme. This administrative cooperation programme is an important tool for Member States Revenue authorities in the fight against tax fraud and evasion.

Fifthly, agreement was achieved by Ministers to enhance the current level of automatic exchange of information at EU and international level. This political commitment resulted in a revised proposal from the Commission published in June for an amendment to the Administrative Cooperation Directive.

Substantial progress was made at the May ECOFIN Council on the revision of the Savings Tax Directive and the May 22nd European Council committed that the Directive should be adopted by the end of 2013.

The final point on the letter related to work in the Code of Conduct Group on business taxation. Progress on the draft guidance on hybrid mismatches is ongoing and it was noted by Member States that the work under the Irish Presidency “could represent a significant first step in coordination by Member States against hybrid entity mismatch planning.”

**Other tax files**

Aside from the work on tackling tax fraud and tax evasion the Irish Presidency also carried forward the work on other files including the Financial Transactions Tax (FTT), the Common Consolidated Corporate Tax Base (CCCTB), VAT on Vouchers and the Energy Tax Directive. Furthermore at the senior official level tax policy discussions took place on a range of topical tax issues including CCCTB, US FATCA, OECD BEPS, Savings Tax, Tax aspects of the European Semester and Automatic Exchange of Information.

**Financial Transaction Tax (FTT)**

At the January 2013 ECOFIN the Council voted under the qualified majority procedure to authorise enhanced cooperation for the Financial Transaction Tax. This was the first time in the tax area that enhanced cooperation had been authorised. Eleven Member States were authorised to enter enhanced cooperation in this area. On 14 February the Commission published a revised proposal for the FTT under enhanced cooperation.

As Presidency Ireland chaired the technical working groups dealing with the FTT even though Ireland had not opted to participate in the enhanced cooperation procedure. The Treaties set out clearly that all Member States may participate in the discussions but only those Member States who have opted in may vote.

The aim of the Irish Presidency was to ensure transparency and inclusiveness in the working method on this file and to facilitate completion of a first read-through of the proposal. The Presidency worked closely with the EU Commission and Council Secretariat to ensure that the very complex and real concerns of both the participating and non-participating Member States, as well as those of the various institutions, were addressed in a transparent manner. A first read-through of the proposal was almost completed during the Irish Presidency. However, it is acknowledged that further work will be necessary under the Lithuanian Presidency.

**Common Consolidated Corporate Tax Base (CCCTB)**

In an earlier edition of Irish Tax Review we set out an update on the current state of play on the CCCTB proposal. ECOFIN under the Cyprus Presidency requested that the Irish Presidency hold the necessary discussions to seek to help Member States agree a way forward on this proposal.

In order to follow-up on this conclusion from ECOFIN, the Presidency hosted bilateral meetings with all Member States. The aim of these bilateral meetings was to ascertain Member States’ views on the appropriate next steps.

An overwhelming majority of Member States endorsed following a step by step approach to the technical examination of the proposal. In the first step the common tax base along with anti avoidance provisions, international aspects and operational elements would be discussed. Step two would involve a discussion of consolidation and apportionment.

On the basis of this agreed approach the Irish Presidency focused on a technical examination of the common tax base elements and on the proposed anti avoidance elements of the Commission proposal. Technical work on these elements is ongoing and will continue under the current Lithuanian Presidency.

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149 France, Germany, Spain, Italy, Portugal, Slovakia, Slovenia, Estonia, Greece, Belgium and Austria

150 Article 330---Treaty on the Functioning of the European Union

**Value Added Tax (VAT) - Treatment of Vouchers**

The Commission published the proposal on 10 May 2012. The aim of the proposal is to adopt common rules on the treatment of vouchers for the purposes of VAT by clarifying and harmonising the rules on the treatment of Vouchers in European legislation. Further detail on this proposal can be found in issue 3 of Irish Tax Review in 2012 in an article by Richard Cowley\(^\text{152}\).

This dossier is technically challenging but not considered politically difficult. Due to the prioritisation of the two VAT Anti fraud Directives the Irish Presidency had a limited capacity to advance the work, nevertheless progress was made. The Presidency identified three work modules for consideration by the Working Party, 1) definitions, 2) the distribution chain, and 3) discount vouchers and this work will continue under the Lithuanian Presidency.

**Energy Tax Directive (ETD)**

In April 2011 the Commission published an amending proposal to Directive 2003/96/EC on restructuring the Community framework for the taxation of energy products and electricity. The aim of the revised proposal is to bring the 2003 Directive into line with the EU’s energy and climate change objectives as requested by the March 2008 European Council.

The Irish Presidency, following on from the Cyprus Presidency approach, presented new minimum tax levels, based on the total minimum level of taxation following on from the Commission proposal but with a CO\(_2\) related component of €12 and further adjusted the CO\(_2\) related component for heating fuels for business use. The Presidency proposed, for discussion, a rate of 9 €/tCO\(_2\) as the rate of the CO\(_2\)-related component to calculate the minimum level of taxation for such fuels in response to concerns raised by several Member States regarding increased costs for business. In the case of motor fuels, the Presidency approach was to apply actual and projected inflation rates to such fuels (from 2010 onwards in the case of group 1 fuels and from 2004 onwards in the case of group 2 fuels).

More development on minimum rates is required to address remaining concerns of Member States such as the rates for LPG, natural gas, coal and kerosene as heating fuels for business use, as well as the rates of natural gas and other energy products used as a propellant.

**High Level Tax Group**

The High level group on tax is composed of senior officials from Finance Ministries and Revenue Agencies and discusses tax policy issues relevant to the Union. This group is an important forum for tax policy coordination, the sharing of best practice in taxation and the discussion of tax initiatives in advance of ECOFIN.

Among the topics discussed during the Irish Presidency was the orientation discussion on the CCCTB, US FATCA, OECD BEPS, the future of VAT, EUROFISC, Savings Tax, Tax aspects of the European Semester and Automatic Exchange of Information.

Of particular interest to the High level members was the participation by Pascal Saint-Amans of the OECD at the March meeting where he updated Member States on progress with the Base Erosion and Profit Shifting (BEPS) project. This was the first time that the OECD were invited to participate in this High level group on tax.

Achievements of the Presidency
The overall approach and working method of the Irish Presidency in the area of tax has been well received and has garnered favourable comment from Member States. Unique to any other policy area after each Presidency there is a report prepared on progress in the tax area by ECOFIN Ministers to the Heads of State or Government. Ireland’s report provides further information on individual tax dossiers and tax policy areas153. The final score card for the Irish Presidency in the tax area is as follows:

Agreements reached under Irish Presidency:
- Adoption of an authorising decision for enhanced cooperation for the Financial Transaction Tax
- Agreement with the European Parliament on a proposal for the FISCALIS 2020 programme, subject to finalisation of the MFF-related provision
- Adoption of Council Conclusions on the Commission Action Plan on tackling tax fraud and tax evasion and on the associated Recommendations on Good Governance and Aggressive Tax Planning
- Adoption of a negotiating mandate for third countries in relation to savings taxation
- Political Agreement154 on the VAT Anti-fraud package encompassing a Directive for a VAT Quick Reaction Mechanism and a Directive for a Reverse Charge Mechanism
- Political Agreement on the Regulation amending Implementing Regulation (EU) No 282/2011 as regards the place of supply of services.

154 Political agreement is a term referring to a decision adopting a definitive position on a text, subject to finalisation of that text by the Legal/Linguistic Experts.
8. The Structure of Ireland’s Tax System and Options for Growth Enhancing Reform

Brendan O’Connor
Economic and Social Review, December 2013

Abstract

This paper explores the structure of Ireland’s tax system. Considerable attention is given to GDP and GNP as measures of Ireland’s taxable capacity but how appropriate are either of these measures given the structure of Ireland’s economy and how does the structure compare internationally? The paper also examines the distribution of income tax and the threshold for the top marginal rate as a percentage of the average wage and identifies Ireland as an outlier internationally in terms of the rapid progression to the highest marginal rate. Consideration is then given to the microeconomic and macroeconomic impacts of various forms of tax what lessons emerge from the literature in terms of growth enhancing reforms to the overall tax structures and how that might apply to Ireland. The results of simulations suggest permanent increases in GDP and employment from a revenue neutral shift from labour to consumption or property taxes.

Keywords

Tax structure, tax burden, microeconomic impacts of taxation, macroeconomic impacts of taxation, tax reforms, tax shift, tax and growth, tax and employment, tax progressivity
1. Introduction

As Ireland prepares to exit its EU/IMF programme of financial assistance at end-2013, attention is turning to the economic strategies that Ireland could pursue over the medium term. A central issue is how the economy’s growth potential can be increased in order to provide greater employment opportunities and sustainable improvements in living standards. This imperative requires that policies across a range of areas be examined with a view towards assessing whether growth-friendly changes could be made having regard to wider societal objectives. This paper seeks to contribute to this discussion by analysing the role, both positive and negative, that the specific area of taxation policy can have on economic growth.

After a period of significant fiscal adjustment, it is worth reviewing where Ireland’s tax structure stands in an international context. Cross-country differences in overall tax levels largely reflect societal choices as to the appropriate level of State provision in the economy and the resulting levels of public spending.\(^{155}\) However investigating how tax structures could best be designed or altered to promote economic growth is a key issue for tax policy making. As acknowledged in the Mirrlees Review by the Institute of Fiscal Studies,\(^{156}\) improvements in tax structure and design can reap very valuable dividends in terms of increased economic efficiency and greater fairness. It is therefore relevant to look at the structure of Ireland’s tax system in an international context (see Section 2).

As well as comparing the tax structure with that of peer countries, this paper considers what can be learned from the microeconomic literature on optimal taxation and the macroeconomic interaction between tax policy and economic growth (see Section 3). The paper then considers the types of growth friendly tax reforms that emerge from the literature on tax and economic growth (see Section 4). An obvious issue that emerges from the discussion is whether scope exists to pursue growth friendly reforms to the tax structure in Ireland and what the impact of these reforms on employment and economic growth might be. Results from two macrosimulation models on the output and employment impacts are presented in Section 5.

Whilst the purpose of the paper is to stimulate thought and discussion on how tax policy can contribute towards improved economic performance, it should be acknowledged that a trade-off can exist between growth-orientated tax policy and equity and progressivity concerns. This paper does not attempt to address this trade-off, although it notes the highly progressive nature of the Irish personal income taxation system by international standards.

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\(^{155}\) Johansson et al. (2008)
\(^{156}\) See Mirrlees Review, Tax by Design, Section 1
2. Structure of taxation in Ireland

High taxation levels are often regarded as an important contributor towards low employment levels and unsatisfactory economic performance in Europe.\textsuperscript{157} High taxes on labour and corporate income can discourage labour supply and demand, and reduce incentives for investment and human capital formation. Accordingly, some commentators recommend a substantial reduction in tax levels, particularly on taxes on employment, to revitalise European economies.

On the other hand, some EU Member States have been able to combine relatively high levels of taxation with a strong economic performance and low unemployment. This indicates that the determination of the optimal aggregate level of taxation is not straightforward.

A number of broad arguments have been put forward as regards the size and distribution of the tax burden in Ireland in recent years. Some observers have argued that the burden of taxation is too low and that scope exists to raise the level of taxation as a share of output, whereas others have argued that there is no further scope for fiscal adjustment on the revenue side. In a related debate, some have suggested that the tax burden on labour is too high while others have argued that the burden is not high enough on high earners. Very little comment has addressed the potential for (revenue neutral) shifts in the structure of taxation in Ireland.

The discussion that follows seeks to present data on the structure of the tax system and, in the process, identify whether evidence can support any of the arguments referred to above. It also seeks to identify whether opportunities exist for a shift in the structure. The paper does not seek to address wider normative issues regarding the optimal size of the State.

The overall tax burden

The tax burden in Ireland is generally expressed as a share of gross domestic product (GDP). GDP is an estimate of the total value of all final goods and services produced within a country in a given year and is generally regarded as an appropriate measure of the tax base. Using GDP as the relevant tax base, Ireland had one of the lowest tax burdens in the EU-27 in 2011, the most recent year for which outturn data are available.\textsuperscript{158} On this basis, it might appear at first sight that Ireland has the capacity for generating greater tax revenue by international comparisons.

An alternative measure of the tax base is a country’s gross national product (GNP). While GDP measures the total output of the economy in a period, i.e. the value of work undertaken by employees, companies and self-employed persons, this work generates incomes but not all of these incomes remain the property of residents (and residents may earn some income abroad). The total income remaining with Irish residents is GNP and it differs from GDP by the net amount of incomes sent to or received from abroad. The difference between GDP and GNP is the factor flow to/from abroad and in Ireland’s case the factor flow out of Ireland is very large and negative. Ireland’s GNP is therefore less than its GDP.

As shown in Callan et al (2013), after Luxembourg, Ireland had the largest difference between GDP and GNP in Europe in 2011 when GDP represented 124% of GNP, with the rest of the EU-27 in a range between 97% (Denmark) and 108% (Czech Republic). Due to this difference some

\textsuperscript{157} European Commission (2008)
\textsuperscript{158} European Commission (2013)
commentators (McCarthy 2004, 2010) have argued the lower potential tax yield from net factor outflows means that GNP should be preferred. ¹⁵⁹

Another view is that the “true” base for Ireland is likely to be somewhere between GNP and GDP. The Irish Fiscal Advisory Council (IFAC) used a linear regression to empirically estimate an economic relationship between tax revenues and output. ¹⁶⁰ Using this approach IFAC suggested a ‘hybrid’ measure of GNP plus 40% of net factor flows, in other words GNP plus 40% of the difference between GDP and GNP.

Figure 1 below looks at the tax burden as a share of economic output for the EU-27 in 2011 with three bases used for Ireland; GDP, GNP and the IFAC hybrid measure. Ireland would have a tax burden in excess of the European average if GNP was used as the relevant base and just below the EU average using IFAC’s hybrid approach.

Thus from a purely benchmarking perspective, the capacity for Ireland to raise additional revenue as a share of output depends on one’s view as to the appropriate measure of the tax base taking into account the structure of the Irish economy and the size of factor flows out of the country.

Figure 13: Tax as a share of GDP, 2011
Source: Taxation Trends in the EU, European Commission, 2013 and author’s calculations

Sticking with GDP as the relevant base it is worth asking what it is that results in Ireland looking like an outlier in such benchmarking comparisons. Figure 1 above includes social security contributions (SSC) as a tax revenue. SSC in Ireland at 5% of GDP are the second lowest in the EU-27 after Denmark, ¹⁶¹ and are less than half the EU-27 average of 11% and just under half the OECD average of 9%. ¹⁶² In some countries social insurance is a genuine form of insurance whereas in others (such as Ireland) the link between contributions and benefits is less clear-cut. Given this heterogeneity it is worth benchmarking Ireland against other countries SSC excluded to compare how ‘core’ taxation compares in an international context.

¹⁵⁹ However as shown in Fitzgerald (2013) GNP itself has been distorted in recent years by the arrival of re-domiciled UK plcs since 2008 which are estimated to have added up to 4% to the level of GNP in 2012, while having very little impact on GDP.
¹⁶⁰ IFAC (2012)
¹⁶¹ There was a total of €7.9 billion in contributions in Ireland in 2011, with €5.5 billion in employer contributions, €2 billion in employee contributions, and €0.3 billion in contributions by self-employed and non-employed.
¹⁶² See Taxation Trends in the European Union and OECD Revenue Statistics
Figure 2 below presents total taxation as a share of GDP without SSC. At 24% of GDP it is clear that after stripping out the impact of SSC Ireland’s ‘core’ tax burden is in line with the EU average of 25%, and is above the EU average when the alternative measures of economic output are used. \textsuperscript{163}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure14.png}
\caption{Tax as a share of GDP excluding Social Security Contributions, 2011}
\textbf{Source}: Taxation Trends in the EU, European Commission, 2013 and author’s calculations
\end{figure}

**Labour taxes**

At €19 billion in 2011, labour taxes in Ireland represented 12% of GDP. This placed Ireland as the fifth lowest in the EU-27 and approximately five percentage points below the EU-27 ratio. Such an outcome is consistent with the findings from the economic literature on the need to keep the overall tax burden on labour low (Prescott, 2004) and the EU trend of shifting the tax burden away from labour (European Commission, 2013).

In the same year labour taxes accounted for 42% of total taxation, a share in the mid-range of EU Member States but below the EU average of 47%. As with the preceding discussion on total taxation, a cross country comparison is somewhat distorted by the inclusion of SSC in this measure. \textsuperscript{164}

When SSC are excluded Ireland’s labour taxes at 7% of GDP would exceed the EU average of 6%. Similarly the share of total taxation would stand at 24% as against the EU average of 16%. This shows that the ‘core’ burden of taxation on income is relatively high in an EU context and that the lower headline level is explained by SSC.

\textsuperscript{163} Similarly if Ireland’s level of SSC as a share of GDP were at the EU average of 11% it would add an additional 6% of GDP to the tax burden and bring Ireland up to the EU average.

\textsuperscript{164} The Mirrlees Review by the Institute for Fiscal Studies did not regard UK SSC (NIC) as a true SSC and instead regarded it as a tax on labour. It argued that for some countries the SSC is a pure SSC and for others a tax.
Ireland Rank in EU-27
17% 6%

Share of GDP
Labour including SSC 12% 23
Labour excluding SSC 7% 8

Share of Taxation
Labour including SSC 42% 19
Labour excluding SSC 25% 3

Table 1: Taxation on labour as a share of GDP and total taxation, 2011
Source: Taxation Trends in the EU, European Commission, 2013

Whilst the analysis above benchmarks Ireland’s tax burden on labour against other European Union Member States it is worthwhile also to look at how the burden is distributed by income levels and how this compares internationally.

In 2012 the top 1% of earners, roughly equating to tax units with income in excess of €200,000, paid 19% of income taxation including the universal social charge (USC) in Ireland. The top 5% of earners, which equates to tax units with income in excess of about €100,000, paid approximately 40% of income tax and the USC and the top 23% of tax units, with income in excess of €50,000, paid approximately 77% of tax and USC. It is clear, therefore, that the burden of taxation mostly falls on higher paid tax units.

Figure 15: Cumulative income tax and USC paid by income level, 2012
Source: Author’s analysis based on data from the Revenue Commissioners

165 The most recent year for which data is disaggregated by the Revenue Commissioners into single and married tax units is 2010. In that year 77% of single tax units which represented a gross income of €35,000 or less, contributed 15% of all tax paid by that cohort, while for married (jointly assessed) tax units 79% of tax units, representing a joint gross income of €75,000 or less contributed 23% of all tax paid by that cohort. Overall for that year the first 78% of tax units contributed 18% of tax, or equivalently the last 22% of tax units paid 82% of all tax. The year 2010 included the income and health levies but not the USC or the changes in income tax credits and bands that were introduced in Budget 2011 and are represented in Figure 3.
According to OECD data,\textsuperscript{166} the Irish income tax system is one of the most progressive in the world, as measured by the OECD metric of comparing the ratio of the tax wedge of a single individual at 166% of the average wage with an individual at 66% of the average wage.\textsuperscript{167} Using this approach Ireland’s progressivity score of 190% was the second highest in the OECD after Israel.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{OECD_pareto.png}
\caption{OECD progressivity measure, single tax payers, 2012}
\textbf{Source:} OECD, Taxing Wages 2013
\end{figure}

This outcome is not surprising given the low effective tax rates at the low end of the income distribution. According to OECD data, the effective rates of tax on workers (including SSC) for a single individual in Ireland are below the OECD average at both 66% of the average wage and at the average wage, and only converge with the OECD average at 166% of the average wage. When SSC are excluded the effective rates at 66% of the average wage are still below the OECD average and converge at the average wage. The effective rate on an individual at 166% of the average is almost seven percent higher than the OECD average.

\textsuperscript{166} OECD (2013)

\textsuperscript{167} These income levels were approximately €54,400 and €21,800 based on an average wage of €32,600 in 2012
In terms of the entry points to core income tax (excluding USC and SSC), Abbas (2012) identified the entry point to core income tax of €16,500, which corresponds to 51% of the average wage, as being by far, the highest in the OECD. The next closest ratio according to Abbas is 27.6% in Italy, with the average for both OECD and English-speaking economies being 9%. If USC were included the entry point in Ireland in 2012 would reduce to €10,036 which, at just under one third of the average wage would, remain unusually high.

Against this Ireland has one of the lowest entry points, as a multiple of the average wage, to the top marginal tax rates (MTR) in the OECD. Ireland’s top marginal rate of 52% including SSC, and 48% excluding SSC, begins at the average wage. Excluding the four countries that operate a flat tax system (Estonia, Czech Republic, Slovakia and Hungary), Ireland in fact has the joint lowest entry point to the top MTR in the OECD.

In short, entry to core income tax in Ireland is relatively high but progression to the highest marginal rate is relatively swift.

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Table 2: Effective rates of taxation, single individuals, no children, 2012

<table>
<thead>
<tr>
<th>Income tax (incl. USC) and SSC</th>
<th>66% of Average Wage</th>
<th>100% of Average Wage</th>
<th>166% of Average Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>11.5%</td>
<td>18.0%</td>
<td>31.5%</td>
</tr>
<tr>
<td>OECD average</td>
<td>21.1%</td>
<td>25.1%</td>
<td>30.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income tax only (incl. USC)</th>
<th>66% of Average Wage</th>
<th>100% of Average Wage</th>
<th>166% of Average Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>8.7%</td>
<td>14.8%</td>
<td>28.0%</td>
</tr>
<tr>
<td>OECD average</td>
<td>11.2%</td>
<td>15.3%</td>
<td>21.3%</td>
</tr>
</tbody>
</table>

Source: OECD, Taxing Wages, 2013

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168 The top marginal tax rate commences at €32,800 while the average wage in 2012 was estimated by the OECD in Taxing Wages 2013 as €32,626
Finally the role played by the taxation (and benefits) system in achieving redistributive objectives should be acknowledged. For Ireland the Gini coefficient, which is a measure of income inequality,\(^{169}\) when calculated after accounting for taxation and social transfers, is in line the OECD average suggesting less inequality than the average OECD economy.\(^{170}\) However when estimated before taxes and transfers – i.e. on the basis of market incomes only - Ireland has one of the highest Gini coefficients in the OECD. This illustrates the very significant impact that Ireland’s taxation (and benefits) system currently has in redistributing income.

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\(^{169}\) The Gini coefficient is a number between 0 and 1 representing income distribution in a population. Zero being the case where everyone has the same income and one the case where one individual has all the income. It is commonly used as a measure of income inequality.

Consumption taxes

Consumption taxes which include VAT, excise taxes and other consumption taxes account for on average 12% of GDP in the EU-27 compared with 10% of GDP in Ireland which is the second lowest level amongst EU member states after Spain. Using the IFAC hybrid measure or GNP brings the ratio for Ireland to within one percentage point either side of the EU average. As a share of total taxation, Ireland is at the mid-point of the EU Member States at a level equal to the EU average. In terms of VAT (i.e. excluding excise and other consumption taxes), Ireland also has one of the lowest shares of GDP but a share of taxation in line with the EU average.\textsuperscript{171}

<table>
<thead>
<tr>
<th></th>
<th>Ireland</th>
<th>Ireland Rank in EU-27</th>
<th>EU Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumption Taxes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of GDP</td>
<td>10%</td>
<td>14</td>
<td>12%</td>
</tr>
<tr>
<td>Share of Taxation</td>
<td>35%</td>
<td>26</td>
<td>34%</td>
</tr>
<tr>
<td><strong>VAT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of GDP</td>
<td>6%</td>
<td>26</td>
<td>8%</td>
</tr>
<tr>
<td>Share of Taxation</td>
<td>21%</td>
<td>15</td>
<td>22%</td>
</tr>
</tbody>
</table>

Table 3: VAT and Consumption Taxes, 2011

Source: Taxation Trends in the EU, European Commission, 2013

Thus for both VAT and consumption taxes in general, Ireland appears to have a low yield as a share of GDP but a share of total taxation in line with the EU average. This fact was noted by the European Commission (2012)\textsuperscript{172} in pointing out that the potential exists to shift towards consumption taxes and away from taxes that are more harmful to growth, a topic that is returned to in Section 4.

For comparison purposes VAT and consumption taxes are presented as a share of GDP, GNP and the IFAC hybrid in the cross country comparison in Figure 7. This shows that using GDP as the relevant tax base Ireland’s share of consumption taxes is quite low but closer to the EU average using the alternative measures.

\textsuperscript{171} VAT receipts in Ireland increased in 2012 following an increase in the standard rate from 21% to 23%. Whilst data on other EU member states are not publicly available with respect to 2012, Ireland’s VAT as a share of GDP in 2012 remained constant relative to 2011 at 6%.

\textsuperscript{172} See Table 5.8, European Commission (2012)
Corporate Income Tax

As a share of GDP the amount of corporate income tax collected in Ireland at 2.4% of GDP in 2011 was only marginally behind the EU-27 average of 2.7%. As a share of total tax revenue Ireland’s outcome of 8.3% placed it eighth highest in the EU and higher than the EU average of 7.5% (see Figure 8 and 9 below).
A link appears to exist between the size of a country’s financial sector, as measured by share of value added, and the relative importance of corporation tax, both as a share of GDP and the country’s overall tax base. For instance the five largest financial sectors relative to the own country gross value added in 2011 were in Luxembourg, Ireland, Cyprus, the United Kingdom and Malta. These countries also had relatively large corporation tax shares.

**Environmental Taxation**

Under the ESA-95 classification, environmental taxes refer to transport (excluding fuels), energy (including transport fuels) and pollution/resources taxes.

As a share of GDP, environmental taxes were about 2.6% in 2011, a level equivalent to the EU average, and at €4.1bn equated to approximately 9% of total taxation, as against the EU average of 7%, and represented the sixth highest share of taxation in the EU.

**Property Taxation**

Property taxation in Ireland in 2011 was accounted for by a transactional tax in the form of stamp duty on non-residential and residential property, and two recurring charges in the form of a non-principal private residence charge and commercial rates levied by local governments on commercial premises.

A household charge was introduced on all residential properties in 2012 and in 2013 this was replaced by a market value ‘band based’ recurrent tax on residential property. The non-principal private residence charge will be removed in 2014 coinciding with the first full year of the recurring tax on residential property known as the local property tax (LPT).
The 2011 benchmarking data presented in Table 4 below therefore relates to a year in which Ireland did not have a recurring tax on all immovable property and with transaction-based taxes at a cyclical low. In any event, as a share of GDP, Ireland’s property taxes as a whole, (i.e. including the transactional stamp duty tax) and recurring taxes on immovable property, were in line with the EU average and were above the EU average in terms of the share of total taxation.

<table>
<thead>
<tr>
<th></th>
<th>Ireland</th>
<th>Ireland Rank in EU-27</th>
<th>EU Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property Taxes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of GDP</td>
<td>1.2%</td>
<td>10</td>
<td>1.3%</td>
</tr>
<tr>
<td>Share of Taxation</td>
<td>4.0%</td>
<td>8</td>
<td>3.6%</td>
</tr>
<tr>
<td><strong>Recurring taxes on immovable property</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of GDP</td>
<td>0.9%</td>
<td>8</td>
<td>0.8%</td>
</tr>
<tr>
<td>Share of Taxation</td>
<td>3.2%</td>
<td>6</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

**Table 4: Property taxes as share of GDP and taxation, 2011**

**Source:** Taxation Trends in the EU, European Commission, 2013

While Ireland may have had a high share of property related taxation relative to other European Union Member States, Abbas (2012) shows that, when compared with other English speaking OECD countries, Ireland has a comparatively low level of property taxation, especially for recurrent taxes on immovable property. With a similar ratio to GDP in 2010 as 2011 (0.9%), Ireland compared unfavourably with the average of 3% of GDP for the group of English speaking economies cited by the author; with the share of recurrent property taxation in total property taxes of 57% percent well below the 83% in these economies.

Norregaard (2013) outlines the benefits of higher recurrent property taxation on immovable property which include the relatively stable source of revenue from this source, which is important in small open economies with volatile tax bases such as Ireland. The volatility and cyclicality of taxes bases in small open economies is particularly relevant for Ireland given that the transactional nature of Ireland’s property taxes prior to the introduction of the local property tax in 2013 has been shown to have been highly cyclical (see Callan et al, 2010).

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173 The English speaking countries referred to by Abbas were the United Kingdom, the United States, Canada, Australia and New Zealand. The author used these countries as a comparator group given the relatively similar share of personal income taxation (including SSC) as a share of Government revenue in Ireland (47%) and average for this group (45%). By way of contrast the small European, large European and OECD average for the personal income tax share in 2011 was 56%, 59% and 53% respectively.
3. Economic theory of tax policy and economic growth

Taxation can impact on the economy through microeconomic and macroeconomic channels. The macroeconomic factors are discussed in greater detail below and relate to the drivers of economic growth, labour supply and participation, capital formation and total factor productivity. Before this it is worth discussing the microeconomic aspects of taxation through its impacts on individual incentives and decisions as it is the aggregate impacts of these decisions that drive the macroeconomy.\textsuperscript{174}

**Microeconomic Principles of Taxation**

The microeconomic principles of taxation relate to the impacts that taxation can have on individual’s decisions and the ‘deadweight’ losses that can arise from distortions to these decisions caused by taxation. Tax systems with high marginal rates and narrow bases create larger distortions relative to those with low rates and wide bases.

Estimates for the size of the deadweight loss from income taxation in Ireland were computed by Honohon and Irvine (1987). The authors estimated a deadweight loss of 1.73 times the revenue raised in Ireland in the 1980s under certain assumptions regarding the elasticity of labour supply and the levels of redistribution of the revenues raised. Whilst the estimates may not be readily applicable to Ireland’s income tax system today, they are illustrative of the high social cost of raising revenues with high marginal rates and narrow bases. The lessons from this research have recently been reflected in the work of the Commission on Taxation (2009) which stated in its approach to tax reform that lower tax rates and broader bases were preferable to higher rates on narrow bases.

A key goal for tax design should be to reduce the deadweight cost of taxation across the system. Taxes disrupt the economic signals that prices send in market economies by driving a wedge between the price paid by the buyer of a good or service and that received by the supplier. Income tax results in employers paying more for an hour of work than employees receive, while consumption taxes result in retailers receiving less for a product than customers pay. By increasing prices and reducing quantities bought and sold, taxes impose a cost on consumers and producers alike. The sum of these welfare costs almost always exceeds the revenue that the taxes raise — the difference is referred to as the deadweight cost of taxation.\textsuperscript{175}

An established framework for considering the impact of taxation on an individual’s decisions involves analysing the impact of income and substitution effects. When a tax is introduced or increased, an individual’s after tax income declines, making them comparatively poorer, and thereby incentivising greater labour supply to maintain the same after tax income. Thus increases in average rates increase incentives. This is referred to as the income effect. However, at the margin the increased tax reduces the return to labour which incentivises less labour supply. Thus increases in marginal rates reduce incentives. This is referred to as the substitution effect as individuals are incentivised to substitute from labour to leisure. The income and substitution effects have the opposite impacts on an individual’s incentives, however most empirical work suggests that the substitution effect dominates.\textsuperscript{176}

\textsuperscript{174} The foregoing discussion relies heavily on the insights and learnings from the Mirrlees Review ‘Tax by Design’ of the Institute of Fiscal Studies.

\textsuperscript{175} Two other costs of taxation include compliance and administrative costs.

\textsuperscript{176} See Mirrlees Review, Section 2 the Economic Approach to Tax Design
Taxing negative externalities can promote welfare by internalising the costs of the externality into an individual’s decision,\(^{177}\) for example the taxation of social or environmental ‘bads’, such as tobacco, alcohol or carbon. Taxation can also remedy market failure, such as underinvestment by the private sector in R&D relative to the socially optimum level.

An optimal tax is one which is neutral to decisions and in the process minimises deadweight effects.\(^{178}\) The principle of neutrality was one of the guiding principles of Ireland’s Commission on Taxation (2009).\(^{179}\) A neutral tax system treats similar activities in similar ways, in other words individual’s decisions should not be distorted in respect of different forms of consumption, income or savings.\(^{180}\) A neutral system minimises welfare losses arising from these distortions.

An individual’s labour supply decisions can be impacted by the non-neutral treatment of earned and non-earned income. A consumer’s expenditure basket can be distorted by different VAT rates for similar goods and services. Other examples of a non-neutral system include differential taxation of debt and equity and differential taxation of owner occupied housing and other assets. In a limited set of circumstances a departure from neutrality can be a good thing, in particular to remedy a market failure (e.g. the taxation of environmental or social bads, incentives for business expenditure on R&D, lighter taxation of goods which are complementary to work such as childcare costs), or to create incentives for pensions savings.

Optimal tax theory balances efficiency losses against a government’s desire for redistribution and the need to raise revenue. A progressive system will set taxes on earnings at higher rates for higher earners, but higher tax rates impose distortions and disincentives. An income tax system is optimal when the gain through redistribution, and raising revenue, exceeds the deadweight cost from lowering labour incentives.

Optimal taxation does not always support taking distributional effects into account when considering taxation on goods and services – e.g. by using differentiated rates. If taxes on earnings are well designed they can do the “heavy lifting” as far as achieving progressivity is concerned. If progressivity is achieved in the income tax system the rest of the system should focus on efficiency.

**The Macroeconomics of Taxation on Growth**

By distorting individual decisions, taxation can impact on economic output (\(Y\)) and growth by affecting any of the three components of output that are described in the production function below, namely human capital (\(L\)), physical capital (\(K\)) and total factor productivity (\(A\));

\[
Y = F(L, K, A)
\]

---

\(^{177}\) An externality represents a cost or benefit from an activity that does not accrue to the individual or organisation carrying out the activity. A negative externality includes costs such as pollution or noise which have to be borne by others but not those who carried out the activity that created the externality, while a positive externality may include the benefit to society from R&D investments by private companies. Because the costs of a negative externality (or the benefits of a positive externality) are not priced in the cost of the action that created the externality, private individuals or organisations will over-produce these costs relative to the socially optimum level (or under produce in the case of positive externalities).

\(^{178}\) As well as requiring that a system be neutral, optimal taxation also requires the system to be simple and stable (see Mirrlees Review, Section 2, the Economic Principles of Tax Design, pp. 40-44)

\(^{179}\) The other guiding principles of the Commission on Taxation (2009) were equity, flexibility, simplicity, evidence-based approach and pragmatism.

\(^{180}\) In this discussion neutrality relates to decisions within a particular activity, e.g. within consumption decisions, rather than across activities such as consumption and leisure. Individuals will not be neutral between various forms of consumption if there are differential forms or rates of consumption tax applied. Of course an individual’s decisions between consumption and leisure may be distorted even with a common rate of consumption tax as the individual may favour more or less consumption relative to leisure. Only a single lump sum tax will maintain neutrality between consumption and leisure. The author thanks the anonymous referee for valuable comments in this regard.
The early literature on growth focused only on human and physical capital with productivity considered to be exogenous (i.e. determined outside the model). The key finding from these ‘exogenous’ growth models was that growth occurs only through the accumulation of capital, which itself is determined by the level of savings and depreciation in an economy. Additions of capital to a fixed supply of labour result in decreasing returns to capital over time and a long run limit on the growth in living standards. Chamley (1986) and Judd (1985) showed in the exogenous model the link between capital formation and savings leads to a long run optimal tax on capital income of zero. Consequently all taxation should fall on labour income under these models.  

The drawback of the exogenous growth model is that it ignored the critical driver of permanent increases in growth, namely productivity. Endogenous growth models allow for sustained growth and explain its sources. These endogenous models focus on the drivers of total factor productivity and include explicit models of improvements in human capital, learning by doing, innovation, technology transfer.

According to Myles (2009), the common property of endogenous growth models are that choices are made by economic agents, these choices lead to productivity growth and they can be influenced by economic policies such as taxation. This allows the effects of taxation to be traced through the economy and an assessment to be made as to possible impacts on growth. For instance an increase in taxation reduces the returns to investment (in both physical and human capital) and R&D. Lower returns mean less accumulation of human and physical capital and innovation in terms of productivity, and hence a lower rate of growth.

Taxes that have a smaller negative impact on the economic decisions of individuals and firms are less negative for economic growth. The economic literature and empirical work by the OECD suggests a tax and economic growth hierarchy with recurrent taxes on immovable property being the least distortive tax instrument in terms of reducing long-run GDP per capita, followed by consumption taxes and other property taxes as well as environmentally-related taxes, personal income taxes and corporate income taxes (see Johansson et al. (2008)). Viewed against this hierarchy, recent policy changes such as the elimination of tax expenditures, the raising of consumption and other indirect taxes and the introduction of a local property tax, may be regarded as growth friendly initiatives.

It is useful to think of how the structure of the tax system can impact on GDP per capita in terms of a framework described by the OECD. GDP per capita can be impacted by affecting the amount of hours worked in the economy (labour utilisation), and the amount of output that is produced per hour (labour productivity) or both (see below).

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181 See Myles (2009) for a derivation of this outcome
The discussion below considers the impact that individual taxes have on the determinants of growth. The lessons from this section and those from the structure of the Irish tax system are brought together later in the paper (see section 5).

Property Taxes

Recurrent taxes on land and buildings have a small adverse effect on economic performance. This is because these taxes do not affect the decisions of economic agents to supply labour, to invest in human capital, to produce, invest and innovate to the same extent as some other taxes.

As buildings and land are highly visible and immobile, these taxes are difficult to evade, and the immovable nature of the tax base may be particularly appealing at a time when the bases of other taxes become increasingly internationally mobile. For a further discussion see Heady (2009) or Callan (2010).

Norregard (2013) argues that taxation of immovable property is highly efficient (in terms of collection and the difficulty for individuals to evade), benign on growth and to the extent that property taxes are based on market values are regarded as equitable. However Norregard also acknowledges their unpopularity which relates to their visibility and difficulty in terms of avoidance.

Consumption taxes

Consumption taxes are neutral with respect to saving as, in the absence of rate changes, they apply the same rate to current and future consumption. They therefore do not affect the supply of funds for investment and physical capital formation.

Consumption taxes have a lower impact on labour supply incentives than direct taxes, for equivalent revenue, as they are paid out of expenditure financed by both labour income and non-labour income.
Consumption taxes tend not to be progressive and therefore have a lower impact on growth per unit of tax revenue than progressive income taxes which tend to vary with income. However, changes in consumption taxes lower the purchasing power of real after tax wages and therefore impact labour supply in the same way as labour taxation. Whilst this principle is undoubtedly true in the long term, consumption taxes may be less harmful in the short term with evidence from behavioural economics suggesting consumption taxes result in less negative incentives than income taxes even though the impact on the actual household budget would be equivalent.\textsuperscript{182}

Personal Income Taxes

Personal income taxes are seen as more harmful to growth than consumption taxes. They are generally progressive, with marginal tax rates that are higher than their average rates. This means that they discourage growth more per unit of tax revenue than consumption taxes which do not vary with income.

Tax progressivity through higher top marginal tax rates affect both labour utilisation and productivity, thus suggesting a non-trivial trade-off between tax policies that enhance GDP per capita and distributional objectives.\textsuperscript{183} In addition, the tax wedge between labour cost and take-home pay is found to have a negative effect on the employment rate and thus labour utilisation.\textsuperscript{184}

Top marginal statutory rates mainly affect productivity with a negative relationship between top marginal tax rates and the long run level of total factor productivity (TFP).\textsuperscript{185} By affecting the relative price of labour and capital, i.e. through non-neutral treatment, high marginal tax rates can lead to inefficient reallocation of inputs, lowering the efficiency of production inputs, i.e. lowering TFP.\textsuperscript{186}

Hours worked have also been shown in the literature to be modestly responsive to labour taxes while labour market participation is much more responsive (Heckman 1993, Blundell et al 1998).

Capital income taxes affect investment and entrepreneurship through savings and firms’ financing. Taxes on personal capital income affect private savings by reducing their after-tax return. As the income from savings are taxed as well as the income that is generated from those savings, personal income taxes can discourage savings (and investments) and are seen as more harmful to savings than consumption taxes which are generally seen as neutral to savings.

Corporate Income Taxes

The OECD research suggests that corporate income taxes are the most harmful for growth as they discourage the activities of firms that are most important for growth: investment in capital and

\textsuperscript{182} See Blumkin et al (2012)
\textsuperscript{183} Controlling for human capital, the OECD’s growth regressions (OECD, 2010) point towards the sizeable adverse effects of progressive income tax schedules on GDP per capita. Results show that for an average OECD country if the marginal tax rate were to decrease by 5 percentage points, thus decreasing the progressivity of income taxes, the estimated increase in GDP per capita in the long run would be around 1 per cent.
\textsuperscript{184} Nickel (2004) found that a 10 percentage point increase in the tax wedge reduces employment by around 1% to 3% of the working age population, while OECD (2005) found that a reduction of the tax wedge in an average OECD country would increase the employment rate by 3.7 percentage points.
\textsuperscript{185} See Box B.2 in OECD (2010)
\textsuperscript{186} Regression results presented in OECD (2010) show top marginal personal income tax rates have a more negative effect on TFP in sectors characterised by high firm entry rates. Employer and employee SSC have a more negative influence on TFP in industries that are relatively more labour intensive.
productivity improvements. Corporate taxation affects the rate of capital accumulation, by reducing the after tax return on capital investment, and hence GDP per capita.\textsuperscript{187}

As with labour taxes corporate income taxes can distort relative factor prices and result in misallocation of resources, or by reducing the after-tax return from innovative activities thus discouraging investment in R&D. Further, by negatively affecting foreign direct investment and the presence of multinational companies corporate taxes can hinder technology transfers.\textsuperscript{188}

\begin{footnotesize}
\begin{enumerate}
\item\textsuperscript{187} OECD regressions found that increases in the tax-adjusted user cost of capital are found to reduce investment at the firm level and the effect on firm-level investment is stronger in more profitable industries. This is also confirmed in industry level regressions.
\item\textsuperscript{188} OECD regressions show a link between corporate taxes, R&D incentives and TFP. While earlier OECD work shows an adverse effect of corporate taxes on FDI with a one percentage point increase in a country’s corporation tax rate shown to reduce FDI stocks by 1% to 2% (OECD, 2007).
\end{enumerate}
\end{footnotesize}
4. Growth orientated tax policy reforms

Arising from the theoretical and empirical literature on tax and growth, economists have proposed growth orientated changes in the structure of tax systems. Such reforms can be described as those that relate to reforms within one tax type, for instance widening a given base and lowering headline rates, or shifting the tax burden from more harmful taxes such as corporate and personal income taxes towards consumption and property taxes (see OECD 2008 and 2010 and EC 2008, 2010 and 2012).

OECD (2010) presented empirical and theoretical evidence that there could be gains in terms of long-run GDP per capita from increasing the use of consumption and property taxes relative to income taxes without changing overall tax revenues. This shift would have larger impacts on GDP per capita if it was in the form of cuts in marginal personal income tax rates rather than increases in thresholds (although the latter would be more effective at reducing inequality).

**Shifts from Income to Consumption Taxes**

Consumption taxes are less harmful to growth as, relative to personal income taxes, they have a neutral impact on savings and investment. In the long-run a revenue-neutral shift from personal income to VAT/consumption taxes may not have much effect on the average total taxes paid by a typical employee as the impact on their real net wages are equivalent, although recent research in the field of behavioural economics has challenged this view.

Since personal income taxes are generally more progressive than consumption taxes this reform would reduce the marginal tax rate of a typical worker and thereby increase labour supply incentives through a positive substitution effect. Whilst this may promote economic growth it would do so at the expense of making the tax system less progressive. If transfer payments are not index-linked, there could be positive labour supply impacts, although this would cause a worsening in poverty and equality outcomes.

A shift towards consumption taxes does not imply an increase in the top rate of VAT as the shift could be achieved by raising or eliminating reduced VAT rates. Reduced rates on consumption taxes are an inefficient way of reducing income inequality and promoting progressivity. Higher income households consume relatively more of lower taxed goods and thereby disproportionately benefit from reduced rate goods. The deadweight costs of using consumption taxes to achieve equality and redistributive objectives are therefore quite high.

It is because of this deadweight cost that the income tax and benefits system is the appropriate place to target redistributive objectives. By broadening the VAT base through eliminating or reducing the level of reduced VAT rates, scope would exist to better target expenditure measures to those who need them, whilst also allowing for a reduction in the headline rate. For example the Mirrless Review estimated that the UK could eliminate most reduced and zero-rate VAT while compensating

189 See Annex B OECD (2010)
190 European Commission (2008)
191 It is worth noting that a common rate of VAT applying to all of consumption may allow for a substantially lower rate than today’s standard rate of 23 percent as items at the lower rates are relatively more price elastic than those at the standard rate.
193 An exception to the argument in respect of reduced VAT rates can apply to goods that are complements and substitutes to labour. Differentiated consumption taxes can encourage work if goods and services that are complementary to work – e.g. transport and childcare – are taxed at a lower rate than those that are substitutes to work – e.g. leisure activities.
every household through the tax and benefits system to leave them as well off as they were before whilst raising an additional £3 billion for the exchequer.\textsuperscript{194}

\textbf{Shifts from Income to Property Taxes}

A shift towards taxes on property appears to be even better for growth than a shift towards consumption taxes as it would not impact on labour supply decisions and would have the advantage of being highly efficient and, in the case of market value based property taxes, equitable (Norregaard, 2013). The OECD (2010) cite an additional benefit of increasing taxation on immovable property as shifting some investment out of housing into higher return investments and so increase the rate of growth.

Despite the relative gains of a property tax based shift, OECD (2010) note that the scope for switching revenue to recurrent taxes on immovable property is limited because these taxes are particularly unpopular. This latter point is acknowledged by Norregaard (2013) who attributes their unpopularity to their transparency and the relatively limited scope for tax avoidance and evasion.

\textsuperscript{194} See ‘Broadening the VAT Base’, Tax by Design, Mirrlees Review, Institute of Fiscal Studies, 2011, UK
5. Options for Ireland

As described in Chapter 2 the burden of labour taxation is only low when GDP is used as the tax base and when SSC are included in the comparison. Excluding SSC or using an alternative base to account for the economic structure of Ireland shows the burden on labour to be relatively high. The burden on consumption is however low in a European context and the burden on immovable property is low relative to English speaking OECD countries.

Within labour taxation the entry point to core income tax, is relatively high. Effective rates of tax are also low relative to the OECD at income levels below the average wage. While the marginal rate in Ireland may not be an outlier in an OECD context, the entry point to the top marginal rate is the lowest for progressive income tax systems. Ireland is also an outlier in terms of the progressivity of its income tax system. Estimates included in OECD (2010) point to adverse effects of highly progressive income tax schedules on GDP per capita through both lower labour utilisation and lower productivity partly reflecting lesser incentives to invest in higher education.

The theory and structure would therefore suggest that there may be gains for Ireland by reducing the burden of taxation on labour, and the strongest impacts would be from changes in marginal rates through positive substitution effects. Such a reform may involve moving the entry point to the top marginal rate away from the average wage, thereby incentivising greater labour supply through positive substitution effects, or from reducing the top marginal tax rate. The options for reform could be achieved by a revenue neutral shift towards consumption or property tax.

Simulating Tax Shifts

Reforms in the structure of the taxation system through revenue neutral shifts from labour to consumption or property have been simulated in the literature to raise the rate of growth in an economy. For instance Myles (2009) concludes from a review of the literature of tax reforms on growth that “almost all the results support the claim that a move from income taxation to consumption taxation will raise the rate of growth”. The results of recent simulations of tax shifts for Ireland are now discussed.

The effects of taxes on GDP have been simulated using the European Commission’s Quest III model. QUEST III is a New-Keynesian Dynamic Stochastic General Equilibrium (DSGE) model used by the Commission’s staff in policy analysis. It has previously been used by the Department of Finance in the context of an analysis of the impacts of structural reforms.

The Commission’s simulations use three baseline scenarios, a coordinated tax shift from labour to consumption for the whole euro area, a unilateral tax shift by a large Member State (Germany) and,
a tax shift by a small Member State (Ireland). Each of the models confirm that the tax shift would have a positive impact on GDP and employment. In the short run the gains are larger for a unilateral shift due to competitiveness effects. The simulations are designed to be revenue neutral.

The results for Ireland which are described in detail in European Commission (2008) are summarised below. The model assumes that benefits and transfers are index linked. The shift results in an increase in GDP and employment of 0.2% and 0.25% five years after the reform.

<table>
<thead>
<tr>
<th>Years after reform</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>0.12</td>
<td>0.17</td>
<td>0.19</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.19</td>
</tr>
<tr>
<td>Employment</td>
<td>0.14</td>
<td>0.22</td>
<td>0.24</td>
<td>0.25</td>
<td>0.25</td>
<td>0.23</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Table 5: Results from QUEST III Model of a 1% of GDP shift from income tax to consumption tax

Source: European Commission

As a check against the outputs from the QUEST III simulations, which may not be perfectly calibrated for the Irish economy, the results of an existing structural model of the Irish economy are used. The HERMES model was first estimated in the 1980s and is described in Bradley et al (1993) and the most recent specification of the model is described in Bergin et al (2013). The model is based on a detailed empirical literature on the behaviour of the Irish economy. In respect of a ‘tax shift’ the key features of the Irish economy relate to why the incidence of taxation differs between direct, indirect and property taxes.

As described in Bergin et al (2013), HERMES models the wage setting mechanism as a bargaining process between firms and workers over the real after tax wage. Irish manufacturing output prices are assumed to be determined primarily in the world market place and as such cannot easily be altered to respond to Irish cost conditions. In other words, Irish firms trading internationally tend to be price takers. Labour supply is assumed to be elastic with labour demand relatively inelastic such that in the medium term the incidence of labour taxation falls mainly on employers rather than employees. As Irish exporters do not have the ability to pass on higher input costs on the world market the medium term impact of higher labour taxes is a loss of competitiveness for Irish firms with a consequent fall in output and employment.

While the medium term impact of an increase in indirect taxes for workers is assumed to be equivalent to an increase in direct taxes, indirect taxes affect a wider population than direct taxes, such that some of the incidence remains with the household sector with a lower consequent impact on competitiveness. The incidence of property taxes falls entirely on the household sector as the ability of workers to avoid the tax by reducing labour supply is limited.

The first set of results presented below simulate a €1 billion increase in revenue from property taxes offset by a cut in income tax sufficient to keep the general government deficit unchanged each year. The results from HERMES are symmetric and linear and as such the results can be scaled up or down to reflect a greater or lesser shift than that modelled. Transfer payments are not index-linked in the HERMES simulation results presented herein but the model does allow for indexation.

Because property tax has a much more limited impact on the labour market than personal taxation the net effect of the change is to raise the growth rate and reduce the unemployment rate. The

198 The author would like to thank John FitzGerald for undertaking the reported simulations.
199 For a discussion on the elasticity of labour supply in Ireland see Honohon (1992).
results indicate 0.32% increase in the GDP, a 0.43% increase in employment and a 0.14% reduction in unemployment after 5 years.

<table>
<thead>
<tr>
<th>Years after reform</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (%)</td>
<td>0.00</td>
<td>0.16</td>
<td>0.26</td>
<td>0.32</td>
<td>0.32</td>
</tr>
<tr>
<td>Employment (%)</td>
<td>0.00</td>
<td>0.11</td>
<td>0.26</td>
<td>0.41</td>
<td>0.43</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>0.00</td>
<td>-0.07</td>
<td>-0.08</td>
<td>-0.12</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

*Table 6: Results from HERMES Model of a €1 billion shift from income tax to property tax*

The table below reports the results of a simulated shift to VAT from income taxes using the HERMES model. It simulated an increase in VAT offset by a reduction in income tax, both scaled to roughly bring in ex ante €1 billion. Because personal taxation primarily affects those working and VAT affects a wider population, the switch results in lower wage rates, higher employment and higher output in the medium term. The results indicate that real GDP would be 0.38% higher than the no policy change baseline after five years, with employment 0.43% higher and unemployment 0.21% lower.

<table>
<thead>
<tr>
<th>Years after reform</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
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<td>0.17</td>
<td>0.30</td>
<td>0.42</td>
<td>0.38</td>
</tr>
<tr>
<td>Employment</td>
<td>0.00</td>
<td>0.11</td>
<td>0.26</td>
<td>0.41</td>
<td>0.43</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>0.00</td>
<td>-0.09</td>
<td>-0.17</td>
<td>-0.24</td>
<td>-0.21</td>
</tr>
</tbody>
</table>

*Table 7: Results from HERMES model of a €1 billion shift from income tax to VAT*

The results of both shifts are consistent with the literature and also with the results of the QUEST III simulations and all show an increase in short and medium term GDP and employment and a reduction in the unemployment rate arising from the shift.

The simulations do not give any guidance on how to implement the shift and a few considerations are required.

Firstly, in terms of property taxes, a shift of €1 billion toward property taxes would suggest a two fold increase on the forecast for a full year yield of €500m for the local property tax. If a lower shift were considered the results would need to be scaled back proportionately. As the results from HERMES simulations are linear, this scaling is possible.

Second, an increase in consumption tax does not necessarily imply an increase in the headline rate of VAT. Efforts could be made to increase the ‘efficiency’ of VAT by increasing some of the lower rates. Some of the revenue generated could be used as direct expenditure through means tested benefits to compensate low income groups as per the simulations in the Mirrlees Review (2011)\(^\text{200}\) and described in Section 4 above. Direct cash payments are generally more efficient at relative poverty reduction given that the deadweight costs of reduced VAT rates are high.

\(^\text{200}\) See Chapter 9 'Broadening the Tax Base', pp. 218, Mirrlees Review
6. Final Thoughts

Ireland’s capacity to increase its tax burden very much depends on what one views as the appropriate measure of economic output for the purposes of taxation taking into account the structure of the economy and the size of the foreign owned sector. In terms of tax take as a share of total activity, Ireland is not an outlier when one uses GNP or the IFAC hybrid measure of output. In terms of share of GDP the Irish tax system mainly differs from the EU average in terms of SSC. Adjusting for SSC, the burden of taxation in terms of total revenues and labour taxation is in line with the EU average. In overall terms, when allowance is made for some specific features of the Irish economy and the nature of its social security system, the size and broad distribution of the tax burden across tax types in Ireland is not greatly out of line with that of other EU states.

In GDP terms, taxation of consumption is below the EU average. This suggests that there may be some scope to use consumption taxes to reduce the burden on labour. Relative to other OECD economies with a similar reliance as Ireland on personal income taxes as a share of overall Government revenues, Ireland has a comparatively low level of property taxation, especially for recurrent taxes on immovable property.

The paper identified aspects of the Irish taxation system that may be harmful to growth, in particular the low entry point to the top marginal tax rate, and identified possible scope for growth enhancing reform. The reforms involve reductions in the burden of labour taxation either through base broadening within labour taxation or through a shift from consumption to property taxation. Given the constraints faced by the exchequer the reforms are presented in a revenue neutral basis. Results from macrosimulation models show positive GDP and employment gains for Ireland.

The objective of this paper is to contribute towards the discussion of tax policy in the context of economic growth. Of course economic growth is not the only consideration when it comes to tax policy. The achievement of redistributive outcomes is also of importance to policy makers. In that regard the tax and benefits system have achieved a significant reduction in inequality as measured by the Gini coefficient for disposable income.

Whilst this paper focuses mostly on changes to the structure of the tax system motivated by economic growth objectives, it does acknowledge the highly progressive nature of Ireland’s income tax system with the burden of labour taxation falling to a considerable extent on higher income tax payers while low earners benefit from unusually low effective rates in an international context. Finally it should be acknowledged that a trade-off exists between progressivity and economic growth.
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9. Department of Finance Review of Ireland’s Research and Development Tax Credit 2013

Kate Levey and Mairead Ross

Introduction
As part of last year’s Budget process, the Minister for Finance announced a review of Ireland’s Research and Development (R&D) Tax Credit, a measure that has been in place since 2004.

Given that the R&D Tax Credit regime is fast approaching its tenth birthday, and given that the scheme has a very significant annual Exchequer cost, it was considered the right time to take a step back and review its impact to date to see are there any lessons that can be learnt to improve its effectiveness going forward.

This review of the R&D Tax Credit regime is just the latest in a series of rolling reviews of tax expenditure schemes that the Department of Finance has conducted over the last few years, all aimed at improving evidence based policy making. A review of the legacy property tax relief schemes was carried out in 2011 and 2012 saw a review of the film tax relief scheme. Both reviews resulted in significant legislative change.

In a time of difficult budget tightening for the country and for individual citizens it is right to ask if tax relief schemes remain fit for purpose.

The results of the review were published on 15th October this year as part of Budget 2014 and the Minister also announced a number of Budget measures to implement the key recommendations of the review.

The timing of the review is also fortuitous as it coincides with the launch of a major new report on New Sources of Growth: Knowledge Based Capital (KBC) by the OECD. That report acknowledges that R&D tax incentives play a central role in many countries in encouraging investment in KBC. Interestingly, it also sounds a note of caution that the interaction of R&D incentives with the cross-border tax planning strategies of multinational companies can result in sub-optimal outcomes for countries.

This article outlines the approach that was taken to the review and sets out the key findings from a tax perspective and the tax policy recommendations.

Approach to the Review
The review was a collaboration between the Fiscal and Economics Divisions in the Department, with seven people working on the project over the course of 2013. The valuable input of colleagues in the Revenue Commissioners, Forfás, the IDA and Enterprise Ireland was also acknowledged.

It is worth highlighting at the outset that the review was entirely policy-focussed – it did not encompass the administration of the R&D tax credit which is within the purview of the Revenue Commissioners who are, of course, statutorily independent.

202 It involved Gary Tobin, Kate Levey, Maireád Ross and Niall Casey of the Business Tax section and David Hegarty, Brendan O’Connor and Terry Hynes of the Economics section.
Strong take-up of the credit is clearly very positive from a policy perspective but, given the attractiveness of the credit, Revenue must provide the necessary checks and balances consistent with the effective targeting of the credit and detection of inappropriate and excessive claims.

The review had 5 key pillars:

**Analysis of Revenue Data on R&D Tax Credit Claims**
Confidential company level data was provided by Revenue to the Department under an authorisation procedure. The data was not disseminated to any other parties within or outside the Department and was presented in high level aggregated format in the report.

**Public Consultation**
A consultation process with interested parties was initiated following the publication of a consultation paper on 13th February 2013. The Department is increasingly using a formal public consultation process in relation to a variety of tax issues. Other recent examples include the consultations on revisions to the pay and file deadlines and the reform of the Appeals Commissioners.

In this consultation, over 20 high quality written responses were received from various bodies including individuals, companies, representative bodies, advisory firms, political parties and others. These submissions have been published on the tax policy section of the Department’s website.203

The Department also met with around 100 individual companies during the course of the consultation during site visits, round-table discussions and industry seminars. The views expressed during the consultation significantly assisted our understanding of the issues.

**Survey of R&D Active Companies**
It was felt that that an independent and anonymous survey of firms engaged in R&D in Ireland would assist in ensuring that the views of a representative sample of users of the R&D tax credit was captured. Following a competitive tender, the Department appointed Crowe Horwath to conduct an independent survey of R&D active companies. The data collected by Crowe Horwath and issues raised by respondents was represented throughout the review but was also published separately in its entirety on the Department’s website.

Crowe Horwath noted the strong response rate for the survey. A total of 217 survey respondents indicated that they currently claim the R&D Tax Credit - this represents approximately 14.7% of the total numbers claiming the R&D Tax Credit and thus indicates good coverage of users of the R&D tax credit.

Between the public consultation and the survey, the review process has been extensive with around 1,000 companies canvassed and approximately 100 consulted directly. The high level of engagement by members of the public and a variety of organisations is gratefully acknowledged.

**International review**
A detailed comparison of the tax incentives available in other jurisdictions in respect of business expenditure on R&D was undertaken.

**Economic analysis**
A detailed review of the economic literature on R&D and R&D incentives was undertaken. This was augmented by an analysis of the policy framework for R&D and trends in R&D investment in Ireland.

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Summary of Key Findings from the Review

Costs and Take-up of the R&D Tax Credit
The State directly supported the R&D expenditure of private companies in 2011 by around €379 million. €261 million of this support was delivered via the tax system through the R&D tax credit in 2011 with the remaining €118 million delivered through grants.

In 2011, the tax credit supported over 1,400 companies that, between them, employ nearly 150,000 people and have turnover of nearly €100 billion.

In 2011, the cost to the Exchequer of the tax credit was €261 million. €106 million of this cost related to payments of payable credit in respect of current and prior-year claims. The remaining €155 million represented corporation tax foregone.

The take-up and corresponding cost of the credit has increased from €70.5 million in respect of nearly 75 beneficiaries in 2004 to €261 million in respect of just under 1,500 beneficiaries in 2011. Over the same period, Business Expenditure on R&D\(^{204}\) (BERD) in Ireland has increased from €1.2 billion to €1.86 billion.

In 2011, total R&D expenditure by companies eligible for the tax credit is estimated to be at around €1.36 billion and BERD was €1.86 billion: this indicates that the tax credit supports over 70% of BERD.

It was notable that 376 of the companies availing of the payable credit in 2011 were profit-making according to their accounts.

Findings from the Consultation Process and Survey
The vast majority of the submissions and feedback received from the consultation process and survey were extremely positive about the R&D Tax Credit in terms of its impact on companies availing of it.

Key highlights from the survey responses were that:
- 86.9% of firms who responded said expenditure on R&D had increased since they started claiming the tax credit.
- When asked what would have happened in the absence of the tax credit 60% of those who answered indicated that they would have invested less in R&D, and 27.1% of those who answered indicated that they would have lost R&D projects to other locations.
- Where an Irish subsidiary of an MNC had competed for and won an R&D project, 84.6% of respondents said that the R&D Tax Credit had played a part in the win.

The importance of the R&D Tax Credit in attracting mobile Foreign Direct Investment (FDI) into Ireland was highlighted extensively in the public consultation with companies.

The principal benefit of the R&D Tax Credit, in FDI terms, is that it reduces the costs of undertaking R&D in Ireland by 25%. The payable credit can effectively be treated as a grant for accounting purposes – this allows a company to account for the credit as income ‘above the line’ in their annual accounts.

\(^{204}\) A data set compiled by the Central Statistics Office and Forfás
Feedback from the consultation indicated that this feature is crucial to the success of Irish subsidiaries of multinational companies (MNCs) in competing to win R&D projects against subsidiaries in other jurisdictions. Because the value of the credit can be accounted for ‘above the line’, it allows the Irish subsidiary to pitch for R&D projects on the basis of 75% of actual cost per head of conducting R&D in Ireland.

This helps to mitigate a natural bias whereby MNCs may otherwise tend to locate high-cost activities (such as R&D) in high-tax jurisdictions in order to benefit to the greatest possible extent from the associated expense deductions.

There is qualitative evidence that the R&D Tax Credit has assisted some traditional manufacturing companies in ‘moving up the value chain’ and winning R&D investment from parent companies which can, in turn, act to further embed the manufacturing activity in Ireland.

While the R&D Tax Credit is important in FDI terms, it is notable that, of the survey respondents who use the R&D Tax Credit, 60% were indigenous companies and 40% were MNCs. Of the total numbers employed by R&D active companies who responded to the survey, 76% were employed in MNCs and 24% by indigenous companies.

Smaller indigenous firms reported that the tax credit plays an important role in mitigating some of the financial risks involved in carrying out R&D. In the survey, smaller firms indicated that they would have undertaken less risky R&D activity in the absence of the R&D Tax Credit. In particular, the payable credit element of the tax credit was identified as important in assisting cash-flow of smaller, typically indigenous, companies.

The main policy areas identified by companies, in the consultation and the survey, for possible enhancement were:

- Base year
- Outsourcing / Sub-contracting
- Key Employee Provision

However, the survey also identified that, of the relatively small number of companies with expenditure in the 2003 base year, 52% had expenditure of less than €200,000. This would suggest that the base year issue has been addressed for the majority of companies by the recent changes to the tax credit which allow the first €200,000 of R&D expenditure to qualify without reference to the base year.

The analysis of Revenue data and the survey data indicate that the base year and outsourcing / subcontracting issues affect only a small percentage of R&D companies – 10% had expenditure in the base year and 14% have expenditure on outsourced R&D.

**Findings from the International Review**

The research identified that there is no such thing as a perfect one-size-fits-all tax incentive for R&D that would suit all countries and all firms. In terms of the competitiveness of the regime, the Irish R&D Tax Credit at least matches the international benchmarks, and is among the most favourable in respect of certain elements.
The fact that the Irish tax credit is available to all corporate taxpayers operating in the State, regardless of the size of the firm or sector in which they operate, is an asset for a small nation with an open economy.

The international comparison shows that most developed countries that have an R&D tax credit rely broadly on the definition of ‘Research and Development’ contained in the OECD Frascati Manual to determine what expenditure qualifies for tax relief. Differences can, however, arise in how countries interpret and apply these definitions.

Even within the OECD Frascati framework, all countries and regimes encounter complications and challenges when trying to manage the parameters of where science and technology meet tax legislation.

There is a considerable variation in the rate given for R&D Tax Credits in the jurisdictions examined: from 7% to 50%. Most countries have a general rate within the 10% to 30% range but these are typically qualified by additional restrictions/eligibility criteria. Only two countries have a single rate applied with no restrictions.

The combination of the 25% rate in Ireland, the flexibility afforded by the payable credit and the relative simplicity of the Irish regime confirms previous independent research that the Irish R&D Tax Credit is among the ‘best in class’ internationally.

**Policy Framework for R&D and Trends in R&D Investment**

Ireland’s R&D policy framework is governed by the overarching Europe 2020 target of achieving a level of expenditure on R&D of 3% of EU-wide GDP by 2020. Within this framework Ireland has a target of 2.5% of GDP. The R&D Tax Credit is focused on business expenditure on R&D and complements a range of grants and funding to the business and higher level education sectors as part of the State’s Strategy for Science, Technology and Innovation 2006-2013.

The primary objective of the tax credit is to incentivise BERD. Ireland now invests 1.17% of GDP on BERD, a level that has grown from 0.78% in 2003, the year before the introduction of the credit. As illustrated in the following chart, in EU terms Ireland’s level of BERD as a share of GDP is just below the EU average, a significant improvement when compared to the 2003 level. While not top of the table like Finland, it is notable that Ireland’s performance is on an upward trajectory - and in 2011 exceeded that of the UK.
Expenditure by small companies accounted for 26% of total business expenditure in 2011 having risen from 17% in 2007. As a share of the number of companies that were active in R&D, small companies accounted for 69% in 2011, a share that grew from 58% in 2007.

The Economic Literature
There are myriad ways Governments influence the degree of innovation in an economy. These range from the more direct and commonly known methods such as grants and tax credits for R&D; to the legal, regulatory and competitive environment fostered in a country through patent law, competition, tax, and immigration policy; and the efficiency of public administration. In addition, the ability of a country to supply highly educated staff through its higher education system is critical.

Tax incentives are a market-orientated means of delivering an increase in private R&D expenditures which also allows the support offered by the credit flexibility to respond to market demand. Tax credits allow expenditure to be directed by market aware firms rather than a centralised authority. While the flexibility of a credit to respond to market demand is useful it may also create an uncertain and potentially open-ended demand on the exchequer.

The literature refers to the existence of a number of market failures that result in less R&D expenditure by the private sector relative to a societal optimum. This is because the social return from R&D is higher than the private return: in other words, there exists a positive externality that the private sector does not take into account. This suggests a role may exist for the State to remedy the market failure.

Policy Conclusions from the Review

Overall, the generally positive findings of the review indicate that a major overhaul of the R&D Tax Credit is not required. However, the review does make a number of policy recommendations to ensure the continued efficacy of the tax credit and that it is aligned with the State’s broader policies on science, technology and innovation.

The R&D Tax Credit plays an important role in assisting Ireland in meeting its Europe 2020 target of achieving a level of expenditure on R&D of 2.5% of GDP.
It is clear from the consultation that the R&D Tax Credit is of significant importance to the R&D investment decisions of claimant companies and that, by encouraging firms to invest in R&D, the tax credit is contributing to national and EU policy goals.

The international comparison with R&D tax incentives in other jurisdictions demonstrates that the Irish regime stands up well in terms of international best practice.

The consultation, in particular, identified that the tax credit is viewed as a very important element of Ireland’s corporation tax regime in terms of attracting foreign direct investment to Ireland.

**Recommendations**

The consultation would suggest that the base year threshold which was introduced in 2003 creates a significant administrative burden for companies as its existence requires companies to maintain records for more than 10 years in order to support claims. It was recommended that consideration be given to phasing out the base year threshold when resources allow.

The consultation also suggests that the outsourcing limits are negatively impacting a number of companies. It was recommended that the outsourcing limits be relaxed and the operation and impact of the outsourcing limits should be reviewed on an on-going basis as business processes change.

Given the significant overlap in State support for R&D by companies in terms of grants and the tax credit, the Department of Finance, Department of Public Expenditure and Reform and Department of Jobs, Enterprise and Innovation should work closely to ensure that the policy outcomes of each of the different government supports are aligned.

The Revenue data indicates that the take-up and corresponding cost of the tax credit have escalated considerably since the introduction of the payable credit in 2009. It was recommended that the Exchequer cost of the tax credit be kept under constant review.

The ‘key employee’ provision, which was introduced in Finance Act 2012 should be kept under review and barriers to take-up should be addressed where appropriate.

**Budget 2014 Measures**

The Minister announced a number of Budget measures to implement the key recommendations of the review. Full details of the measures were set out in Finance No.2 Bill 2013 which was published on October 24th.

**Base Year**

It is intended ultimately that the base year will be phased out entirely over time and as resources allow. In the interim, the amount of expenditure eligible for the R&D Tax Credit on a full volume basis (without reference to the 2003 base year) is being increased from €200,000 to €300,000. This measure will reduce the impact of the base year on companies who had significant R&D expenditure in 2003 and it will assist smaller companies to access the credit without reference to the base year. The entire phasing out of the base year, when complete, should improve the overall international competitiveness of the regime and remove a significant administrative burden from companies.

**Outsourcing**

The limit on the amount of expenditure on R&D outsourced to third parties which can qualify for the R&D Tax Credit is being increased from 10% to 15%. This should assist small companies in
performing R&D, as they are more likely to need to outsource because they are less likely to have sufficient resources in-house for certain functions. It should also support the outsourcing of discrete R&D tasks to smaller businesses.

**Key Employee Regime**
The key employee provision is in place in order to assist companies to attract key talent, by allowing the company to transfer the tax-free benefit of the R&D tax credit to employees who meet certain conditions. The Finance Bill provides that where a company has made an incorrect claim for the R&D tax credit and surrenders an amount of that credit to a key employee, the tax foregone can be recovered from the company instead of the employee. The consultation process highlighted that the existence of a potential liability for the employee was inhibiting take-up of the scheme.

**Conclusion**
The results of the review are clear:

- the Irish R&D Tax Credit regime has been a significant driver for increasing R&D spend in Ireland over the last decade;
- the scheme itself continues to be ‘best in class’ internationally; and
- it remains a significant aspect of Ireland’s successful formula for attracting foreign direct investment, which is jobs rich.

The recent announcement by Intel of the Quark SoC x1000 which was designed and developed in Ireland highlights that Ireland has the capacity to be a world-leader in terms of R&D, and that many of the necessary supports are already in place here to facilitate innovation. The R&D tax credit forms a part of the Irish domestic environment for supporting R&D, and it is clear that there are significant successes to celebrate. It is important that this environment be harnessed and nourished further and that the relevant government departments work together to ensure that this remains the case.

For more on this review and in particular more on the economic analysis, please see the Department of Finance “Review of Ireland’s Research and Development Tax Credit” and the Crowe Horwath “Final Report in respect of the survey of R&D Active Companies”. Both are available on the Tax Policy section of the Department of Finance Website at [http://www.finance.gov.ie/what-we-do/tax-policy](http://www.finance.gov.ie/what-we-do/tax-policy).