Research and development expenditure by firms in Iceland 2003-2009 as affected by taxation

Regulation

Paragraph 32 of Act 90/2003 (The Income Tax Act) and paragraph 10 of regulation 483/1994 issued by Ministry of Finance stipulates that non-material items as cost of registration, cost of market exploration, research and development, acquisition of patents and trademarks can be written off in equal instalments over a period of five year. It is also permissible to deduce the full cost during the year of acquisition According to paragraph 26 of Act 154/1994 on accounting, incorporeal rights can not be counted as costs if they have not been paid for. The same applies to research and development costs .

Firms are required to list as assets any paid items that are aquired with the intention of generating future income, cf. Article 16 law no. 3/2006[1]. Included are investment in property development, and investment in intangible rights such as patents, trademarks and similar rights, if they are acquired for payment. Furthermore Article 24 of the same law states that: (1) Assets listed in accordance with Article 16, should be amortized in a systematic manner over their expected useful live of the asset, though not longer than 20 years. If these asset have no specific maturity it is permissible to evaluate them annually in accordance with accounting principles. (2) If the estimated useful life of an asset is longer than five years an explanation is warranted.

Size of R&D expenditure

In the years 2003-2009 research and development expenditure grew by some 100% in nominal terms, i.e. from 12.25 billion ISK to over 24.5 billion ISK. However when corrected for inflation the growth is 75% as can be seen in table 1.1. Furthermore the expenditure in terms of euros grew from just over 140 million euros to almost 220 million in 2007 and back down to just over 140 million in 2009. This is can be attributed to the fall in value of the ISK following the banking crisis of 2008 seen in the bottom row of table 1.1.

Firm R&D expenditure in ISK millions				
	2003	2005	2007	2009

[1] 2. Corporations, private limited companies, limited partnership, cooperatives and cooperative organizations and mutual insurance and warranty companies if the companies exceed two of the following size limits for two years in a row:

a. property exceeds 230,000,000 kr.,
b. income amounted to ISK 460 million.,
c. number of man-years in the fiscal year is 50

3. All other companies with limited liability of members engaged in activities not covered by first and 2 para., and [savings banks and branches of foreign companies registered and] 1) non-profit institutions engaged in business activity, cf. Law no. 33/1999.

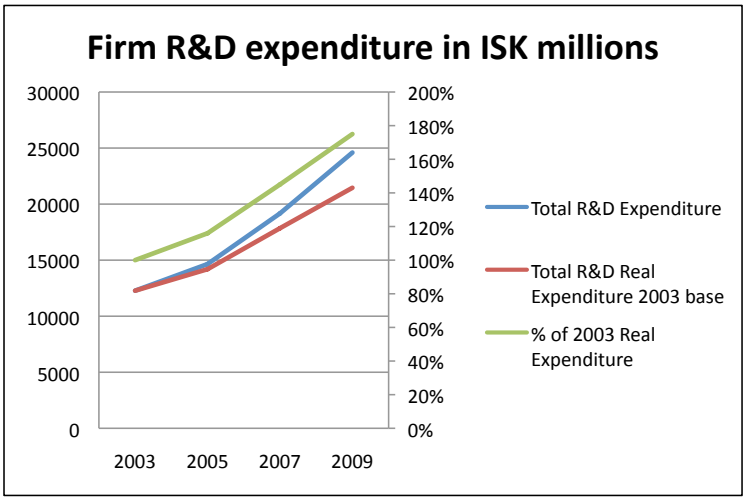
4. Partnerships and other entities with unlimited liability of members, as well as syndicates, where members only are companies listed in paragraphs 1 to 3. point. Furthermore, laws that apply to partnerships, and other companies with unlimited liability of members, as well as syndicates, as recorded in firmaskrá, if the companies exceed the size limit of second point.

Total R&D Expenditure	12276	14651	19169	24599
Total R&D Expenditure fixed 2003 prices	12276	14195	17849	21456
Expenditure, fixed prices, relative to 03	100%	116%	145%	175%
Expenditure in € Millions	141,6	187,5	218,8	142,5
Average Euro Exchange Rate	87 kr.	78 kr.	88 kr.	173 kr.

Table 1.1 Source: Rannis - Icelandic Research Fund

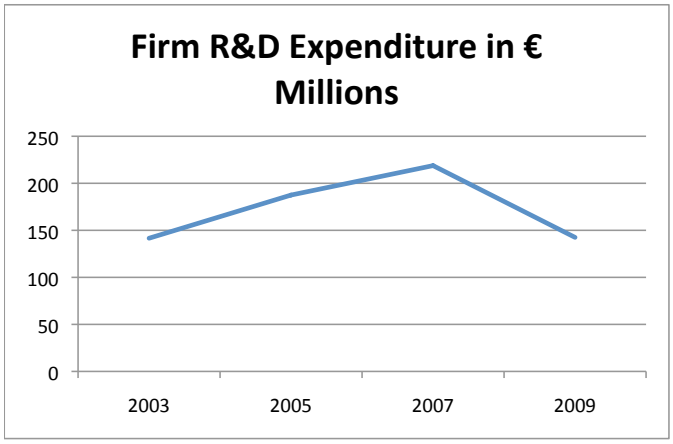
Graph 1.1 illustrates the rise in R& expenditure by firms in both nominal and real terms while graph 1.2 shows the rise and fall of R&D spending in euro terms.

Graph 1.1



Source: Rannis - Icelandic Research Fund

Graph 1.2



Source: Rannis - Icelandic Research Fund

Top ten ISAT 95 categories

R&D spending by firms in Iceland was mainly focused on three sectors which account for well over half of all R&D spending. The single largest category in 2009 was Information Techonlogy with a total amount 6.7 billion ISK spent up from just under 1.7 billion in 2003. Chemicals also grew rapidly during this period up to 5.7 billion in 2007 and 2009 from only 1.1 billion ISK. The largest category for the whole period was Research and development with expenditure ranging from 4.5 billion ISK in 2005 and 2007 to 5.8 billion in 2003. A significant rise can also be seen in Production and maintainance of medical equipment etc. which rose from 753 million ISK in 2003 to just over 2.5 billion ISK in 2009. Other categories are listed with total expenditure under 1 billion ISK per year. The top ten ISAT 95 categories according to expenditure can be seen in table 1.2 and graph 1.3.

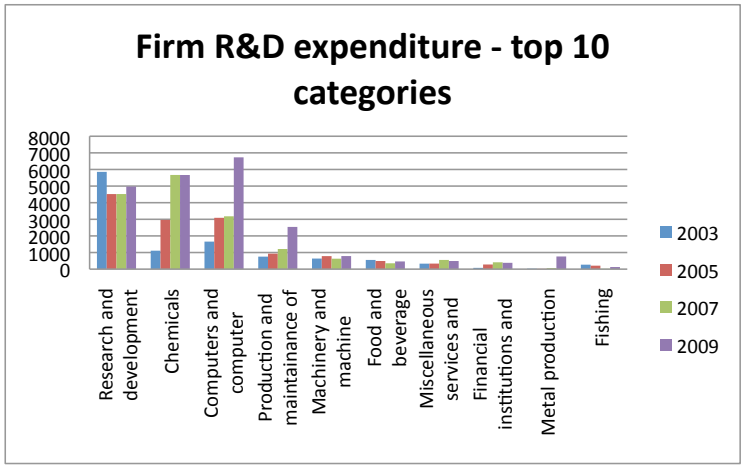
Table 1.2 Nominal Firm R&D Expenditure According to ISAT 95 Classification - top ten

ISK millions				
Year	**2003**	**2005**	**2007**	**2009**
Total	12.178,60	14.530,10	17.747,40	24.599,10
Research and development	5.856,00	4.518,90	4.520,30	4.971,60
Chemicals	1.111,10	2.964,50	5.669,50	5.667,00
Computers and computer services	1.657,30	3.090,20	3.180,70	6.729,60
Production and maintainance of medical equipment, measurement- and research equipment, watches etc.	753	933	1.211,80	2.541,70
Machinery and machine construction	636,9	783,8	628,8	786,9

Food and beverage	553,8	489,8	352,4	463,2
Miscellaneous services and specialized businesses	330,4	334,2	553,6	488,6
Financial institutions and services excluding insurance and pension funds.	77	279,9	411,7	380,4
Metal production	31	21	61,3	762,4
Fishing	268,7	209	21,5	126,8

Source: Rannis - Icelandic Research Fund

Graph 1.3



Source: Rannis - Icelandic Research Fund

R&D according to subject matter

Research and development in the health sector along with manufacturing, agriculture and fisheries and basic research accounted for around 80% of all R&D expenditure in 2003 – 2007 before dropping to just over half in 2009. This drop can be traced to a 73% reduction in total R&D expenditure for agriculture and fisheries while firm? expenditure for the sector dropped 90%. Similarly Total R&D expenditure for manifacturing was reduced by 49% while firms reduced R&D expenditure by 52%. Meanwhile both total and firm expenditure for health research continued to rise during this period, from 7.6 billion ISK in 2003 to 12.9 billion ISK in 2009. Basic research also grew from 4 billion ISK in 2003 to 8.3 billion ISK in 2009, however firms played almost no part in funding basic research during this period.

Þórólfur Matthíasson 15/3/11 15:19
Kommentar: Skil ekki

Jon Skafti 15/3/11 15:19
Kommentar: framlag einkafyrirtækja til r&þ í sjávarútvegi og landbúnaði minnkaði um 90% frá 2007 til 2009

R&D in the health sector

Private firms were the leading conductors of health sector R&D from 2003 – 2009 accounting for about 85% of all health sector R&D expenditure. Table 1.3 clearly shows importance of firms, all amounts are in millions ISK. What is furthermore interesting is the continued rise in nominal

expenditure in 2009. This contrasts with R&D expenditure in both industry and agriculture and fisheries.

Table 1.3 Health Sector R&D							
Year	Firms	Educational institutions	Public institutions	Private foundations	Total	Firms expenditure as % of total	% of total expenditure on all R&D
2003	6476	564	519	55	7613	85,10%	32,10%
2005	7882	671	847	202	9601	82,10%	33,80%
2007	10056	523	729	54	11362	88,50%	32,30%
2009	10981	794	846	258	12879	85,30%	27,70%
Source: Rannis - Icelandic Research Fund							

Manufacturing R&D

Manufacturing expenditure for R&D dropped sharply between 2007 and 2009 as can be seen in table 1.4. Industrial expenditure had been stable around 20% between 2003 an 2007 but dropped to 7.6% in 2009. Nominal expenditure from firms halved from just over 6.3 billion ISK to just over 3 billion ISK but nevertheless remained relatively stable part of industrial expenditure on R&D.

Table 1.4 Manufacturing

Year	Firms	Educational institutions	Public institutions	Private foundations	Total	Firms expenditure as % of total	% of total expenditure on all R&D
2003	4257	441	305	0	5003	85,10%	21,10%
2005	5067	759	263	0	6088	83,20%	21,40%
2007	6317	304	228	0	6848	92,20%	19,50%
2009	3036	160	327	0	3524	86,20%	7,60%

Source: Rannis - Icelandic Research Fund

Agriculture and fisheries

Agriculture and fisheries saw a dramatic drop in R&D expenditure between 2007 and 2009. Firms reduced their spending by 90% from 715 million ISK to 72 million ISK and firms expenditure as a percentage of R&D expenditure in Agriculture and fisheries went down from over 20% between 2003 and 2007 to 9.4% in 2009. Meanwhile the total expenditure in Agriculture and fisheries R&D was reduced from around 3 billion ISK between 2003 and 2007 to 716 million ISK in 2009.

Table 1. 5 Agriculture and fisheries

Year	Firms	Educational institutions	Public institutions	Private foundations	Total	Firms expenditure as % of total	% of total expenditure on all R&D
2003	744	1971	302	0	3017	24,70%	12,70%
2005	643	2117	343	0	3103	20,70%	10,90%
2007	715	479	1608	0	2801	25,50%	8,00%
2009	72	436	254	0	761	9,40%	1,60%

Source: Rannis - Icelandic Research Fund

In-tangible assets by industry

Table 2.1 gives non-tangible assets as percentage of total assets in selected industries for the period 2003 to 2007. Table 2.2 gives the same for the years 2008 and 2009. Note that the industry classification has been changed in the interim.

Industry (selected)	2003	2004	2005	2006	2007
Agriculture and forestry	4,6%	4,0%	3,7%	3,5%	3,5%
Fishing	22,0%	25,3%	29,0%	35,3%	34,9%
Food, beverages and tobacco	16,4%	22,7%	28,9%	23,7%	31,0%
Textiles	0,7%	1,6%	2,0%	9,5%	9,0%
Leather	46,1%	44,6%	42,4%	0,0%	0,0%
Paper industry and publication	3,8%	8,5%	9,4%	8,0%	10,4%
Chemical industry	10,6%	2,9%	2,3%	2,0%	1,8%
Plastics	0,4%	0,3%	1,2%	0,9%	7,1%
Glass	3,2%	10,6%	4,8%	4,5%	7,0%
Motors	3,4%	4,7%	7,6%	29,6%	25,7%
Electricity and electronics	10,9%	10,3%	4,6%	7,7%	1,2%
Electricity production and distribution	19,1%	1,0%	0,1%	0,6%	1,2%
Building industry	1,7%	0,7%	0,4%	0,3%	0,2%
Wholesale and retailing	6,9%	9,2%	9,6%	8,9%	10,6%
Communication	5,5%	3,0%	28,3%	25,4%	20,1%
Education	2,8%	2,6%	1,0%	16,7%	11,7%
Other service activities	8,9%	11,4%	9,0%	7,3%	7,5%
Unspecific activity		14,9%	4,6%	2,4%	34,2%

Fishing quotas constitute a big part of the intangible assets in fishing. The tax-code stipulates that asset value of quota can only be booked if the quota has been paid for. Quotas were grandfathered into the fisheries during the period of 1984 to 1990. Quotas enter the asset side of the accounts when bought or possibly also withe merger and aquisation. We see big fluctuations in the ratio of non-tangible to total-assets in many indistries. That might reflect the results of merger and acquisation in those industires. Some of the oldest and most respected firms in Iceland were transformed into holding companies (Shipping companies and airliner).

Industry	2008	2009
AGRICULTURE, FORESTRY AND FISHING	30,2%	30,0%
MINING AND QUARRYING	1,6%	5,2%
MANUFACTURING	11,8%	11,8%
ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY	2,0%	2,0%

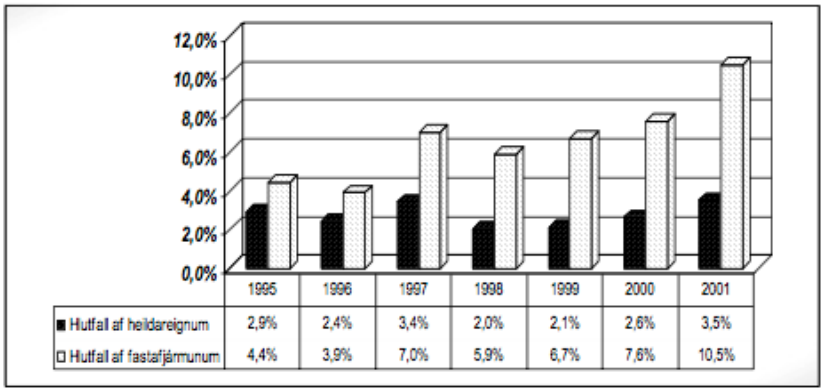
WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	5,1%	4,8%
CONSTRUCTION	3,6%	1,4%
WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	9,2%	11,0%
TRANSPORTATION AND STORAGE	2,4%	4,0%
ACCOMMODATION AND FOOD SERVICE ACTIVITIES	2,5%	2,0%
INFORMATION AND COMMUNICATION	34,4%	39,3%
PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	1,5%	1,5%
ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	6,2%	9,5%
EDUCATION	5,6%	4,6%
HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	0,7%	0,6%
ARTS, ENTERTAINMENT AND RECREATION	10,6%	11,2%
OTHER SERVICE ACTIVITIES	1,3%	1,1%
UNSPECIFIED ACTIVITY	18,5%	16,3%

Table 2.2 reflects the same trend as table 2.1. Note that Agriculture and fisheries are now included in one category.

One can envision a realignment of valuation of intangible assets in the vake of the restructuring of the balance-sheets of Icelandic firms that follows the collapse of the financial system in 2008 and the pursuing sharp devaluation of the krona. Such changes will reflect a real devaluation of goodwill and other intangible assets.

In-tangible assets and the collapse of the financial sector

We reproduce here two pictures from external sources. First is a clip from a paper of Einar Guðbjartsson, see http://www.fel.hi.is/sites/files/fel/slideshow/rit-heild.pdf , page 97. The black columns show the size of intangible assets as percentage of total assets in stock-exchange registered firms in Iceland



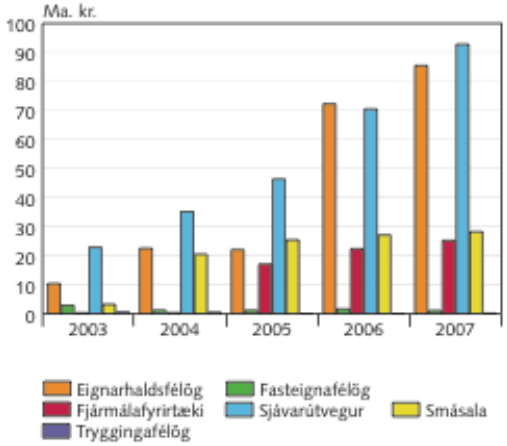
	1995	1996	1997	1998	1999	2000	2001
Hlutfall af heildareignum	2,9%	2,4%	3,4%	2,0%	2,1%	2,6%	3,5%
Hlutfall af fastafjármunum	4,4%	3,9%	7,0%	5,9%	6,7%	7,6%	10,5%

Mynd 1. Hlutfall óefnislegra eigna – miðað við 31. desember ár hvert

The figure shows that in-tangible assests were in the range of 2 to 3,5% of total assets during the decade prior to the rise of the Icelandic financial bubble.

Mynd 43

Vöxtur óefnislegra eigna einstakra atvinnugreina



Árið 2008 er undanskilið þar sem skil á rekstrarframtölum til Ríkisskattstjóra á þeim tíma sem rannsóknin fór fram voru mjög lítil.
Heimild: Ríkisskattstjóri.

Next clip is from the report of a special research committee reporting to the Parliament on the events leading up to the fall of the Icelandic banks in October 2008. The clips shows the growth of

intangible assets by industry. The blue colums are those of fishery firms, while the amber and red are of holding-companies and financial companies respectively.

Few conclusion

It seems fair to conclude that growth of intangible assets has helped to fuel the financial bubble that engulfed the Icelandic economy and collapsed in 2008. Growth of the item intangible assets on balance sheets of both listed and non-listed companies on the stock exchange seems to be one of the indicators of a bubble in the economy.

Intangible assets can in some cases be written off (does not apply to booked value of fishing quotas in the Icelandic legislature). Hence, inflating the size of that assets-post can prove favourable with respect to the size of the tax bill. There are therefore considerable public interest in avoiding overblown size of that asset post.