JOINT ENTERPRISE DEVELOPMENT AGENCY SUBMISSION TO THE DEPARTMENT OF FINANCE PUBLIC CONSULTATION

REVIEW OF THE RESEARCH AND DEVELOPMENT TAX CREDIT

APRIL 2013

Forfás

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Executive Summary

We welcome the opportunity to make a submission to the Department of Finance's review of the R&D tax credit scheme. The outputs of research and development are a significant driver of technological progress and economic growth, particularly in high-wage developed countries. Upon introduction, the primary purpose of the Irish R&D tax credit scheme was to encourage additional business expenditure on research and development (BERD) by foreign owned and indigenous firms. Building on success to date, this remains a core plank of enterprise policy. Retaining and developing the R&D tax credit is essential. The credit is a major component in the value proposition for sustaining and transforming existing client activities and targeting new investments (both indigenous and foreign).

Irish business expenditure on research and development has grown significantly since the introduction of the R&D tax credit in 2004. BERD as a percentage of GNP has increased from 0.93 per cent in 2003 to 1.46 per cent in 2011. It now exceeds the 2011 EU27 average of 1.2 per cent and is moving closer to the 2011 OECD average of 1.58 per cent. However, it remains behind that in leading countries.

A number of market failures are identifiable that justify continued State intervention. The private sector underinvests in R&D relative to what would be considered socially optimal. Private companies cannot fully appropriate the returns from R&D due to knowledge spill overs and the high risk associated with R&D projects. In addition, enterprises often lack the required information and face difficulties in raising finance for R&D investment. These market failures lead most Governments in developed countries to invest in schemes/ incentives which will stimulate private investment in R&D. In addition, international competition to attract business R&D and to develop technology intensive sectors is growing. The general trend across countries, particularly in the current economic crisis, has been to increase the availability, simplicity of use and generosity of R&D tax incentives.

This has been mirrored in Irish policy. Almost every year since introduction, the R&D tax credit has been amended and enhanced. By reducing the cost of investment, the credit has promoted additional private sector investment in R&D in Ireland. Take-up in terms of the number of claimants and R&D investment supported has increased, as has the cost of the scheme. The level of expenditure and number of claimants has increased across all company sizes, but reflecting recent policy initiatives, growth has been strongest in SMEs. It should be noted that a wide range of non-tax issues influence R&D investment decisions.

In terms of competitiveness, overall Ireland is ranked 9th among 37 countries based on total government funding of BERD as a percentage of GDP. Our policy mix favours tax incentives: we rank 5th among 20 countries for tax incentives as a percentage of GDP and 22nd among 37 countries for direct funding. Ireland's current R&D tax credit is considered competitive internationally – though a range of countries offer more generous direct funding programmes.

Investments in research and development are a key focal point in the transformation of the existing enterprise agency client base and are a critical component in sustaining existing employment levels in these facilities. They also play an essential role as part of a competitive offering in supporting new investments (both foreign and indigenous). The share of sales, exports and jobs from R&D performing firms increased significantly from 2003 to 2009 among Enterprise Ireland and IDA Ireland assisted firms. From a FDI perspective, 20 per cent of IDA investments secured in 2012 were in RD&I with circa €500 milllion+ of new RD&I investment secured. From an Enterprise Ireland perspective in 2011, 743 companies engaged in significant R&D projects of €100,000 or over; 129 companies spent over €1m per annum on

R&D, and 54 clients spent over €2m per annum on R&D. The resilience of employment in firms engaged in R&D during the recession has been identified in recent R&D grant evaluations. A range of international studies highlight positive economic returns from tax incentives for R&D.

The recommendations in this submission focus on retaining the R&D tax credit and developing it further by making changes to the design of the scheme, the eligibility criteria, and changes to simplify some administrative issues.

1. **Retaining and developing the R&D tax credit is essential**. The overriding recommendation is for the continuation and development of the R&D tax credit scheme which is a key part of Ireland's competitive offering for both foreign direct investment and indigenous enterprise.
2. **Incremental versus full volume basis**. In Ireland, the R&D tax credit applies to the incremental R&D expenditure over that of the 2003 base year. However, recent Budgets allow the first €200,000 of current year R&D expenditure to qualify for the tax credit without reference to the base year. Relevant buildings are already assessed on a full volume basis. The key question is whether the R&D tax credit should move to a full volume based system. While an incremental credit minimises costs to the Exchequer, such schemes are more complex to design and to use. It also places companies operating in Ireland with 2003 base year of R&D expenditure at a competitive disadvantage - the specifics of which need to be considered in greater detail. Given the plateauing of BERD in recent years as a result of the national and international economic crisis, we are not in favour of changing the base year. As the data is not externally available, it is recommended that the Department of Finance reviews the costs and benefits of moving to a full volume based system as part of their review. Depending on results of the cost-benefit analysis, the scale of costs and building on recent amendments, potential exists to set out milestones towards the implementation of a full volume based system over time (e.g. increase the R&D expenditure not subject to the incremental system by, for example, an additional €150,000 each year over the next 5 years).
3. **Eligibility of certain activities.** Mirroring the shift to a service based economy, the nature of R&D investment in Ireland and internationally is changing. While Revenue's recent R&D Tax Credit Guidelines (December 2012) provide additional certainty, further work is required to provide guidance as to what is currently allowable (i.e., workshops, case studies, etc.) and to assess the merits of allowing relevant social sciences as qualifying criteria.
4. **Extension of the option to transfer the R&D tax credit to key R&D employees.** This measure to provide companies with an option to transfer the benefit of their R&D tax credit to key employees was introduced in 2012 and amended in 2013 to expand eligibility. While data is not yet available, take up is understood to be low. A number of steps are recommended in section 4.4.1 to broaden the cohort of individuals and companies that would be eligible to opt for this measure and provide key employees with greater certainty regarding their tax liabilities.
5. **Subcontracting.** This existing exemption allows the first €100,000 of subcontracted R&D to qualify for the R&D tax credit, to the extent that it is matched by the company's own R&D expenditure, irrespective of whether that amount is greater than the five per cent (outsourced to universities) and ten per cent (unconnected third parties) of a company's own R&D expenditure. This is to enable smaller firms that would have lower in-house R&D expenditure to qualify for the R&D tax credit on the subcontracted R&D, with the

agreement that the subcontractor would not make a claim on the same R&D activity. The review should consider any barriers to subcontracting as usage to 2010 has been limited. However, as data on the impact of a 2012 legislative enhancement will not be available from Revenue until 2014, it should be flagged for further review.

6. **Administrative burden.** While uptake of the R&D tax credit has grown significantly since introduction, continued efforts are required to promote the scheme and to provide clear communications on the workings of the tax credit (e.g., workshops, etc.).

7. **R&D capital expenditure on buildings and structures.** There are considerable benefits arising from Ireland securing an R&D building investment which represents a commitment by the investing company in Ireland as an R&D location for the medium/long term. We recommend the continuation of the existing building and structures treatment under the R&D tax credit.

1 Background and Introduction

1.1 Background

This is a joint agency response from Forfás, Enterprise Ireland, IDA Ireland and Science Foundation Ireland to the Department of Finance's public consultation on the Review of the Research and Development (R&D) tax credit. The review was announced in Budget 2013 and the terms of reference for the review was published in February 2013[1]. We welcome the objective of the review to ensure that the R&D tax credit remains 'best-in-class' internationally as well as representing value for money for taxpayers[2].

1.2 Description of the R&D tax credit scheme

The R&D tax credit scheme currently provides for a 25 per cent corporation tax credit on the incremental increase in expenditure on R&D compared to the base year of 2003. It also provides a 25 per cent volume based credit for eligible capital expenditure on buildings and structures. As the R&D expenditure incurred qualifies for the normal trading deduction from a company's taxable profit, it thereby reduces the overall cost of the R&D project to the company by 37.5 per cent.

The credit is used to reduce the corporation tax liability of the firm in the period incurred and if not fully used in the preceding period it can be carried forward to future periods without time limit. In the case of a group of companies, the credit is calculated on a group basis and the group can elect how to share the credit between the group companies.

The first €100,000 of subcontracted R&D qualifies for the R&D tax credit, to the extent that it is matched by the company's own R&D expenditure, irrespective of whether that amount is greater than the five per cent (outsourced to universities) and ten per cent (unconnected third parties) of a company's own R&D expenditure.

There is an option of a cash refund of the R&D tax credit by setting unused credits against the prior period's corporation tax liability and if there is insufficient tax liability, the credit is payable in instalments over a three year period subject to the company having met certain thresholds of payroll taxes (including PRSI) or corporation tax liability over relevant periods. There is also an option for the company to transfer a portion of the R&D tax credit to key employees.

Qualifying R&D expenditure must be net of any grants. Finance Act 2012 clarified that any expenditure, which is met directly or indirectly by any grant aid or assistance from another relevant member state, will not qualify for the tax credit. The definition of R&D expenditure for grants and tax legislation differs, so while there is overlap, not all R&D expenditure qualifies for the R&D tax credit.

The qualifying R&D activities must occur in Ireland or the EEA and the credit is not available when the activities occur in an EEA country where a corresponding tax deduction for such expenditure is permitted.

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[1] Source: Department of Finance (2013), Review of R&D Tax Credit – Invitation for Submission http://www.finance.gov.ie/viewdoc.asp?fn=/documents/Publications/financebill2013/invitesub.pdf

[2] Source: Department of Finance (2012), Presentation – Ireland's Corporation Tax Strategy.

1.3 Rationale for the R&D tax credit scheme

The 1990s and early part of this century was a period of rapid economic expansion in Ireland, driven largely by growth in the exports of manufactured goods and internationally traded services. Because of this strong growth, Ireland had become one of the higher income countries in the OECD. However, the basis for Ireland's competitiveness was shifting from one of low cost / high labour availability when at the same time our corporate tax rate policy was being adopted by competitors in Eastern Europe and elsewhere. Addressing this shift in national competitiveness became a key policy issue in Ireland.

A range of reports highlighted the need to develop a stronger knowledge economy. Without a deeper research capability to support exporting sectors, it would be challenging to sustain the momentum built up by inward investment policy and to support the development of indigenous industry.

A number of market failures are identifiable that justify State intervention in this area. The private sector tends to underinvest in R&D relative to what would be considered socially optimal. Private companies cannot fully appropriate the returns from R&D due to knowledge spill overs and the high risk associated with R&D projects. In addition, enterprises often lack the required information and face difficulties in raising finance for R&D investment. These market failures lead most Governments in developed countries to invest in schemes/ incentives which will stimulate private investment in R&D. In addition, competition to attract business R&D and to develop technology intensive sectors is also growing.

In tandem with other initiatives, the primary purpose of the R&D tax credit scheme is to encourage additional business expenditure on research and development (BERD) by foreign owned and indigenous companies. This is to address the identified market failure in private sector R&D investment generally, the low levels of BERD in Ireland compared to other OECD countries, and to improve Ireland's international competitiveness. In greater detail, its objectives include:

Overseas owned firms

- To increase the R&D capability and capacity of the MNE sector in Ireland;
- To move Irish subsidiaries up the value chain and to increase the embeddedness of these companies in Ireland.

Indigenous Firms

- To help firms to become more innovative;
- To increase the number of companies performing effective R&D in Ireland;
- To increase the scale of the investment in R&D in Ireland;
- To increase the number of companies doing R&D for the first time.

1.4 Evolution of the R&D tax credit scheme

The legislation relating to the R&D tax credit scheme has evolved significantly since its introduction - generally enhancing the scheme for enterprise (Table 1).

Table 1: Evolution of the R&D Tax Credit by budget year (2004 – 2013)

2004	• Introduction of a tax credit on incremental R&D expenditure in excess of that incurred in 2003 at a 20 per cent rate of relief.
2006	• An apportionment of the R&D related share of plant and machinery costs is eligible for the tax credit.
2007	• Base year fixed at 2003 until 2009. • Expenditure by companies subcontracting R&D to unconnected parties eligible for the credit subject to a ceiling of 10 per cent of R&D expenditure in one year.
2008	• Base year fixed at 2003 until 2013. For accounting period after 2013, provision made for a ten year look back between the year the credit is claimed and the base year expenditure.
2009	• Increase in the rate of relief to 25 per cent. • Full discharge of R&D tax credit over a three year period as an offset against corporation tax or as a cash payment in the event of insufficient or no corporation tax. • Base year fixed at 2003 indefinitely. • Proportion of expenditure on mixed use buildings and structures allowable for R&D tax credit purposes subject to a minimum (35 per cent) use of buildings and structures for R&D activities taking place over a period. • R&D tax claims must be made within 12 months of the end of the accounting period in which the qualifying R&D expenditure was incurred (previously 4 years to file).
2010	• Where R&D was undertaken by a company in two locations and one is subsequently closed down, the base year is reduced to that of the operational location.
2011	• Expenditure on specified intangible assets excluded where the expenditure was already covered under a separate tax relief scheme.
2012	• First €100,000 of R&D expenditure eligible on a full volume basis regardless of the base year level of R&D expenditure. • Option to transfer a portion of the R&D tax credit to key employees primarily involved in R&D activities (75 per cent of their work time). • The first €100,000 of such subcontracted R&D expenditure will qualify, to the extent that it is matched by the company's own R&D expenditure, irrespective of whether that amount is greater than the five per cent (outsourced to universities) and ten per cent (unconnected third parties) of a company's own R&D expenditure.
2013	• First €200,000 of R&D expenditure eligible on a full volume basis regardless of the base year level of R&D expenditure. • Key employee eligibility criteria relaxed to 50 per cent of working time on R&D activities.

Source: Department of Finance (2013), *Review of R&D Tax Credit – Invitation for submission* and Forfás (2013).

There have been non-legislative amendments also. During 2009/2010 companies, generally Irish based subsidiaries of multinationals, began to consider whether the accounting presentation of the R&D tax relief through the tax line continued to be the only appropriate

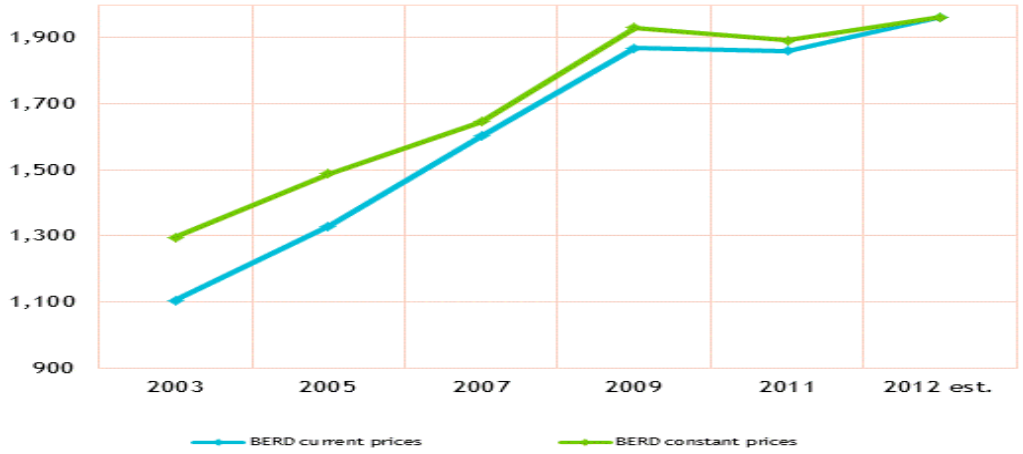
method of presentation[3]. This arose as R&D investment decision evaluations were being made on the basis of profit before tax figures, hence the benefit of the R&D tax credit was not being taken into consideration in some standard investment appraisal models. It was resolved via non-legislative means for companies reporting under Irish and UK Generally Accepted Accounting Practice and International Financial Reporting Standards. Additional guidance was obtained for companies reporting under US Accounting Standards.

2 Business Expenditure on Research and Development

2.1 Irish BERD – Trends and international comparisons

Irish business expenditure on research and development has grown significantly since the introduction of the R&D tax credit in 2004. BERD as a percentage of GNP has increased from 0.93 per cent in 2003 to 1.46 per cent in 2011. BERD intensity now exceeds the 2011 EU27 average of 1.2 per cent and is moving closer to the 2011 OECD average of 1.58 per cent (figure 1)[4].

Figure 1: Business expenditure on R&D (€ m.) in current and constant prices, 2003-2012



Source: Forfás (2013), derived from BERD, 2011/12.

The shift to a services based economy[5] between 2003 and 2011 is mirrored in R&D expenditure. R&D expenditure in services sectors increased from €434 million in 2003 to €1.4 billion in 2011, an increase of 163 per cent compared with a 7 per cent increase in

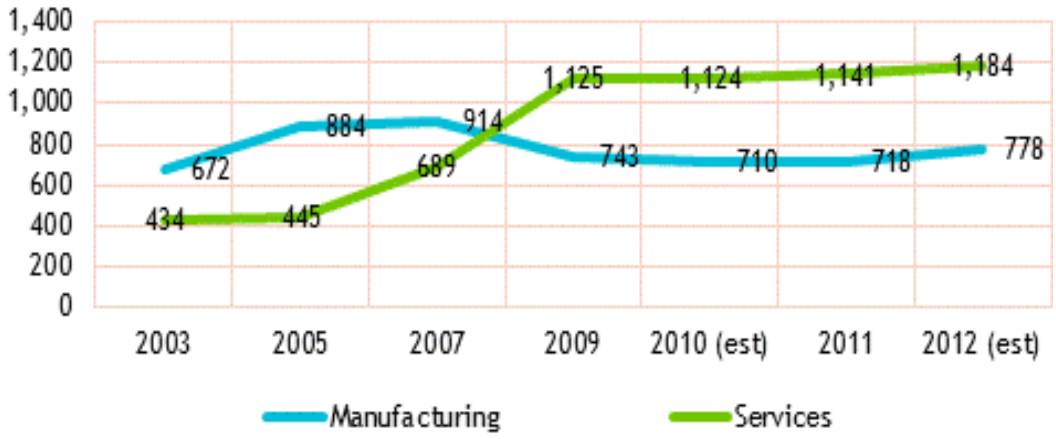
[3] Source: Chartered Accountants Ireland (2010), Information Sheet 04/2009 – Accounting Treatment of Research and Development Tax Credit, Representation and Technical Policy Department.

[4] Source: Forfás (2013), Business Expenditure on Research and Development, 2011/2012 (to be published)

[5] To some degree, the shift to services may reflect a reclassification of manufacturing activities to services as many 'manufacturing' firms are increasingly bundling products and services to sell solutions.

manufacturing R&D. Of the total BERD in 2011, 60 per cent was generated in the services sector, a reversal since 2003 when 61 per cent of BERD was generated in the manufacturing sector (figure 2)[6]. Table 2 breaks out BERD by key sectors.

Figure 2: Business expenditure on R&D, 2003 - 2011, (€m) by Manufacturing and Services



Source: CSO databank, Forfás BERD 2003 and 2005 surveys

Table 2: Total BERD by NACE Industrial sector, 2009 - 2011 (€millions)

Sector	2009 (€m)	2011 (€m)
Agriculture, forestry, fishing mining and quarrying (A-B)	3.6	3.6
Manufacturing (C)	743.3	718.5
Electricity, gas supply Water supply, sewerage, waste management and remediation Construction (D-F)	4.6	19.0
Wholesale and retail trade repair of motor vehicles and motorcycles transport and storage (G - H)	166.6	178.6
All other service activities (I, O - U)	7.9	9.6
Information and communication services (J)	487.9	571.2
Financial and insurance activities (K)	157.5	47.6
Real estate, professional, scientific and technical activities (L - M)	291.0	292.5
Administrative and support service activities (N)	6.0	19.0
Total BERD (05 to 99)	1,868.5	1,859.6

Source: CSO databank

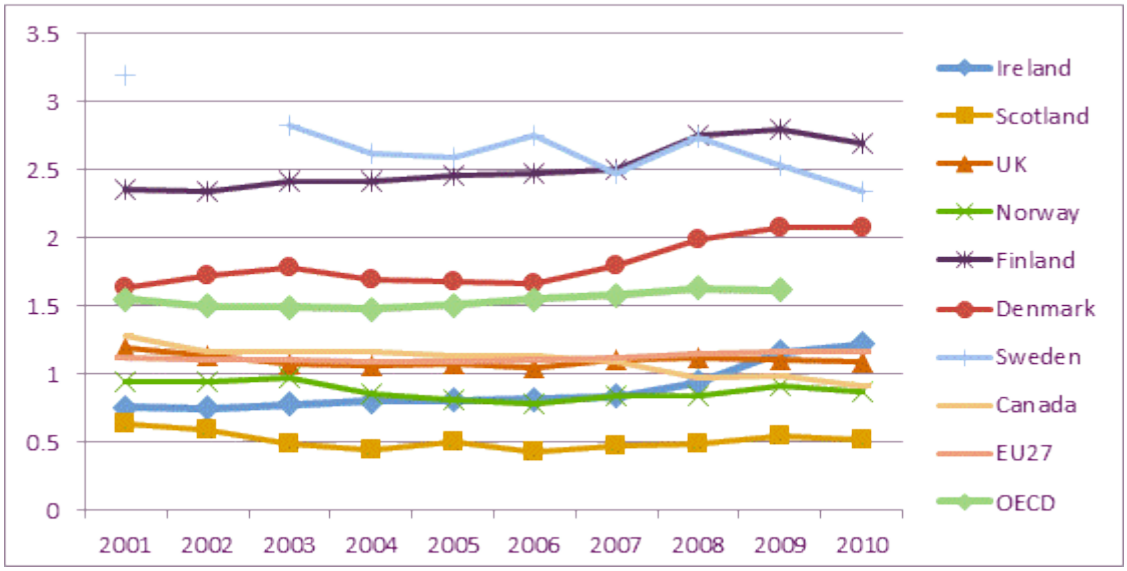
[6] Source: Forfás (2013), Business Expenditure on Research and Development, 2011/2012 (to be published)

R&D expenditure by foreign-owned firms was €1.3 billion in 2011 or 71 per cent of total business R&D expenditure in Ireland – a share that has remained relatively constant over the past decade.

R&D expenditure can be classified in terms of current and capital expenditure. The largest share of business R&D expenditure is on current costs. Capital expenditure on land and buildings represents two per cent of total expenditure in 2011 (5 per cent in 2007), of which 63 per cent is expenditure by foreign-owned firms[7].

In an international context, Ireland has made significant progress and is converging towards the OECD average (figure 3). Ireland remains some distance behind the leading countries (e.g. Denmark, Sweden and Finland).

Figure 3: Business sector performed R&D (BERD) as a percentage of GDP 2000-2010



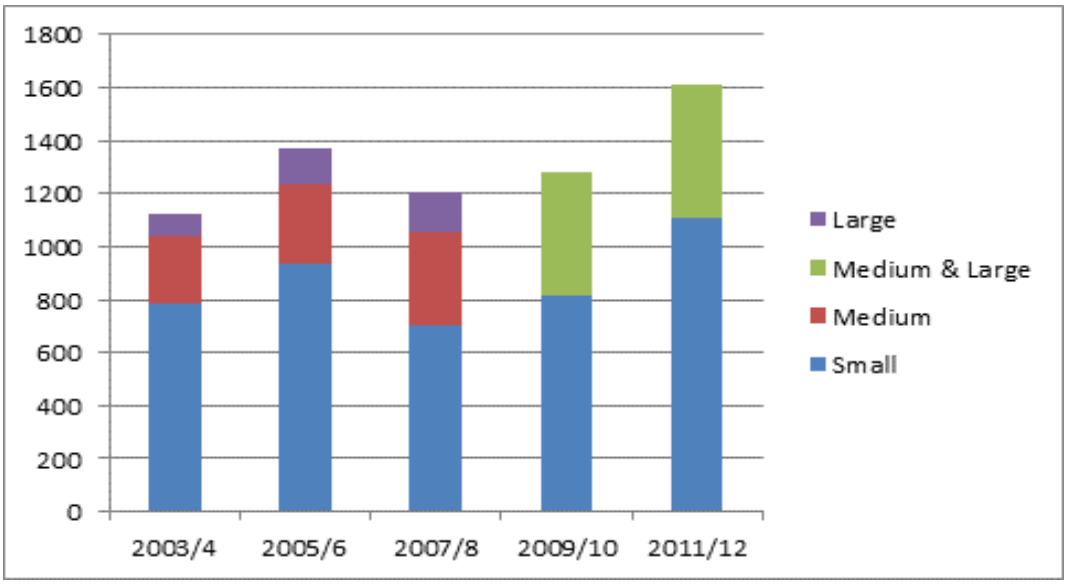
Source: OECD MSTI 2011/1

[7] Source: Forfás (2013), CSO Business Expenditure on Research and Development 2007/8 -2011/2 - CSO/Statbank/BERD/BSA02.

2.2 Irish BERD - Firm level trends

The number of firms engaged in R&D has increased by 23 per cent from 2003 to 2012 (figure 4). The number of small sized firms (less than 50 employees) engaged in R&D has grown significantly since 2007/8.

Figure 4: Number of firms in R&D by firm size (based on employee numbers)

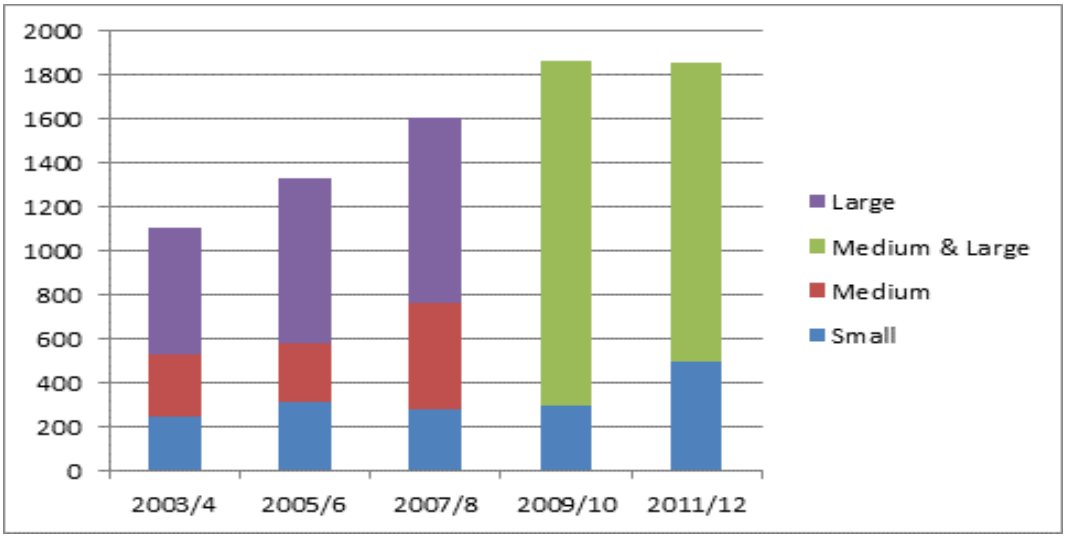


Source: Forfás / CSO Business Expenditure on Research and Development 2003-2012 (based on report table 2.1, CSO/Statbank/BERD/BSA21 and additional detail from CSO. Company size is derived based on numbers employed: small = <50 employees and medium/large = 50+ employees.

While large firms represent a low percentage of the overall firms engaged in R&D, they represent the highest levels of BERD expenditure. In 2011 medium/large firms with greater than 50 employees made up almost three quarters of BERD expenditure (figure 5). But the share of total BERD expenditure accounted for by small firms (less than 50 employees) increased from 24 per cent in 2003 to 27 per cent in 2011. Small firms are expected to almost double BERD expenditure between 2007 and 2012 from €278 million to an estimated €519 million[8].

[8] Source: Forfás (2013), Business Expenditure on Research and Development, 2011/2012 (to be published)

Figure 5: Expenditure on R&D (€ million) by firm size (based on employee numbers)



Source: Forfás / CSO Business Expenditure on Research and Development 2003-2012 (based on report table 2.1, CSO/Statbank/BERD/BSA03 and additional medium / large company breakdown from CSO (2010). Company size is derived based on numbers employed.

2.3 Irish R&D tax credit trends

Almost every year the R&D tax credit has been enhanced or amended. Take-up in terms of the number of claimants and cost of R&D tax credit has increased over the years (table 3).

Table 3: R&D tax credit cost

Year	Total cost incurred in the year €m [9]	Number of cases	Cost due to reduction of the period's tax €m [10]	Number of cases
2004	-	-	70.4*	73
2005	-	-	65.2	135
2006	-	-	74.7	141
2007	-	-	165.6	479
2008	-	-	146	582
2009	216	981	153.1	621
2010	224*	1,172	142.4	687

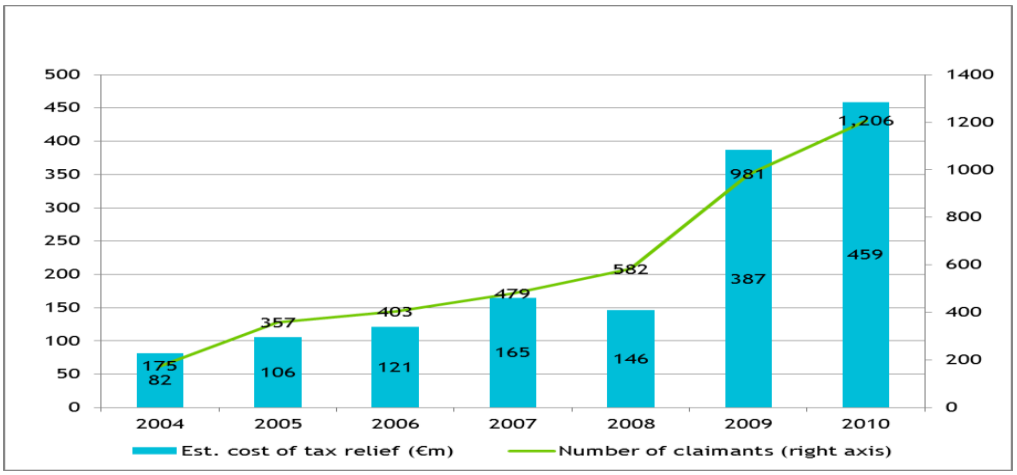
Revenue (2013) and Revenue Annual Statistics Reports. Note: The costings in the Department of Finance invitation for submissions paragraph 9.1 are identifiable by the star symbol (*).

[9] This cost figure includes the amount of credit allowed against the relevant year's tax, plus the amount offset against tax of previous accounting periods (CT1 2010 return line 1.14 and 1.15) and as a payable credit (CT1 return 2010 line 9.27, 9.28. 9.29, 9.30, 9.31 and 9.32). Pre 2009 data is not available for column two.

[10] This is the amount of R&D credit allowed against relevant year's corporation tax. Source: Revenue (2011 - 2005), Revenue Annual Statistics Report – Corporation Tax Distribution Statistics, Table CTS2. Note 2006 and 2007 figures are based on those provided by Revenue (2013).

The cost of the scheme has been impacted by the legislative changes and changes in the measurement methodology. The amount claimed in the year (figure 6) is greater than the cost arising in the year (table 1) as it includes unutilised R&D tax credit amounts carried forward and group relief.

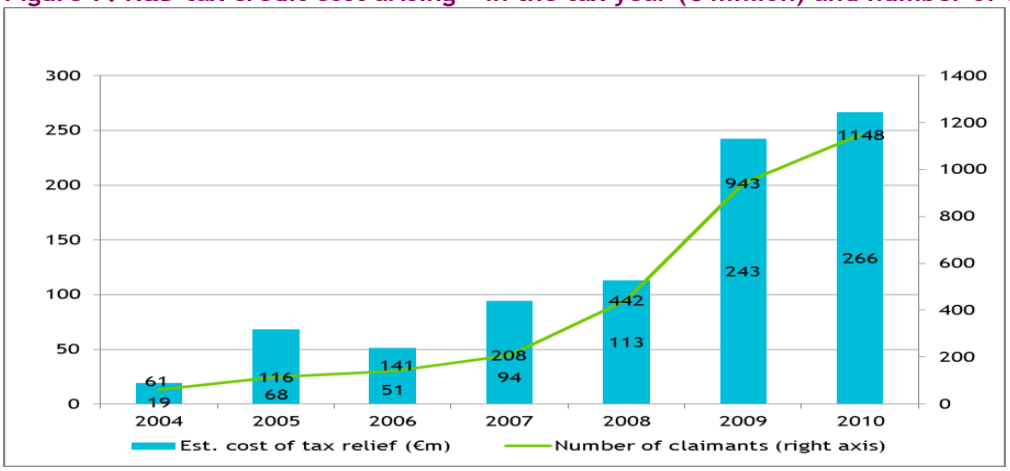
Figure 6: R&D tax credit cost claimed[11] in the tax year (€ million) and number of claimants



Source: Revenue (2013)

To facilitate a comparison with the BERD data in section 2.1 and 2.2, the detailed analysis considers the R&D tax credit arising in the tax year, excluding credit carried forward or group relief.

Figure 7: R&D tax credit cost arising[12] in the tax year (€ million) and number of claimants

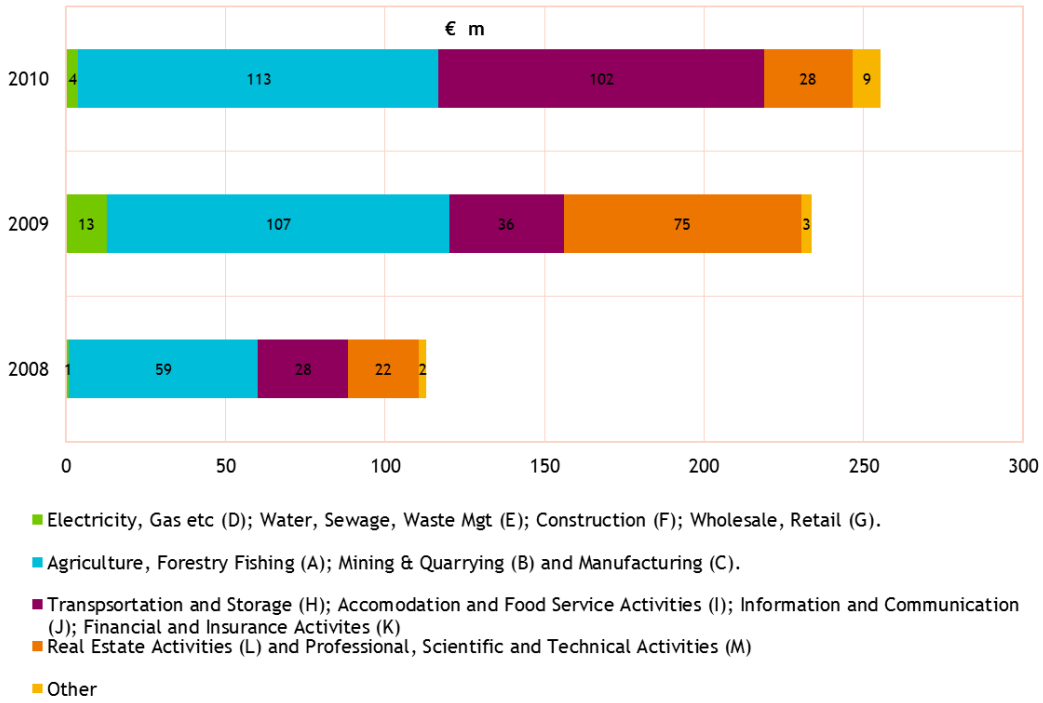


Source: Revenue (2013)

[11] This cost figure represents the amount of R&D tax credit which is claimed during the year; i.e. it includes the R&D tax credit arising in the year, any amount claimed from amounts carried forward or group relief. This data is drawn from the 2010 corporation tax return line 9.26, et al.

[12] This cost figure represents the R&D tax credit which arises during the year; i.e. excludes credit carried forward which is available for use in the year. This data is drawn from the 2010 corporation tax return lines 9.16 and 9.20, et al.

Figure 8: R&D tax credit cost arising[13] in the tax year (€ million) by key sectors



Source: Revenue (2013)[14].

The sectoral breakdown of the R&D tax credit cost by key sectors (figure 8) highlights the growing importance of services similar to the BERD trend (figure 2). While costs arising from manufacturing, mining and agriculture have almost doubled since 2008, the share of total costs attributable to these sectors has fallen from 55 per cent to 44 per cent.

[13] Source: 2010 corporation tax return line reference 9.16 only (excludes capital expenditure s766A TCA 1997 in 9.20) et al. This cost figure represents the R&D tax credit which arises during the year; i.e. excludes credit carried forward which is available for use in the year, but excludes capital expenditure on buildings and structures. This data is drawn from 2010 corporation tax return line 9.16 only, et al.

[14] Caveat: Due to the grouping of NACE codes to protect client confidentiality, this is nearest comparison to the BERD classification that was possible.

Figure 9: R&D tax credit cost arising in the tax year (€ million) – excluding capital - by size of firm (based on turnover)

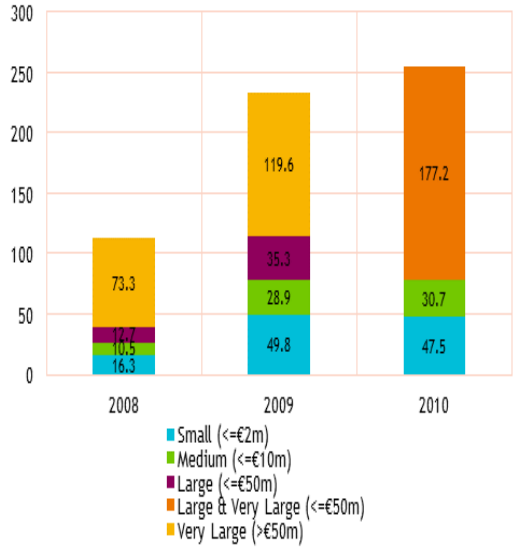
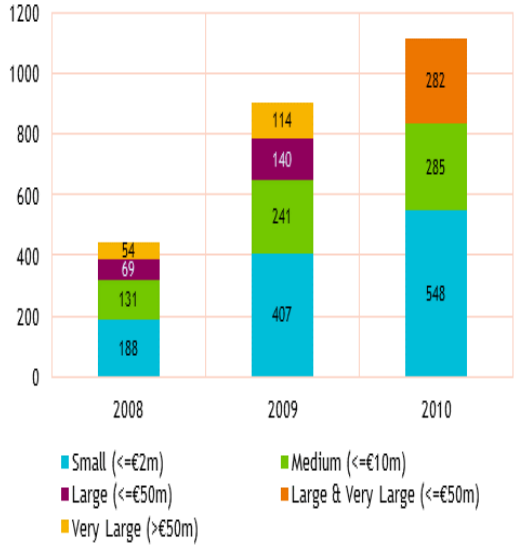


Figure 9a: Claimants by size of firm (based on turnover)



Source: Revenue (2013). SME categorisation by turnover - Small (<=€2 million), medium (<=€10 million), large (<=€50 million) and very large (<€50 million not provided in 2010 due to confidentiality)

SME participation and the share of costs claimed by SMEs have grown (figure 9 and 9a)[15]. The ratio of SMEs to large/very large companies has altered between 2008 and 2010. This represents a positive trend for SMEs, broadly for expenditure from 25:75 to 30:70 and for claimants from 70:30 to 75:25.

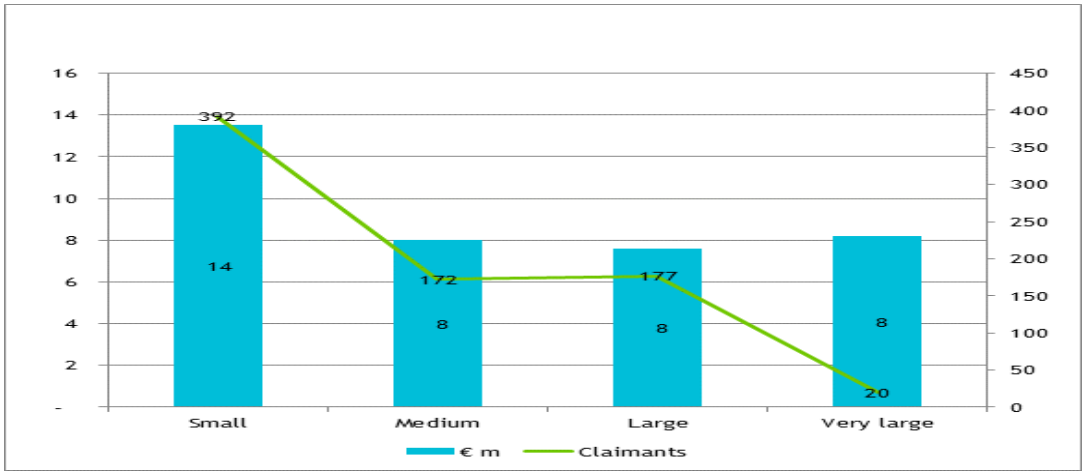
The level of expenditure and number of claimants has increased across all company sizes, but has been greatest for small/medium sized companies. Their 2010 expenditure is almost three times greater than 2008 compared to just over 2 times for large / very large companies. Comparing the number of claimants in 2010 versus 2008, small/medium sized companies had 2.6 times the number of claimants compared to 2.3 times for large/very large companies.

International experience of R&D tax credit schemes indicate that the take-up of SMEs tends to lag that of larger companies when a scheme is introduced. The policy change of introducing a repayment of the tax credit to assist SMEs in Budget 2009 appears to have delivered its desired impact. Revenue data[16] confirms that the majority of the repayments were to small/medium sized companies (figure 10).

[15] SMEs are defined on the basis of turnover, as employee numbers were not available from the corporation tax returns. Caveat: The SME categorisation is on a differing basis between the BERD data (figure 5) and the R&D tax credit (figure 9).

[16] Caveat: Due to confidentiality reasons breakdown by SME was only provided for non-capital R&D expenditure for the first instalment refund as gathered in 2010 corporation tax return line 9.27, but this represents almost 60 per cent of the 2010 refund and 70 per cent of the 2010 claimants.

Figure 10: First instalment refund in 2010 (excluding capital) by firm size

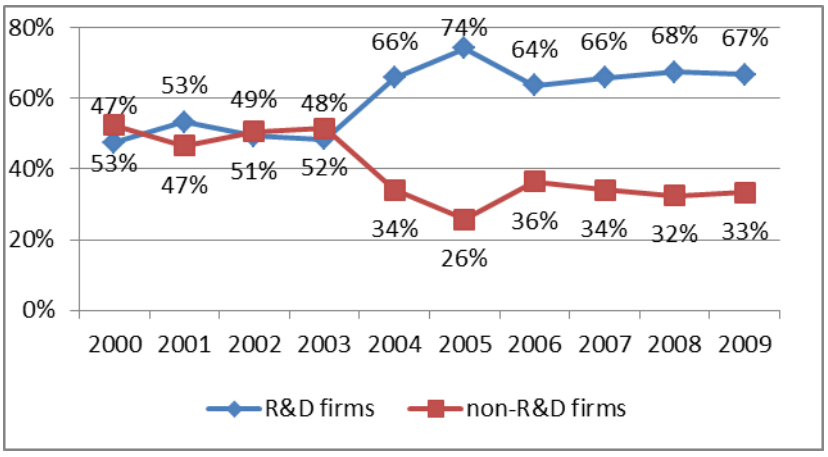


Source: Revenue (2013). SME categorisation by turnover - Small (<=€2 million), medium (<=€10 million), large (<=€50 million) and very large (<€50 million)

2.4 Impact of R&D investment[17]

The impact of R&D investment on the performance and output of Development Agency supported R&D active firms is measured in the following charts[18]. The share of sales, exports and jobs from R&D performing firms increased significantly from 2003 to 2009 among Enterprise Ireland and IDA Ireland assisted firms.

Figure 11: Sales of Development Agency supported R&D and non R&D performers as a % of total EI-IDA sales, 2000-2009



The share of sales from R&D performing firms increased from 48 per cent from 2003 to 67 per cent in 2009 among Enterprise Ireland and IDA Ireland assisted firms.

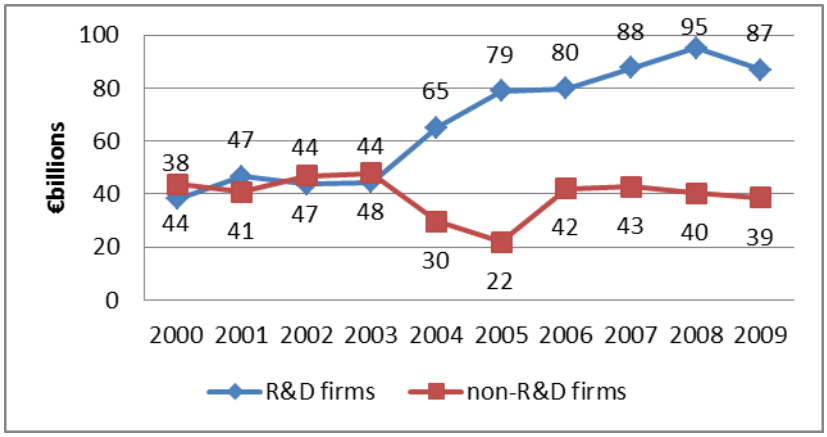
Source: Forfás, ABSEI 2009[19] study

[17] Source: DJEI/Forfás (2011), Strategy for Science, Technology and Innovation Indicators.

[18] The ABSEI population is comprises 4,100 companies - Enterprise Ireland (3,000), IDA (750), Údaras (250) and Shannon Development (100) client companies - with 10 or more employees covering both manufacturing and internationally traded services, with a time-series dating to 2000.

[19] Source: Forfás (2010), Annual Business Survey of Economic Impact 2009.

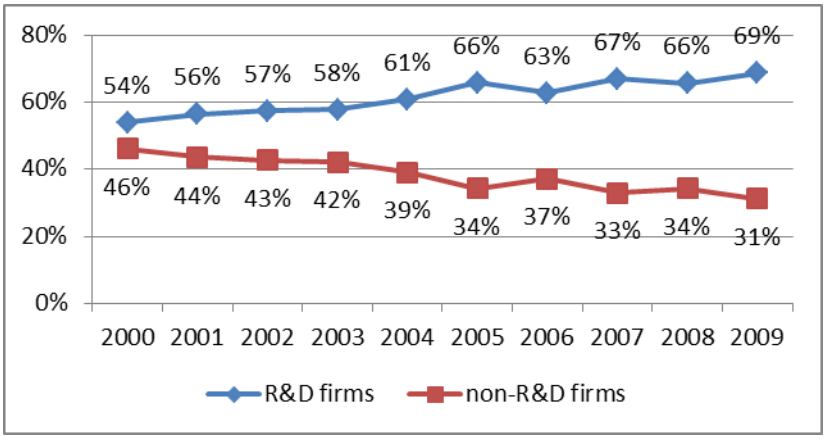
Figure 12: Exports of Development Agency supported R&D and non-R&D performing EI-IDA firms, €bn, 2000-2009



Total export sales by Enterprise Ireland and IDA Ireland R&D performers increased from €48bn to €87bn over the same period.

Source: Forfás, ABSEI 2009 study

Figure 13: Share of employment in Development Agency supported R&D performing firms as a % of total EI/IDA, 2000-2009



R&D performing firms accounted for 69 per cent of employment in EI and IDA assisted firms in 2009, an increase from 58 per cent in 2003.

Source: Forfás, ABSEI 2009 study

RD&I investments are a key focal point in the transformation of the existing client base and are a critical component in sustaining existing employment levels in these facilities. This trend also mirrors the Forfás IDA R&D grant evaluation finding that employment grew faster in companies that availed of the R&D Fund than companies that did not. Furthermore, although impacted by the recession, the R&D active firms were above average in terms of employment growth over the period 2003-2011 and employment remained significantly above the 2003 base[20].

From a FDI perspective, 20 per cent of IDA investments secured in 2012 were in RD&I with circa €500 million+ of new RD&I investment secured. From an Enterprise Ireland perspective in 2011, 743 companies engaged in significant R&D projects of €100,000 or over; 129

[20] Source: Forfás (2013), IDA R&D Fund Evaluation (2003-2011), page 20.

companies spent over €1m per annum on R&D, and 54 clients spent over €2m per annum on R&D[21].

A range of international studies also highlight positive economic returns from tax incentives for R&D investment[22]. In a review of the findings of more than 20 econometric studies on the effectiveness of R&D tax incentives, covering programmes in 12 countries from the 1970s to the 2000s, Köhler et al notes that most evaluations find significant input additionally (i.e. a positive change in business R&D expenditure resulting from R&D tax incentives) in the short run.

[21] Enterprise Ireland (2012), Annual Report and Accounts 2011, page 4.

[22] The Impact and Effectiveness of Fiscal Incentives for R&D Köhler, Rammer and Laredo, January 2012.

3 International R&D Tax Incentive Schemes and Policy Trends

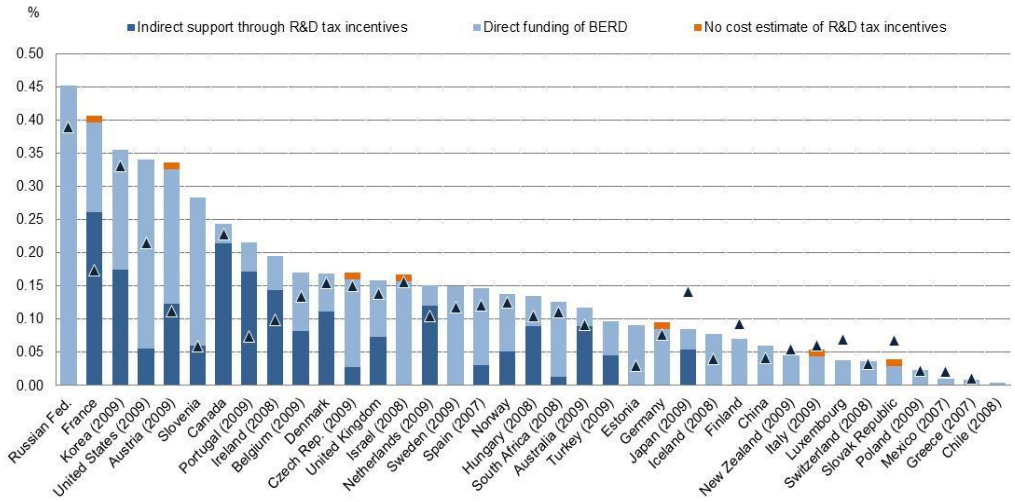
3.1 Policy supports for business R&D

The general trend across OECD countries has been to increase the availability and generosity of R&D tax incentives, making the policy mix more indirect over time. Most recent estimates, although still experimental, suggest that the intensity of combined direct and indirect public support to business R&D has increased significantly in most countries since 2005. Retaining and developing the R&D tax credit in Ireland is essential in order to match international offerings.

In Canada, Denmark, Korea and Portugal, tax incentives are the main channel of government financial support to business R&D. While France and Portugal have extended their R&D tax system, either permanently or as a temporary response to the crisis, the Russian Federation and the United States have substantially increased direct funding. Slovenia and Austria, which have recorded the largest increases in government support, have done both. These reforms have led to significant shifts in national R&D policy mixes in some countries (OECD, 2012).

Overall Ireland is ranked 9th among 37 countries in terms of total government funding of BERD as a percentage of GDP (figure 14). Our policy mix favours tax incentives; we rank 5th among 20 countries for tax incentives as a percentage of GDP and 22nd among 37 countries for direct funding. This policy reflects a desire for a market-based approach to R&D resource allocation balanced with some targeting under the grant system.

Figure 14: Direct government funding of business R&D and tax incentives for R&D, 2010 as a percentage of GDP



Source: OECD (2012), Science, Technology and Industry Scoreboard 2012, figure 6.2, pg. 162. Note 2005 direct government funding level is shown by the triangle symbol.

3.2 Use of R&D tax credits

Tax incentives for R&D have been introduced in 26 out of 34 OECD countries and in a number of non-OECD economies[23]. The OECD (2012)[24] highlights that R&D tax incentive schemes differ significantly in terms of their generosity, their design and the categories of firms or R&D areas they target. These include expenditure based tax incentives; most importantly R&D tax credits, R&D tax allowances and payroll withholding tax credit for R&D wages, and income based tax incentives; most importantly preferential rates on royalty income and other income from knowledge capital.

In greater detail from the OECD (2012) and the Deloitte 2012 Global Survey of R&D Tax Incentives[25]:

- An R&D tax credit on the volume of R&D expenditure undertaken is provided by most OECD and emerging economies (e.g. Brazil, Canada, and the People's Republic of China, France, India, Japan, Norway and the United Kingdom). Some countries provide R&D tax credits for R&D expenditure in excess of some baseline amount (e.g. United States and Ireland).
- R&D tax allowances are available in Austria, the Czech Republic, Denmark, Hungary, and the United Kingdom.
- Payroll withholding tax credit for R&D wages (deductions from payroll taxes and social security contributions), are used in Belgium, Hungary, the Netherlands, Spain and Turkey.
- R&D tax incentives may provide for special treatment of certain types of firms or of R&D. Certain countries allow carry-forward or carry-back for firms whose tax bill is lower than their allowable R&D credit. It can even be refunded in certain cases (e.g. for start-up firms, which often do not show a profit).
- Outsourcing is permitted in Ireland[26], France and Spain (once activity takes place within the EU/EEA), the UK (65 per cent of outsourced costs for eligible SMEs and limited outsourcing deductions for large companies), the US (costs must be incurred in the US), Australia (for SMEs outsourced costs incurred in Australia, for larger companies abroad with significantly link to core activities) and Canada (activity in Canada with exception of 10 per cent eligible wages).
- Some countries do not have R&D tax incentives including Germany, New Zealand, Sweden and Switzerland.

3.3 Recent policy trends

The general trend has been to increase the availability, simplicity of use and generosity of R&D tax incentives. The OECD (2012) highlights the following key trends:

[23] Source: OECD (2011), OECD Science, Technology and Industry Scoreboard 2011, OECD, Paris, www.oecd.org/sti/scoreboard.

[24] Source: OECD (2012), OECD Science, Technology and Industry Outlook 2012, OECD Publishing. http://dx.doi.org/10.1787/sti_outlook-2012-en

[25] Source: Deloitte (2012), 2012 Global Survey of R&D Tax Incentives

[26] Note restrictions outlined in section 4.4.2.

- Replacing relatively complex hybrid volume and increment based schemes with simpler and more generous volume based schemes - France (2008) and Australia (2010).
- Increasing tax credit rates or the ceilings for eligible R&D - Belgium, Ireland, Korea, Norway, Portugal and the United Kingdom.

In contrast, R&D tax incentives have been repealed in Mexico and New Zealand. Mexico converted its R&D tax credit to direct assistance in 2009. New Zealand introduced an R&D tax credit in 2008 but then repealed it, with effect from the 2009-10 fiscal year. Canada has also decided to streamline its R&D tax credit and to move its policy mix towards more direct support. It is understood that Germany is considering the merits of introducing tax incentives.

Recently, R&D tax incentives have also been used to help firms cope with the financial crisis, usually on a temporary basis. For example:

- Temporarily increase in the ceiling for eligible R&D – e.g. Japan and the Netherlands.
- Extension of period for carry-forward of unused R&D credits due to likely fall in profits following the economic downturn - Japan.
- Refund claims from previous years – Before 2009, firms in France had to wait for up to three years for the refund of their unused credit.

Table 4: Differences in R&D tax incentives schemes in selected OECD countries, 2009

Design of the R&D tax incentive scheme	*Volume-based R&D tax credit*	Australia, Brazil, Canada, China, France, India, Norway
	Incremental R&D tax credit	United States
	Hybrid volume and incremental credit	Japan, Korea, Portugal, Spain
	R&D tax allowance	Austria, Czech Republic, Denmark, Hungary, Turkey, United Kingdom
Payroll withholding tax credit for R&D wages		Belgium, Hungary, Netherlands, Spain, Turkey
More generous R&D tax incentives for SMEs		Australia, Canada, France, Hungary, Japan, Korea, Norway, United Kingdom
Targeting	*Energy*	United States
	Collaboration	Hungary, Italy, Japan, Norway, Turkey
	New claimants	France
	Young firms and start-ups	France, Korea, Netherlands
Ceilings on amounts that can be claimed		Austria, Italy, Japan, Netherlands, Norway, United States
Income-based R&D tax incentives		Belgium, Netherlands, Spain
No R&D tax incentives		Estonia, Finland, Germany, Luxembourg, Mexico, New Zealand, Sweden, Switzerland

Note: R&D tax allowances are tax concessions up to a certain percentage of the R&D expenditure and can be used to offset taxable income; R&D tax credits reduce the actual amount of tax that must be paid.
Source: OECD (2011) OECD testimony to the US Congress on R&D tax incentives, September and country responses to the OECD Science, Technology and Industry Outlook 2012 policy questionnaire.

Source: OECD (2012), Science, Technology and Industry Scoreboard 2012, table 6.2, page 164.

In conclusion, international competition to attract business R&D and to develop technology intensive sectors is growing. Retaining and developing Ireland's R&D tax credit is essential.

3.4 State aid

Within the EU, Member States must avoid harmful State Aid which may distort competition between Member States by favouring certain areas of trade or sectors within one jurisdiction over another. R&D tax incentives do not extend to market development and

commercialisation activities as the potential cost of providing such support on a broad basis to avoid harmful State Aid is potentially prohibitive.

3.5 Competitiveness of Irish R&D tax credit offering

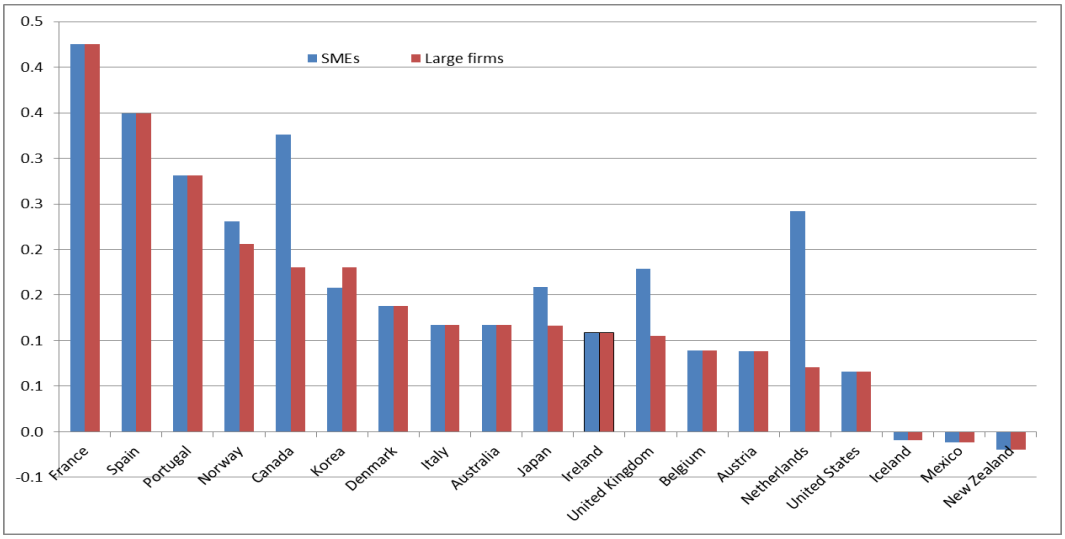
It is important to highlight that the R&D tax credit forms only part of an overall support for innovation; funding (e.g. grants), the tax treatment of income from the exploitation of R&D, employment tax incentives, the tax treatment of mobile employees and availability of investors may be important at certain company lifecycle stages. More broadly, the quality of the national system of innovation (human capital, quality of research institutions, presence of networks, etc.) is critical.

Internationally there is growing competition for mobile R&D investment and to the extent that direct and indirect funding R&D activity reduces cost, it is a factor in the investment decision. From available literature, Ireland is generally regarded as having a competitive offering.

Mazars (2010)[27] found Ireland's tax offering to be competitive in a study of eight countries[28]. The report highlighted that non-tax factors 'are likely to be significantly more important' when determining an optimal location for a multinational group's R&D activities and that the interaction with international tax requires careful consideration.

OECD data suggests that the tax subsidy rate for expenditure based tax incentives in Ireland ranks mid table (figure 15).

Figure 15: Tax treatment of R&D: Tax subsidy rate for USD 1 of R&D, large firms and SMEs, 2008[29]



Source: OECD (2012), Science, Technology and Industry Scoreboard 2012, figure 6.3.

[27] Source: Mazars (2010), Review of Global R&D Tax Credits.

[28] Australia, Canada, France, Ireland, Israel, Netherlands, UK and the United States.

[29] The tax subsidy rate is calculated as 1 minus the B-index. The B-index measures the before-tax income needed to break even on one dollar of R&D outlays. The tax subsidy rate is reported for a profitable firm able to claim tax credits/allowances. The subsidy rate calculations only include expenditure based tax incentives and do not account for income based tax incentives.

4 Findings and Recommendations

4.1 Retain and develop the R&D tax credit

The outputs of research and development are a significant driver of economic growth, particularly in high wage developed countries. Promoting private sector investment in research and development is a core plank of enterprise policy. Retaining and developing Ireland's R&D tax credit is critical for a number of reasons including:

- There are a range of market failures that justify continued state intervention (e.g., presence of knowledge spill overs, information deficits, risk assessment and financing issues).
- The general trend across countries, particularly in the current economic crisis, has been to increase the availability, simplicity of use and generosity of R&D tax incentives. International competition to attract business R&D and to develop technology intensive sectors is growing. While Ireland's current R&D tax credit is considered competitive internationally, a range of countries offer more generous direct funding programmes.
- Despite the success of the tax credit in promoting BERD in Ireland, Ireland remains some distance behind leading countries in terms of the intensity of R&D investment.
- The positive impact of R&D investment on the performance and output of Development Agency supported R&D active firms is clear (section 2.4).

In summary, the R&D tax credit plays an essential role in supporting private sector investment in R&D in Ireland. Investments in R&D are a key focal point in the transformation of the existing agency client base and are a critical component in sustaining existing employment levels in these facilities. They also play an essential role as part of a competitive offering in supporting new investments (both indigenous and foreign).

Recommendation

- The overriding recommendation is for the continuation and development of the R&D tax credit scheme which is a key part of Ireland's competitive offering for both foreign direct investment and indigenous enterprise. Retaining and developing the R&D tax credit is essential.

4.2 Incremental versus full volume basis

When the Irish scheme was introduced in 2004, it was an incremental, as opposed to a volume based scheme. A volume based R&D tax credit applies the tax incentive to the total volume of R&D spending in a given year; that is for every €1 spent on R&D, the tax credit is available on that full €1. In the case of an incremental scheme, the tax incentive applies to the increase over the base year expenditure.

In Ireland the incremental based system applies to R&D expenditure (excluding buildings) above the base year 2003 R&D expenditure. It is welcome that as a result of Finance Act 2012 and 2013, the first €200,000 of current year R&D expenditure now qualifies for the tax credit without reference to the 2003 base year (i.e. first €200,000 a volume based scheme). Effectively, there is a full volume based system for companies which commenced trading or

R&D in Ireland after 2003 and on qualifying R&D building expenditure (section 4.4.4). Given the plateauing of BERD in recent years as a result of the national and international economic crisis, we are not in favour of changing the base year. However, as it is understood that there are a small number of companies with high levels of R&D expenditure in 2003 which is having a negative impact, the specifics need to be considered in greater detail.

Introducing and increasing the threshold has extended the availability of an effective volume based system for companies which carried out relatively low levels of R&D in 2003. However, companies who had R&D expenditure in 2003 above €200,000 benefit from the R&D tax credit only where the expenditure in the current year exceeds that of 2003, thereby placing such companies at a competitive disadvantage. This is an issue for a number of reasons:

- This places companies operating in Ireland with 2003 base year of R&D expenditure at a competitive disadvantage when competing with associated companies in non-Irish locations with a volume based scheme (e.g. France, Hungry and Canada) for the next in-house R&D project and/or against other companies operating in Ireland with no 2003 base year of R&D expenditure.
- Issues emerge in relation to base year expenditure in mergers and acquisitions as to what base year R&D expenditure is taken into account and adds an extra layer of complexity.
- This also places an administrative burden on companies, which must maintain records from 2003. Company law only requires the retention of books and records for at least 6 years.

As noted by the OECD, the main advantage of using only incremental R&D as the eligible base is that it ensures that the cost incurred by government is compensated by an increase in R&D. As such, it minimises the amount of 'subsidised' R&D that would have been undertaken even in the absence of support. However, the use of incremental based schemes is more complex to design and to use. In addition, it is also important to consider the impact of R&D projects which are lost as a result of companies being unable to factor the R&D tax credit into their investment proposals.

There is an overriding question on whether ultimately the R&D tax credit should move to a full volume based system, whether through further incremental steps or a single step.

The key challenge is to estimate the costs and benefits of this initiative. Forfás has considered how the BERD 2003/2004 data might inform a range of estimated costings of moving to a full volume based system[30]. The outcome of this scoping project is that there is a need for several government bodies to collaborate to enable three datasets to be matched. Forfás has shared the outcomes of this scoping project with the Department of Finance.

Appendix 1 contains extract from the Enterprise Development Agency Pre-Budget Submission 2013 in relation to a costing methodology for first €200,000 R&D expenditure exclusion from the incremental system.

Recommendation

We recommend:

- Department of Finance obtain the evidence required to provide a range of costings for a

[30] There are two important methodological differences with BERD (i) it is based on a sample of agency clients which differs over the time series and doesn't provide a total population as per Revenue corporation tax returns and (ii) R&D definition is based on Frascati Manual which is broader than under the tax legislation (section 4.3).

move to a full volume based system for R&D expenditure.

- Subject to a positive cost-benefit analysis,
  - move to a full volume based system, or
  - alternatively, announce how far towards a full volume based system Ireland is prepared to go over the next 3 to 5 years and to flag the milestones over that time frame (e.g. increase the R&D expenditure not subject to the incremental system by, for example, an additional €150,000 each year over the next 5 years).

4.3 Eligibility criteria

Mirroring the shift to a service based economy, the nature of R&D investment in Ireland and internationally is changing.

The OECD Frascati definition[31] is the international benchmark which ensures the comparability of the data and analysis, which is used by the OECD, Eurostat and the CSO. The Revenue R&D definition is outlined in the Taxes Consolidated Act 1997. While it broadly mirrors the OECD Frascati definition, there are specific activities outlined in regulation[32] which can and cannot qualify. Activities which can qualify are natural science, engineering and technology, medical sciences and agricultural sciences[33]. The regulations exclude several activities including research in the social science, arts and the humanities.

Revenue's R&D Tax Credit Guidelines (December 2012)[34] summarises that qualifying activities must satisfy all of the following conditions, which mirror OECD Frascati definition:

1. Systematic, investigative or experimental activities
2. In a field of science or technology
3. One or more of the following categories of research and development: Basic research, Applied research, or Experimental development.

In addition, to meet Revenue's criteria, they must:

4. Seek to achieve scientific or technological advancement, and
5. Involve the resolution of scientific or technological uncertainty.

Internationally, jurisdictions broadly rely on the definition of qualifying R&D contained in the OECD Frascati Manual. Hence the similarity of the definitions in nature, but the manner of interpretation and application of the definitions can differ in subtle ways which can have a significant impact.

[31] Source: OECD (2002), Frascati Manual 2002, OECD Publishing (ISBN 92-64-19903-9)

[32] Source: S.I. No. 81 of 2010, Industrial Development (Service Industries) Order 2010 and S.I. No. 434 of 2004, Taxes Consolidation Act 1997 (Prescribed Research and Development Activities) Regulations 2004.

[33] The regulations define each category in further detail.

[34] Source: Revenue (December 2012 version), Revenue Guidelines for Research and Development Tax Credit http://www.revenue.ie/en/tax/ct/research-development.html

The recent version of Revenue's R&D Tax Credit Guidelines (December 2012) provides significant additional guidance in relation to what is 'scientific or technological advancement', 'uncertainty' and when R&D activities end.

While Revenue's recent guidelines provide additional certainty, further work is required to provide guidance of what is currently allowable (e.g. workshops, case studies, etc.) and to assess the merits of allowing relevant social sciences as qualifying criteria. Particular issues have arisen in services sectors such as the electronic games sector (appendix 2).

Recommendation

We recommend that the review considers all aspects of the eligibility criteria, not just in terms of allowable activities[35], but also how the legislation is interpreted, applied and impacts all types of businesses.

4.4 Specific features

4.4.1 Extension to the option to transfer the credit to key R&D employees

This measure to provide companies with an option to transfer the benefit of their R&D tax credit to key employees in Finance Act 2012 was welcome. The amendment to reduce the full time work on R&D from 75 to 50 per cent in Finance Act 2013 while welcome, may not address the anecdotal low take-up of this measure.

There is a need to broaden the cohort of individuals and companies that might be eligible for this measure to deliver on the policy rationale.

- Companies which qualify for an R&D tax credit refund instalment should also be able to avail of the option to transfer the benefit to key employees. This would ensure that an R&D intensive start-up company, even though it may not have past corporation tax payments, would have the option to transfer the benefit of the R&D tax credit instalment to a key employee when the company becomes entitled to the particular cash refund instalment. See box 1 for additional detail.
- Currently, there is a requirement that following the relief individuals will pay at least 23 per cent income tax on their gross income in the tax year[36]. In effect this means that there is a gross income that must be exceeded in order to gain a benefit from claiming the relief. This requires a gross income threshold of €56,740 for a single individual and €75,946 for a married individual with one income earner.
- Under current legislation relevant employees could potentially be liable for the income tax were Revenue not in a position to recoup the money for an incorrect R&D tax credit claim from the company. Employees need greater certainty in opting for this measure. Greater protection, along the lines recommended by the UK Office of Tax

[35] Terms of reference states 'to consider whether the design and structure of R&D credit is optimum by analysing…aspects of the eligibility criteria (is the regime too wide or too narrow in scope in respect of allowable activities)'.

[36] Refer to Finance Act 2012, section 8(3) (a).

Simplification[37], that any repayments arising from issues in relation to the R&D tax credit claim are recouped from the company and not the employees, unless it can be shown that the employees were knowingly involved in the default, would be more appropriate.

Recommendation

We recommend:

- Allowing companies which qualify for the R&D tax credit cash refund instalment payment to have the option of transferring this benefit to key employees, similar to the current transfer of the tax credit benefit, from the start of the relevant tax year in which the company becomes entitled to the refund.
- Reduce the effective rate from 23 per cent which is restricting the number of employees that could benefit from the measure.
- That the legislation state that any repayments arising from issues in relation to the R&D tax credit claim are recouped from the company and not the employees, unless it can be shown that the employees were knowingly involved in the default.

[37] Office of Tax Simplification (2012), Review of tax advantaged employee share schemes: Final report page 15.

Box 1: Extension for R&D tax credit refund instalment – explanation and data

Finance Act 2009 introduced a cash refund element to the R&D tax credit, whereby if the tax credit cannot be offset against current or prior corporation tax liability, it can be carried forward against future corporation tax liabilities or the company can apply to receive a direct cash refund from Revenue over a three year period. Under the current legislation, a company that has obtained the benefit of an R&D tax credit and cannot use it in that year because it's corporation tax liability is less than the credit or nil, does not have the option to transfer this benefit to their key employees. This particularly impacts on certain R&D intensive innovative early stage companies.

In order for a company to have the benefit of an R&D tax credit refund instalment, it would have met the following criteria (i) excess R&D tax credit over the corporation tax payable in the current year (ii) insufficient corporation tax payable in the prior year to utilise the R&D tax credit carried back (iii) insufficient corporation tax payable in each year of the subsequent two years to utilise the R&D tax credit and (iv) any refund is capped at the greater of the corporation tax payable by the company for the 10 years prior to the year the R&D was incurred or the aggregate of payroll liabilities for the relevant period and preceding period. Therefore, a company's refund is impacted by the level of R&D, level of payroll liabilities collected in the year and/or past corporation tax payments.

Based on Revenue R&D tax credit refund data for 2010, the removal of this exclusion means that 982 companies with nil corporation tax payable with R&D refund instalments of €64.5 million would have the option to transfer the benefit to their key employees (table 6).

Table 5: R&D tax credit refunds in 2010 - Total

Total	1st instalment		2nd instalment		3rd instalment	
All companies	Number	Amount Refund	Number	Amount Refund	Number	Amount Refund
Regular R&D (s766 TCA 1997)	660	€37.3m	306	€26.6m	8	€0.3m
Building related R&D (s766A TCA 1997)	30	€0.6m	10	€0.2m	***[1]	Neg[1]

Source: Revenue Commissioners (2012).

Table 6: R&D tax credit refunds in 2010 – Companies will nil CT payable.

With nil CT payable	1st instalment		2nd instalment		3rd instalment	
All companies	Number	Amount Refund	Number	Amount Refund	Number	Amount Refund
Regular R&D (s766 TCA 1997)	636	€37.0m	301	€26.4m	8	€0.3m
Building related R&D (s766A TCA 1997)	27	€0.6m	10	€0.2m	***	Neg

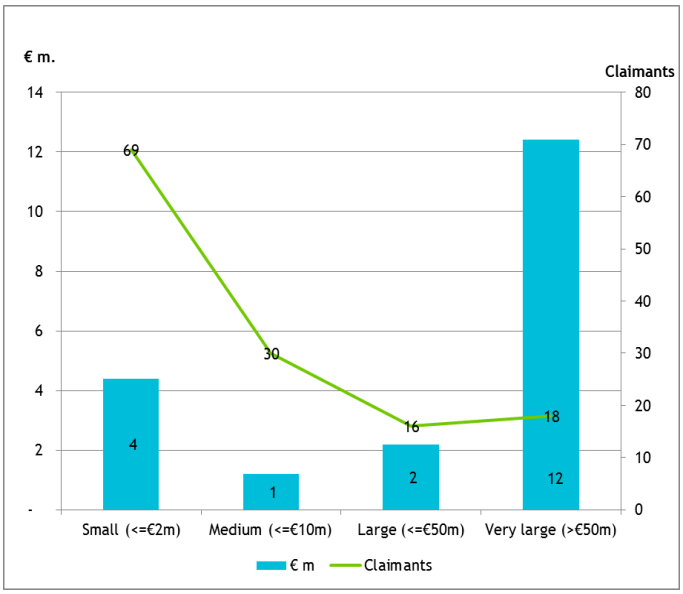
Source: Revenue Commissioners (2012).

4.4.2 Subcontracting

There were certain welcome amendments to the outsourcing limits in Finance Act 2012. The subcontracting limits for sub-contracted R&D costs are that the first €100,000 of such expenditure will qualify, to the extent that it is matched by the company's own R&D expenditure, irrespective of whether that amount is greater than the five per cent (outsourced to universities) and ten per cent (unconnected third parties) of a company's own R&D expenditure[38]. The policy rationale was to enable smaller firms that would have lower in-house R&D expenditure to qualify for the R&D tax credit on the subcontracted R&D, with the agreement that the subcontractor would not make a claim on the same R&D activity.

Following Finance Bill 2012, it is welcome that the right to claim was resolved using a notification requirement on the corporation tax return[39] rather than the legislation specifying which party - the outsourcer or subcontractor - would be entitled to the tax credit. This ensures that the benefit of the tax credit now forms part of the commercial negotiations, which must be put in writing by the outsourcing party, thereby facilitating the differing ability of parties to utilise a corporation tax credit based on their case specific circumstances. The approach provides Revenue with extra assurance that double R&D tax credit claims are not being made on subcontracted R&D. There was also further clarifications provided, including that the management and control of subcontracted activities would no longer qualify as R&D expenditure.

Figure 16: R&D tax credit cost of subcontracting and claimants by firm size, 2010



The R&D tax credit costs of subcontracting have been relatively limited to date. Revenue data indicates that small/medium companies represented just over 25 per cent of the expenditure (€20 million) and almost 75 per cent of the claimants (133 claimants), which represents a doubling of the total expenditure and claimants in 2009. In 2010, 64 per cent of the R&D tax credit cost and 13 per cent of the claimants were large cases division clients, compared to 15 per cent of the cost and number of claimants in 2009.

Source: Revenue (2013).

[38] Revenue (2012), Revenue Guidelines for the Research and Development Tax Credit (version December 2012), page 17.

[39] Corporation tax return 10.21(b)

The benefits arising from spill overs are maximised for the Irish economy where the R&D subcontracting takes place within the State, but to ensure that competition is not distorted within the EU internal market, geographical ring-fencing to the State is not permissible. However, utilising external expertise is also important in small countries.

The BERD survey provides an insight into the level of joint research projects that firms engage in with other firms, though possibly broader than subcontracting, it provides an indication of the trends of engaging with other firms outside Ireland. The overall percentage of companies that engaged in any joint research projects with other firms, based in Ireland or abroad, decreased from 41 per cent to 30 per cent, with a decrease of 11.5 per cent for small companies[40]. The results of small firms (< 50 persons engaged) and enterprises with Irish ownership are extremely similar, as might be expected. The percentage of companies which engaged in joint research projects with firms outside the Republic of Ireland is higher where the ownership of the enterprise is non-Irish (26.7 per cent in 2011) versus Irish owned (14.8 per cent in 2011)[41&42].

The impact of the introduction of broader criteria in Finance Act 2012 will only be captured when the 2012 corporation tax returns data is filed and processed by Revenue. It would be useful to consider the subcontracting trends by size of firm (based on employee numbers) in 2014.

Recommendation

We recommend that the review considers the current Revenue data on subcontracting 2007-2011 and flags this issue for further review in 2014 to consider the impact of Finance Act 2012 amendment on SMEs with the aim of supporting SMEs to access external expertise.

4.4.3 Administrative Burden

Stakeholders have raised a number of issues with the Enterprise Development Agencies in recent years, including increases in the number of R&D audits and the challenge for SMEs in understanding the detailed aspects of the scheme and what documentation is required. While, the work of the Enterprise Development Agencies and Revenue under the Action Plan for Jobs has been positive in furthering understanding and enhanced guidance, continued efforts are required.

When seeking to estimate the administrative burden which the scheme places on enterprise, it is important to consider the size of the company. It is generally accepted that a higher burden falls on SMEs, particularly where a scheme is complex. Therefore applying a standard percentage to the R&D tax credit claimed to represent the administrative cost of all firms irrespective of size may not be representative or mirror the feedback from Irish SMEs.

[40] Source: CSO dataset BSA34: Enterprise engaged in joint research projects by size of enterprise, research partners and year.

[41] Source: CSO dataset BSA35: Enterprise engaged in joint research projects by nationality of ownership, research partners and year

[42] Under EU State Aid rules restriction can only be to EEA countries, it is not possible to restrict the qualifying criteria to the State only.

Recommendation

While uptake of the R&D tax credit has grown significantly since introduction, continued efforts are required to promote the scheme and to provide clear communications on the workings of the tax credit (workshops, case studies, etc.).

4.4.4 R&D capital expenditure on buildings and structures

There were significant changes in the R&D tax credit for expenditure on buildings and structures in Finance (No. 2) Act 2008, which were positive for enterprise. Up until 31 December 2008, the building had to be wholly and exclusively used for the purpose of carrying on R&D activities and the absolute amount spent on constructing or refurbishing the building was allowable over four years (i.e. cost price of €1 million would result in eligible expenditure of €250,000 each year for four years).

From accounting periods commencing on or after 1 January 2009, where expenditure is incurred after 29 September 2009, the expenditure incurred on the building was no longer required to be wholly and exclusively for the carrying on of R&D activities by the company. The legislative change enabled the relevant portion of a mixed use building to qualify for the R&D tax credit once a minimum of 35 per cent of the use of building is attributable to R&D activities over a four year period[43]. There is a claw back provision to ensure the use of the building as intended. The full tax credit of 25 per cent of relevant expenditure can be claimed in the year incurred rather than over a four year period.

Table 3: R&D tax credit on buildings and structure - comparison pre/from 1 January 2009

	Old (pre 1 Jan 2009)		Current (from 1 Jan 2009)	
	Wholly R&D	Mixed use	Wholly R&D	Mixed use
Cost price / Relevant portion	€1 m	€1 m	€1 m	€1 m
Year 0	€250k x 20%	0	€1m x 25%	€1m x 25%
Year 1	€250k x 20%	0	N/A	N/A
Year 2	€250k x 20%	0	N/A	N/A
Year 3	€250k x 20%	0	N/A	N/A

Source: Forfás (2013)

The possible overlap under the R&D tax credit and the specified intangible asset regime was addressed in Finance Act 2011; expenditure within the meaning of specified intangible asset[44] shall not qualify as expenditure on plant and machinery for the purpose of R&D tax credit.

[43] Deloitte (2012), 2012 Global Survey of R&D Tax Incentives

[44] Defined by section 291A Taxes Consolidated Act 1997.

The treatment of R&D capital expenditure differs internationally. Across 14 countries[45]; France, Ireland, Israel, the Netherlands, Spain and the UK include building related expenditure in their R&D tax credit.

Revenue data was sought to determine the impact of allowing the inclusion of building related expenditure in the total R&D credit claimed. The impact was small. In 2010, the R&D tax credit in relation to buildings and structures was approximately €11 million by 33 claimants categorised as large companies (turnover above €50 million), compared to total of €9 million by 40 claimants in 2009. There was an even split in both years between manufacturing and other sectors.

The BERD 2009/2010 survey confirms the Revenue data. It highlights that of the €1.9 billion spent on R&D across all business sectors nearly 83 per cent of all spending was on current expenditure while 17 per cent was spent on capital expenditure. Enterprises spent €222 million on instruments and equipment (excluding software) along with almost €50 million on land and building costs. Almost €24 million was spent on payments for licences to use intellectual products, while nearly €28 million was spent on software purchased wholly for research and development purposes together with €2.7 million on software development in house and used in house. Capital expenditure on land and buildings represents 2 per cent of total expenditure in 2011.

There are considerable benefits arising from Ireland securing an R&D building investment which represents a commitment by the investing company in Ireland as an R&D location for the medium/long term with all the positive employment and spill over effects that arise. This measure is consistent with Ireland's tax policy of that companies have substance in their Irish operations.

Recommendation

We recommend the continuation of the building and structures treatment under the R&D tax credit.

[45] Australia, Canada, France, Germany, Hungary, Ireland, Israel, Luxembourg, Netherlands, Puerto Rico, Singapore, Slovakia, Spain, Switzerland, UK and US (2011).

Appendix 1 First €200,000 R&D non-building expenditure exclusion from incremental system

In the Enterprise Development Agencies' Pre-Budget Submission 2012 and 2013, in support of the move to full volume for the first €100,000 and €200,000 of current year R&D expenditure, we used the Revenue data from the 2009/2010 corporation tax returns (CT1 forms) from companies claiming the R&D tax credit which captured 2003 base year data.

In providing an estimated costing for the proposal to increase the threshold to €200,000 the corporation tax returns 2010 was used. In the 2010 returns, 53 of the 106 companies had R&D expenditure in 2003 in excess of €100,000. A detailed analysis by base year expenditure could not be provided by Revenue for a further 11 companies in the real estate, renting and business activities sector for confidentiality reasons. It has been assumed that the full amount of the increase would be eligible for the tax credit for each company. Therefore in estimating the potential cost of the proposal (refer to appendix 1 – table B), R&D base year expenditure of €5.5 million is considered, which results in an additional tax credit of €1.4 million per annum when the R&D tax credit of 25 per cent is applied, as long as the companies continue to undertake R&D expenditure which exceeds their base year expenditure. For confidentiality reasons Revenue could only provide summarised information of the sectors impacted which is primarily electricity, gas and water supply, construction, wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants, transport, storage and communication and financial intermediation sector (refer to appendix 1, table A).

As base data was collected in a section of the tax return that may only have been completed by those claiming the R&D tax credit, though not necessarily so, this methodology may not capture all companies undertaking R&D that might be eligible to benefit from legislative benefit in this area.

Table A: R&D 2003 Base Year Expenditure by Sector, Corporation Tax Returns 2010.

Sector	2003 Base Year Expenditure Threshold	2003 Base Year Expenditure	Number of companies with 2003 Base Year Expenditure
Agriculture, hunting and forestry; Fishing; Mining and quarrying		0	0
Manufacturing	<100k	623,600	20
	100k - 200k	1,201,437	9
	>200k	16,877,166	13
Electricity, gas and water supply; Construction; Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Transport, storage and communication; Financial intermediation	<100k	777,200	22
	100k - 200k	1,102,870	7
	>200K	51,359,733	24

Real estate, renting and business activities (includes computer and related activities and research and development)		10,333,336	11
Health and social work; Other community, social and personal service activities (includes sewage and refuse disposal, sanitation and similar activities and other service activities)		0	0
Total		**82,275,342**	**106**

Source: Revenue Commissioners (2012)

Table B: Estimated cost of having the volume based system apply to the first €200,000 of R&D expenditure

	Base Year Expenditure Already Qualifying	Additional Base Year Expenditure to Qualify from Increase	Companies
Total 2003 base year expenditure			106
First €100k (Finance Act 2012):			
- 42 companies with base year expenditure less than 100k so no additional cost	1,400,800	0	42
- 16 companies with base year expenditure between 100k and 200k so first 100k already qualifying	1,600,000	704,307	16
- 37 companies with base year expenditure above 200k so first 100k already qualifying, the next 100k would be additional	3,700,000	3,700,000	37
- 11 companies unable to be broken down by base year expenditure threshold, so **assuming** all 11 companies would be eligible for credit under full €100k increase in threshold	1,100,000	1,100,000	11
Second €100k (proposal)		5,504,307	
Additional tax credit at 25%		**1,376,077**	**64**

Source: Revenue Commissioners (2012)

Appendix 2 The Games Sector in Ireland (extract)[46]

The R&D tax credit scheme is focused on stimulating R&D activity and is available to all sectors subject to certain criteria being satisfied. The R&D activity must: represent scientific or technological advancement; involve the resolution of uncertainty; and be systematic in approach.

Concerns have been raised by firms regarding the scheme's fit with the characteristics of the games development process in particular, which is increasingly interactive and open-ended. Companies, therefore find it challenging to satisfactorily document R&D activity as a defined and systematic process.

Companies have also queried the apparent ineligibility of the creative content and concept development aspects of game development that involve considerable investment of time and multi-disciplinary expertise, and on which the success of a game hinges[47].

A related issue is the current exclusion of research in the social sciences[48], arts and humanities from consideration as science and technology for the purposes of the R&D tax credit. Ireland is not unusual in this respect, for example the same applies in the UK R&D tax credit scheme[49], and there are indeed challenges associated with defining advancement in this broad area. The games industry relies increasingly on leveraging social networks, deploying virtual currency and on understanding and analysing consumer behaviour and preferences. It is experimenting with context; and games are increasingly finding applications in areas such as education, health and wellbeing. In this regard, research in areas such as psychology, pedagogy, behavioural sciences, and economics are crucial. This is a consideration not only for the games sector but for the broader digital media area.

Issues that arise with respect to the R&D tax credit (concerning content creation, concept development) discussed above also arise in relation to the R&D grant schemes. In the same way, further consideration will need to be given to ensure that the objectives of the schemes can be achieved in relation to the games sector.

Recommendation

5.1 Increase Awareness

- Develop an enterprise guide to accessing R&D supports (R&D Tax Credit, R&D Fund, etc.) to include examples specific to the games industry.
- Convene an R&D supports workshop to promote awareness about the available R&D supports and to share knowledge about research of relevance to the games industry.

[46] Forfás (2012), The Games Sector in Ireland: An Action Plan for Growth at http://www.forfas.ie/publications/2011/title,8426,en.php, pages xxiv, xxv, 27 and 28.

[47] Although content development per se is not excluded, it is likely not to meet one of the essential criteria, that of scientific or technological advancement, and could be said to be part of the normal operations of a games company.

[48] Social sciences include economics, business management and behavioural sciences.

[49] Details of the UK scheme are available at: http://www.hmrc.gov.uk/ct/formsrates/claims/randd.htm#10.

(Enterprise Agencies, Revenue Commissioners and Industry)

5.2 Role of the Social Sciences in Games Industry RD&I

- In the medium term, review the extent to which social sciences play a role in games industry RD&I – both currently and potentially as the sector evolves. If and when deemed appropriate, make the necessary changes to qualifying criteria associated with the R&D tax credit to include relevant social sciences as eligible fields of science in R&D activity[50].

  (CDT, Revenue Commissioners and Department of Jobs, Enterprise & Innovation)

- The development of case studies should be progressed to clearly demonstrate the various aspects of RD&I activities within the games industry.

  (Industry, Enterprise Agencies)

[50] Any changes to the R&D Tax Credit can only be considered in the context of their broad application to all sectors. Any proposed alteration would therefore need to be cognisant of the potential cost, clarity of application, and the benefits accruing.

Appendix 3 Readers guide to link with the D/Finance draft terms of reference

D/Finance draft terms of reference	Submission references
1. Establish the economic rationale for incentivising investment in R&D, including: ▪ The contribution of R&D to productivity and growth; ▪ The existence of market failures in R&D activity and expenditure; ▪ The rationale for State intervention to incentivise R&D; and, ▪ The role of direct expenditure and tax expenditures to correct for market failures	2.4 1.3 1.3 3.1
2. To identify the exchequer cost and level of take up of the R&D tax credit. ▪ The level of take up should include a description of the types of business sectors and firms that benefited from the scheme as well as the characteristics of those firms	2.3
3. To assess the impacts of the R&D tax credit on the following: ▪ The amount of business expenditure on R&D; ▪ Indigenous and FDI investments in Ireland (both new and existing); ▪ Large company and SME activity; ▪ Mobile R&D investments (both new and existing) ▪ Levels of deadweight and additionality	Section 2.1 / 2.2 2.1 / 2.4 and Stakeholder survey[51] 2.2 / 2.3 Section 2 / 3.5 Considered in recommendations
4. To consider whether the design and structure of R&D credit is optimum by analysing: ▪ The 'incremental' approach to eligible expenditure (i.e., the use of 2003 as a base year for the assessment of incremental expenditure) ▪ Possible overlaps with other tax provisions ▪ The level of allowable expenditure that can be outsourced ▪ Aspects of the eligibility criteria (is the regime too wide or too narrow in scope in respect of allowable activities) ▪ The interaction and alignment of the tax credit with R&D grants ▪ The administrative burden of the regime	4.2 4.4.4 4.4.2 4.3 3.1 / 4.4.3 4.4.3
5. International competitiveness of R&D offering ▪ A comparison of Ireland's offering to that of competitor jurisdictions for mobile (R&D-based) FDI	3.5

[51] IBEC in conjunction with the Irish Taxation Institute, the professional practices and others are collaborating on an enterprise survey.