UK Research and Innovation

Understanding the impacts of spin-out companies from UKRI investments

Introduction

UKRI is committed to ensuring that the research we fund has significant real-world benefits.

These include increased economic output, productivity gains and improved societal outcomes through the process of knowledge exchange and commercialisation.

To achieve this, we invest in innovative ideas that address unmet needs or problems, link academia with the private and third sectors and support the development of skills for commercialisation.

Commercialisation can be achieved through various routes. These include creating, translating and exploiting intellectual assets; securing intellectual property via patents or copyrights; collaborating with established companies to bring a product or service to market; licensing a technology or process; or forming a new company or social enterprise.

The creation of university "spin-outs" represent one of the key routes to research commercialisation.

These newly established companies are based on intellectual property (IP) generated through a university's research activities. The purpose of establishing a spin-out company is to harness the commercial potential of research to meet a specific need, market demand, or problem.

When a spin-out is derived from research initially funded by UKRI, it represents a positive and tangible benefit on publicly funded investment, and one that where certain economic and societal impacts can be measured.

The following analysis assesses the impact of spin-outs and demonstrates how to quantify them in financial, spatial and employment terms, illustrating the collective real-world achievements of UKRI-enabled university spin-outs.

Context

The 2023 independent review of spin-outs[1] conducted by Professor Irene Tracey and Dr Andrew Williamson on behalf of the Chancellor of the Exchequer and Secretary of State for Science, Innovation and Technology states that: "UK's long-term objective should be to establish productive spin-out ecosystems with universities playing a vital role in establishing the public-private partnerships that mature the ecosystem."

The impact of spin-outs' activity extends beyond simply the number created as a result of research and innovation but can take many years to materialise.

In 2014, as part of their ongoing monitoring of impacts linked to investments in research, Research Councils[2] harmonised the collection of research outputs using Researchfish[3], whilst Innovate UK has been using its Project Completion Form to collect impact data. For both, individual researchers and award holders can disclose specific spin-out companies arising from their UKRI grants.

In this technical report we are building on the figure of 1167 spin-outs incorporated between 2004 and 2023 and quoted in the 2022-23 UKRI Annual Report[4]. We examine the characteristics of these spin-outs to provide a more detailed assessment of their economic footprint. The 1167 spin-outs figure is a subset of the total number of spin-outs supported by UKRI, due to under reporting, lag in reporting, and different timeframes in impact monitoring systems.

To place this figure in context, Research England via the Higher Education Statistic Agency (HESA) uses the Higher Education - Business Community Interaction (HEBCI) survey[5] to compile the number of spin-out companies created by Higher Education Providers. While the two datasets are not directly

[1] Independent Review of University Spin-out Companies
[2] Research Councils consist of Arts and Heritage Council (AHRC), Economic and Social Research Council (ESRC), Engineering and Physical Sciences Research Council (EPSRC), Biotechnology and Biological Sciences Research Council (BBSRC), Medical Research Council (MRC), Natural Environment Research Council (NERC) and Science and Technology Facilities Council (STFC)
[3] About Researchfish - timeline and evolution
4 UKRI Annual Report 2022-23
[5] HE Business and Community Interaction | HESA

comparable due to the difference in methodology and data capture, the HEBCI dataset provides a wider context for the UKRI dataset.

HESA reports that nearly 2043 spin-outs were active through Higher Education Providers in 2022-23. It should be noted that many of these will have had UKRI support, whether from Research England, Research Councils and/or Innovate UK. This compares with the 845 active spin-outs linked to UKRI investment detailed in this analysis.

We enhanced the UKRI spin-out dataset using Beauhurst[6], a data platform that offers proprietary business profiling, tracking and analysis. The UKRI spin-out company data was matched using the company registration unique identifier. All spin-out companies in the UKRI dataset were matched, although not all spin-outs (c.31% of active spin-outs) in the UKRI dataset are "tracked" by Beauhurst (some spin-outs might already have exited by being acquired or through an initial public offering).

This means that some of the tracked metrics reflect impacts from a sub-sample of the UKRI spin-out dataset. Additional information obtained on spin-outs' through Beauhurst include location, current status, stage of evolution, net worth and market value.

Summary of findings

UKRI investments combined to enable spin-out activity in UK Higher Education Institutions

- Over 2,000 Research Council grants can be linked to the establishment of spin-outs, with all councils able to identify spin-outs derived from their funding.
- Among these spin-outs, 87 were formed from funding gained through multiple councils. The most common combinations of support were from the Biotechnology and Biological Sciences Research Council (BBSRC) and Medical Research Council (MRC) (26 spin-outs), the Engineering and Physical Sciences Research Council (EPSRC) and MRC (21 spin-outs), and BBSRC and EPSRC (17 spin-outs). Notably, all three of these councils have been involved in supporting the same spin-out on seven occasions, implying the muti- and inter-disciplinarity of UKRI's funding.

Nearly half (46%) of spin-outs are reported by Beauhurst to have been awarded additional (post-incorporation) funding support.

- More than 1700 additional funding awards have been secured by 538 spin-outs, totalling £470m in value[7].
- 90% of spin-outs that received additional funding secured grants from Innovate UK (IUK), according to Beauhurst data.
- Spin-outs that have secured additional support are 25 percentage points more likely to be active today (86%) compared to those who have not (61%).

Just over four in ten spin-outs (42%) are reported by Beauhurst to have secured further equity investment.

- According to Beauhurst data, over 1650 individual investments have been made across 493 spin-outs, averaging at just over three investments for each of these spin-outs. The combined equity investment secured equates to over £6.2bn[8].
- Survival rates for companies receiving equity investment is much higher than those without, with 87% of spin-outs receiving equity still active compared with 62% of spin-outs not receiving equity.

[6] Beauhurst: a company database that fuels growth

[7] Based on Beauhurst tracking of grants awarded to companies. Please note that not all companies are tracked and therefore this figure may be an under-representation.

[8] Based on Beauhurst tracking of equity investments awarded to companies. Please note that not all companies are tracked and therefore this figure may be an under-representation.

- For the companies who are still active, two-thirds (66%) have secured investment of over £1m, the median investment being £2.7m per spin-out where investment has been secured.

UKRI funding is helping to translate research into commercial ventures that are having economic and societal impact.

- Over three-quarters (78%) of the 1167 spin-outs incorporated since 2004 are "live" (active or dormant) as of April 2023, equating to 907 businesses that are, or have the potential to, generate impact through new products, services commercial activities and jobs creation.
- Of these, 579 were still tracked by Beauhurst. Of those not tracked, 53 had already exited.

The majority of spin-outs are at the early stages of development[9]

- Of those companies active and tracked by Beauhurst (579), half (51%) are at the "seed" stage (a young start-up with low employee count, valuation and total equity investment).
- Nearly a third (30%) are at "venture" stage, in that they have developed their business models and technology and are typically securing investment and a valuation in the millions.
- Only three spin-outs are considered "established", have been trading for over 15 years, or five-15-years with a turnover with a three-year consecutive profit of over £5m, or turnover of over £20m.

UKRI-enabled 'active' spin-outs support approximately 11,000 jobs[10], with spin-outs represented in every UK region[11].

- The registered offices of spin-outs are highly concentrated in London (18%) and the south east (17%), with significant representation in the east of England (12%) and Scotland (10%).
- Consequently, more people are in employed by spin-outs in south east England (over 3300) and London (2250).
- Regions such as Wales, Northern Ireland, and northeast England, the West and East Midlands are at the lower end of the employment impact spectrum, each with fewer than 200 employees linked to UKRI-enabled spin-outs.
- Despite having fewer than 30 spin-outs, Yorkshire and the Humber region demonstrates strong employment representation, driven largely by one established spin-out employing over 900 people.

UKRI spin-outs have a higher chance of survival beyond five years compared to other company start-ups in the UK.

- Over three-quarters (78%) of UKRI enabled spin-outs are still "active" as of April 2023, which is positive in its own right, but it is even more impressive considering over half (54%) of these were formed over five years ago demonstrating the time needed to develop and grow these companies.
- On average, only 40% of newly formed UK businesses survive longer than five years[12], indicating that the comparative survival rate for UKRI spin-outs is 14 percentage points higher.
- Of those spin-outs that have been dissolved (233), under half (44%) survived for more than five years, during which time they were commercially active and employed staff.

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[9] Beauhurst additional analysis based on proprietary tracking and analysis – 579 spin-outs are active and 'tracked' by Beauhurst.

[10] Based on 642 of active spin-outs with an 'employee' value within their latest company return. Please note that the latest company return may be different (e.g. 2020/21, 2021/22, 2022/23 depending on when annual returns are due)

[11] Based on known registered address/region as detailed in Beauhurst data. Please note that spin-outs may have other premises located elsewhere in the UK (and overseas), and that these may form the primary place of business activity (i.e. where most of the employees are based and/or products/services made/sold). It is beyond the scope of this assessment to understand the effect of this, often referred to as the 'headquartering effect'.

[12] ONS Business Demography UK 2022/Figure 2 - see here

- Some (16) of these dissolved spinout companies have “exited” rather than failed.
- Beauhurst data shows that a further 37 spin-outs have exited through an initial public offering or through mergers and acquisitions, for example.

UKRI-enabled active spin-outs have a net worth of c.£2.2bn[13].

- This includes 244 spin-outs that currently have a negative net worth value at nearly -£0.5bn.
- It is important to understand that these instances reflect that many spin-outs are in the earlier stages of evolution, whereby the company is likely to be investing heavily in plant, materials and staff, and/or is in a pre-revenue generating phase.
- With around half of active spin-outs having secured equity investment (51%) and/or additional funding (55%), this supports the notion that many spin-outs are developing and still have some way to go before they realise their full potential.

Additional company performance metrics by Beauhurst on their “active and tracked” (579) businesses suggests that the market value placed on 395 of these spin-outs is close to £11bn[14].

- The initial grant investment in the research leading to these (395) spin-outs is approximately £910m.
- These spin-outs secured £345m in additional grants and nearly £6bn in equity funding
- Although these values cannot be considered a return-on-investment for UKRI, the market value of these spin-outs does indicate the considerable real-world impacts that these companies can have.

Technical Report

Overview

The analysis expands our understanding of spin-outs supported by UKRI . This has been achieved by enriching UKRI data to understand the characteristics and performance metrics associated with these organisations.

Using the 2022-23 Annual Report figure of 1167 spin-outs as the base, the analysis identifies a number of impacts spin-outs have had over their lifetime - accepting that, although a proportion (c.257) of these spin-outs have ceased operating, they had impacts whilst they were active or continue to have impact through parent or acquisition companies.

Consideration has been given to the range of metrics that can easily and succinctly assess different impact values associated with the spin-outs, including the cumulative impact of UKRI council grants, the success and longevity of spin-outs, the influence of investment of continuing spin-out successes, and the overall performance in terms of cumulative spin-out worth and employee values.

The dimension of “place” was also deemed an important factor given that these spin-outs will have micro as well as macro-economic implications. As such, the enrichment process incorporates key metrics such as the date of incorporation, current status, stage of evolution, additional investment (grant and equity post incorporation), regional location, net worth and employment.

The enrichment processes utilise data sourced through Beauhurst (see Methodology), which represents aggregated data to demonstrate the cumulative impacts on the key metrics listed above.

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[13] Based on 788 active spin-outs with a ‘net worth’ value stated within their latest company financial statement return. Please note that the year of the latest company financial statement return may be different (e.g. 2020/21, 2021/22, 2022/23) depending on when annual returns are due and whether they are up-to-date.

[14] Beauhurst ‘latest post-money valuation’ data. Please note that the purpose of UKRI’s grant funding may not be specifically to derive a spin-out and that the funding has helped to secure progression of the research, innovation and inventions along the technology and/or market readiness levels to a position that led to the creation of the spin-out

The metrics included in this analysis present a snapshot in time at a UKRI-total level (see the 2023 Spin-outs Dashboard for breakdowns by Council and/or current spin-out status). The analysis does not attempt to assess additionality of funding leading to the creation and success of spin-outs; it presents insights into the commercial measures and values associated with them.

Methodology

The spin-outs figure reported in the UKRI Annual Report and Accounts are derived from an internally verified and curated data set on spin-outs, with the initial data source being Researchfish (see Data Sources and Caveats) and Innovate UK's Project Completion Form.

This data set is then internally verified and curated to ensure that the spun-out company information is correctly formatted; represents a "true" spin-out as per UKRI's definition[15]; and is linked to appropriate funding and award numbers. This process is undertaken annually in preparation for inclusion in the UKRI Annual Report. This spin-outs analysis has been completed using the final spin-outs data set for 2022-23.

The enriching process utilises code mapping through company registration numbers (CRN's) and checked against registered company names, accepting that some company names may have changed. A combination of FAME and Companies House records were also used where discrepancies appeared.

The CRN mapping allowed the UKRI spin-outs data set to be matched to associated company records held by Beauhurst, including annual financial statements and Beauhurst proprietary "tracking" data. Once imported, this additional data was then used to calculate the collective totals and category breakdowns as appropriate.

In addition, grant numbers associated to spin-outs records were split into different research councils [16], accepting that different types of relationship can occur (see Data Observations and Caveats):

- One-to-one – one grant is associated with one spin-out
- One-to-many – one grant is associated with more than one spin-out
- Many-to-one – more than one grant is associated with one-spin-out
- Many-to-many – a combination of the same grants can lead to a series of the same spin-outs.

The enriched data set was then uploaded onto a Tableau dashboard, with accompanying charts designed to allow for quick and easy understanding of the impact by Council and by Companies House spin-out status.

Data Sources and Caveats

Researchfish

Researchfish has been the principal route for researchers receiving UKRI funding to record the outcomes and impacts of their research. Researchfish has been used by all the research councils since 2014.

Outcomes and impacts in Researchfish are self-reported data. Although completing the Researchfish questionnaire is a condition of most grants issued by UKRI and response rates are high (95%+), it is not possible given the overall volume of data submitted to verify that records are correct and up-to-date in any given release. The internal verification process sought to clean identifiable issues, such as incorrect

[15] "A 'true UKRI spinout' company is an officially registered* company, charity or non-profit organisation that was created to commercialise/exploit the outcomes of UKRI investment" *Official registries include: Companies House (UK), Charities Commissions for England/WalesCom, Scottish Charity Regulator (OSCR), The Charity Commission for Northern Ireland, Other official registries outside of UK

[16] Research Councils consist of Arts and Heritage Council (AHRC), Economic and Social Research Council (ESRC), Engineering and Physical Sciences Research Council (EPSRC), Biotechnology and Biological Sciences Research Council (BBSRC), Medical Research Council (MRC), and Science and Technology Facilities Council (STFC)

or misspelt company names, or incorrect/mistyped CRNs. It also confirmed the records as “true” spin-outs and only spin-outs verified as true have been included.

Similarly, Researchfish does not contain records of all spin-out companies that can be traced to selected programmes (see below).

It is beyond the scope of this analysis to fully review and correct these issues and challenges. At the time of writing, Researchfish remains the most comprehensive source of outcome data available for UKRI Research Councils. Since Researchfish does not hold details on all spin-outs supported by UKRI (see below), the data set in this report should not be considered as exhaustive.

UKRI Annual Report and Accounts spin-outs reporting

The 2023 UKRI spin-outs analysis is based on the number of spin-outs (1167) identified in the 2023 Annual Report. The purpose of using this figure as a baseline is to ensure that impact data can be linked back to a published figure of spin-outs across UKRI that already exists.

However, it is important to note that this published UKRI figure does not represent all of the spin-outs:

- The published figure (1167) covers spin-outs incorporated from the period from 2004 to current, however the overall UKRI spin-outs data set contains spin-out records pre-2004. Some of these spin-outs remain active and are therefore having impact.
- The published figure excludes spin-outs that have been formed overseas but emanated from UKRI funding.
- Issues over spin-out definitions and the inclusion (or otherwise) of community interest companies, charitable and not for profit companies means that some councils, for example the Economic and Social Research Council (ESRC), the Arts and Humanities Research Council (AHRC) and the Natural Environment Research Council (NERC), may mean that the overall UKRI spin-outs data set is also underrepresented.
- Innovate UK funding through the ICURe programme, which is a pre-accelerator programme designed to help explore the commercial application and potential of UK research, has led to the creation of 284 newly created companies (as of 2024). The impact of the ICURe programme were not incorporated into this analysis.

Beauhurst

Beauhurst – a proprietary dataset - utilises a combination of company financial statement returns to Companies House plus its own analysis of proprietary tracking data for the purposes of defining, for example, company evolution and its post-money valuation.

Key considerations concerning Beauhurst data include:

- The data was extracted in July 2023 and represents a snapshot in time
- There may be time lag effects and certain inaccuracies in data transfer from its sources to the position that the snapshot is taken, particularly in the reporting financial statements.
- The proprietary tracking system that Beauhurst uses is subject to that company being identified by Beauhurst as fulfilling one or more of several “tracking triggers”[17].
- The tracking criteria includes the company being a recognised “research institution spinout”, however whilst Innovate UK does provide data that feeds into Beauhurst, the wider UKRI spin-out data is currently not linked. Therefore, not all of the spin-outs in this analysis are recognised as a spin-out by Beauhurst, and so not all have been tracked.

[17] What are the Beauhurst Tracking Triggers? | Beauhurst Help Center

Analysis that involves “tracked” Beauhurst data (for example, stage of evolution and post-money valuations) therefore cover a sub-sample of UKRI spin-outs. Moreover, these sub-samples are likely to be geared to spin-outs gaining support, such as additional grants or equity investment, or demonstrating innovative technologies, meaning that a bias towards high risk, high growth companies is likely to feature here.

Place-based Data

Analysis involving place-based data, such as location and number of employees by International Territorial Level (ITL) 1 regions, is based on the location of the main “registered office” for the spin-out. Spin-outs with additional offices in other regions will not be reflected in this analysis.

Often referred to as the “head-quartering effect”, some registered office locations may be a distance from the main centre of operations. For example, the registered office may be in London but the main centre of operation may be in Shrewsbury. As such, please treat the place-based figures as indicative of the geographical spread of impacts.

Council involvement in spin-outs

Since one grant can lead to multiple spin-outs, double counting may appear in the data. UKRI grants will also support other research and innovation outputs that may not be associated with the spin-out, making it challenging to address double counting and apportionment.

It is also important to recognise that the overall grant values are associated with research and innovation (R&I) outcomes rather than spin-out impacts. The fact that a spin-out has emerged from an award suggests the “commercial” merit of the initial investment into R&I, but it should not be forgotten that progressing R&I was the principal purpose of the award. Therefore, the value - either at a total level or council level - should not be viewed as a formal return on investment figure.

Nevertheless, the initial UKRI investment, when coupled with any “additional awards” and “equity investment” and contrasted to the “net worth” and Beauhurst’s market valuation figure can be used to present a position on the collective economic and societal impact of this form of research commercialisation.

Companies House status

The status of each spin-out company is derived from Companies House, with this data available through Beauhurst. It should be noted that active companies may not be fully trading or operating. This can be particularly true of spin-outs where the research may still be ongoing when the company is incorporated.

This may be used for the protection of company names and website domains, or as a means of aiming to raise awareness of the commercial potential of the product or service to boost trade when finally launched.

As a result, whilst a spin-out may be formally identified as active or dormant by Companies House, it is beyond the remit of this analysis to determine how “operational” they are. Beauhurst’s company “life-stage” metric has been used to exemplify this, however not all active spin-outs are tracked and thus this represents a sub-sample of spin-outs.

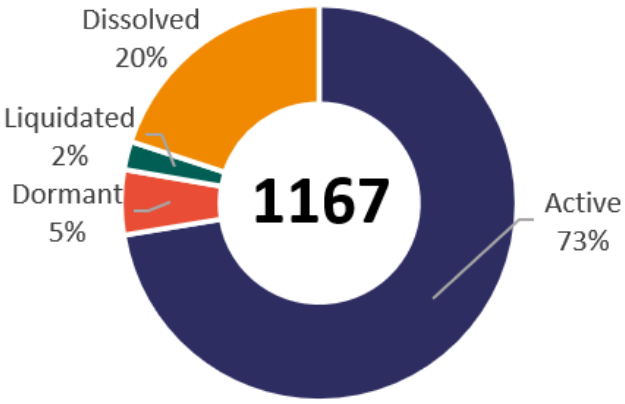
Analysis

Current Stage of Evolution

Spin-outs, as with any company start-up, will face survival challenges as it evolves.

As can be seen Chart 1, **over three-quarters (78%) of UKRI enabled spin-outs remain formally active as of July 2023, albeit 62 (5%) of spin-outs are considered dormant. The remaining spin-outs are either dissolved (20%) or in liquidation (2%).**

Chart 1: Spin-out Status as of July 2023



In terms of the Stages of Evolution[18] (based on 579 spin-outs):

- Half (294/51%) of active (and tracked) spin-outs are considered at "seed stage", which Beauhurst defines as:
    - *a youngish company with a small team, low valuation and funding received (low for its sector), uncertain product-market fit or just getting started with the process of getting regulatory approval. Funding likely to come from grant-awarding bodies, equity crowdfunding and business angels.*
- Just under a third (30%) are at a "venture" stage, defined as:
    - *a company that has been around for a few years, has either got significant traction, technology or regulatory approval progression and funding received and valuation both in the millions. Funding likely to come from venture capital firms.*
- Under 10% are considered "growth", which Beauhurst suggest is:
    - *a company that has been around for a few years, has either got significant traction, technology or regulatory approval progression and funding received and valuation both in the millions. Funding likely to come from venture capital firms.*

In addition, 5% of active spin-outs are considered "dead" (which in this context means that they are likely to be dissolved, but the status is not yet formally defined on Companies House) or "zombie" (similar to "dormant" but with the caveat that the company was visibly active (e.g. website was still accessible) in the recent past).

[18] Beauhurst categorise companies into stages of evolution using over 40 proprietary criteria, which vary based on the complexity of intellectual property, with Beauhurst taking a balanced view with each decision. This has been done for 702 (60%) of the ARA spin-outs, of which 579 are still 'Active' based on Companies House information. The Stage of Evolution section of the chart focuses only these 'Active' and 'Tracked' spin-outs. See here

The Beauhurst tracking system has also identified that 53 (5%) of spin-outs have "exited". Exiting means that the spin-out company has been the subject of an Initial Public Offering (IPO) or has been acquired. Acquisitions come in different forms, with the initial spin-out company sometimes remaining (and therefore active) but operating through a parent company, whilst in other instances the spin-out company will be subsumed within the acquiring company. In both instances, Beauhurst will cease tracking from that point, although Companies House records may take some time to update. Similarly, some spin-outs may be considered active by Companies House, but Beauhurst tracking considers them "dead" due to a lack of viable business activity.

Further, 37 spin-outs are considered "active but exited" (i.e. operating under a parent company) whilst a further 16 are considered "dissolved but have exited" - i.e. they have been subsumed into another business entity through a merger or acquisition.

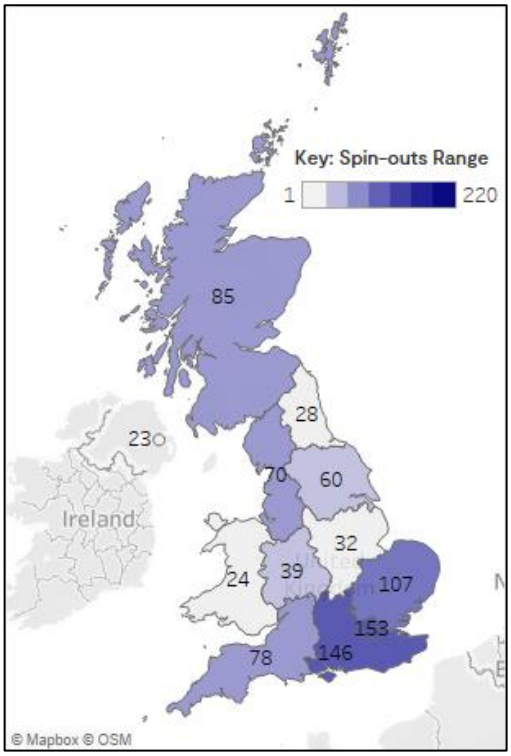
Location

Spin-outs have been created in all of the UK's nations and regions[19]. London and South East England together account for just over a third (35%) of spin-outs. Including the East of England (12%), this becomes almost half (46%). Scotland (11%) and England's South West (9%) follow. The least amount of spin-outs have been created in Northern Ireland (3%) and the North East (3%).

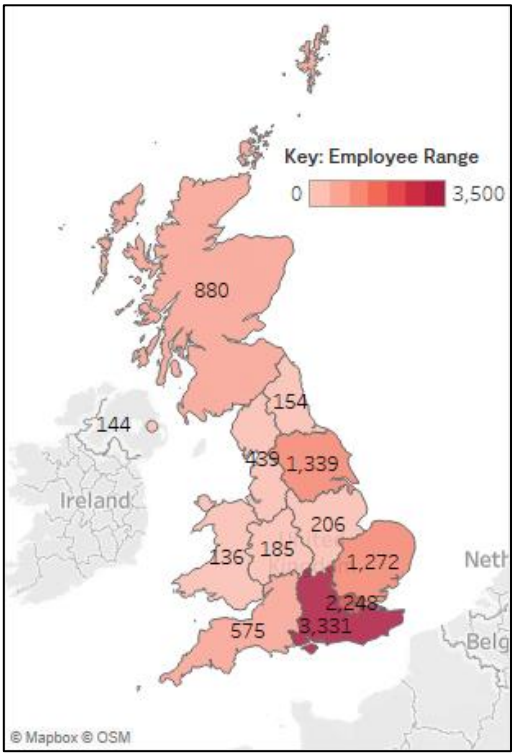
The employment figures are based on 711 (66%) of the spin-outs that have filed Companies House account returns, albeit this is related to the point in time that the accounts have been filed. The figures obtained indicate that these spin-outs are or have supported over 11,300 employees, the vast majority of which (c.10,900) remain in active spin-outs today.

Chart 2: Location of spin-outs and concentration of employees by UK region[15]

Spin-outs by UK region



Spin-out employees by UK region



[19] Based on Registered Offices (see Caveats)

All regions are represented in terms of current spin-out employment, however there is substantial variation.

Wales, Northern Ireland, and England's North East, and West Midlands each have less than 200 active employees associated with UKRI-enabled spin-outs. Conversely, England's South East (over 3300 employees) and London (c.2250 employees) have a considerably higher number of associated employees. Yorkshire and Humberside has a comparatively strong representation of total spin-out employees (c.1300) due to one spin-out having a 900+ strong workforce.

Council involvement

UKRI investments combined to enable spin-out activity in UK Higher Education Institutions

All Research Councils[20] have contributed to the development of spin-outs, but of the 1167 spin-outs EPSRC has contributed to half (50%). A further quarter (24%) have been supported by MRC, and one in six (15%) by BBSRC. Multiple Council support has been reported for 87 spin-outs. EPSRC (57 occasions), MRC (55) and BBSRC (51) have been involved in the most incidences of multiple council support.

To confirm this, the table shows that the strongest "combined" Council support for spin-outs comes from BBSRC and MRC (26 spin-outs), EPSRC and MRC (21 spin-outs), and BBSRC and EPSRC (17 spin-outs). In addition, all three of these Councils have been involved in supporting the same spin-out on 7 occasions.

Survival Rate

Over half (54%) of the active (845) spin-outs formed over five years ago, demonstrating good longevity of spin-out businesses once established[21].

Of those spin-outs that have dissolved (233), over half (56%) did so within the first five years of incorporation. This demonstrates that spin-outs remain susceptible to the types of challenges that the early years of development and growth pose to any business.

Nevertheless, and to place spin-outs within context, ONS data indicates that the five-year survival rate for UK businesses born in 2017 was 40%[22]. By comparison, the survival rate of spin-outs formed over the same period (i.e. 2017 to 2022) was 81%. This means that the odds of survival of UKRI-enabled spin-outs is higher by 41 percentage points than the UK average for business start-ups.

As mentioned previously, some dissolved companies have done so due to being acquired and subsumed into a purchasing company. In this context, the commercial performance, personnel and intellectual property associated with the spin-out company will remain in the new structure – thus there is a continuing impact. Based on the tracked Beauhurst data (see Beauhurst Performance Metrics – Stage of Evolution), at least 16 formally dissolved spin-outs have exited.

Importance of additional grants

Of the 1167 spin-outs, 538 (46%) have received some form of additional grant support since incorporation. **Altogether, these spin-outs were subject to 1728 additional grants worth £473.3 million.**

Innovate UK (IUK) has been a critical funder in the support of these spin-outs, providing grants to 90% of all spin-outs recorded as having received additional funding support. There are many other additional

[20] Research Councils consist of Arts and Heritage Council (AHRC), Economic and Social Research Council (ESRC), Engineering and Physical Sciences Research Council (EPSRC), Biotechnology and Biological Sciences Research Council (BBSRC), Medical Research Council (MRC), and Science and Technology Facilities Council (STFC)

[21] Based on Incorporation date

[22] ONS Business Demography UK (2022) – Figure 2: The Five-year survival rate for UK businesses born in 2017 is 39.6%

funding sources that have supported spin-outs, including Bank of Ireland, the British Business Bank (BBB), Horizon 2020, and Scottish Enterprise.

Additional funding substantially improves the survival rate of spin-outs. Spin-outs that have received an additional grant have a much greater chance of survival – i.e. the chances of those who have received funding still being active today is 25 percentage points higher (at 85.9%) compared to those not in receipt of additional funding (60.9%). Conversely, those spin-outs that have not received some form of additional funding are three times more likely to be dissolved and four times more likely to be dormant.

As a result, continued funding support seems correlated with spin-outs survival. This reinforces the analysis by the British Business Bank (BBB) in conjunction with UKRI data which found that: "Research Council spin-outs with support from both Innovate UK and BBB have almost double the survival rates and much stronger employment growth."[23]

Equity Investment

Just over four in ten spin-outs (42%) have secured equity investment, with a total of 1652 individual investments being made across 493 spin-outs (just over three investments per spin-out). Altogether, these investments are worth in excess of £6.2bn[24].

As with grant support, spin-outs that have secured equity investment have a much stronger chance of being active today, by nearly 25 percentage points.

Altogether, 13 spin-outs have secured equity investment of over £100m, with the largest equity investment for a single spin-out being over £850 million. At the other end of the spectrum, the lowest amount of investment raised was £5004, which was secured by a company that is now dissolved. However, less than a tenth (8%) of spin-outs have raised £100,000 or less, whilst nearly two-thirds (65%) have raised over £1m each, with the median investment being £2.3m per spin-out where investment has been secured.

Spin-outs Net Worth

As registered companies, the spin-outs are required to file annual accounts with Companies House. Filed accounts have been entered on Beauhurst for 1076 (92%) of the 1167 spin-outs.

Of the 91 companies where account records currently do not exist, 57 are active but have only been incorporated since 2021. In these instances, account records do not yet need to be submitted (or may have been delayed). The remaining 34 spin-outs concern dissolved (33) or dormant companies.

For accounting purposes, most of the spin-outs are classified as "small companies"[25]. Small companies have special provisions in the Companies Act 2006 to disclose less information than medium and large companies. Small companies do not disclose a value for turnover, making it difficult to ascertain an overall spin-outs value based on this metric.

As an alternative, net worth[26] is a metric contained within the majority of filed accounts and therefore acts as a measure for the current value of spin-outs, albeit with limitations.

The overall net worth of the current all spin-outs that have returned accounts is over £2.2bn[27], with the majority of this retained in active companies.

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[23] backing-innovation-led-businesses-2022.pdf
[24] Not all investment values have been disclosed. The value figure comprises only those values that have been disclosed and reported on Beauhurst
[25] see Companies House accounts guidance - GOV.UK (www.gov.uk) for conditions classifying a small company, but to note this includes having a turnover of less than £10.2 million and less than 50 employees
[26] Net worth is based on total value of all company assets minus all company liabilities only and does not take account of other factors such as intangible assets that could include patents. The combined net worth figure also deducts those with a 'minus' net worth. A 'minus' net worth figure could be due to significant investment in plant and materials being made by these companies as they progress the Technology Readiness Levels (TRLs).
[27] Based on last returned accounts, which has a date range of between 31/01/2020 and 31/05/2023

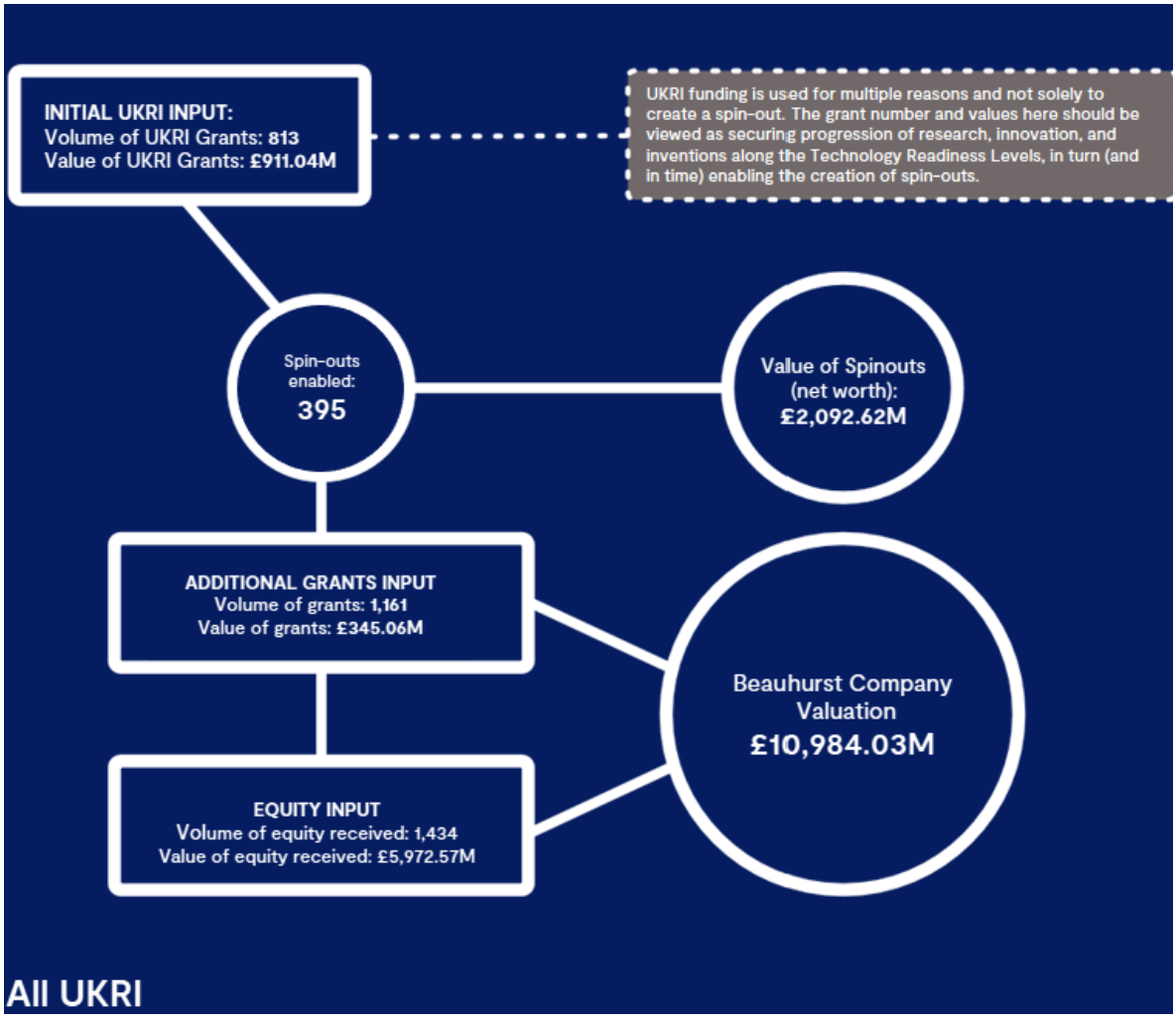
Company Market Value

Beauhurst provides an additional indicator on the worth (market value) of a company for certain companies that it tracks. The market value is calculated by Beauhurst based on company information on the number and types of shares, share values, grants and fundraising. The market value calculation has been completed for 455 spin-outs, of which 395 are still active.

The following chart denotes the market value and compares it to the Companies House “net worth” value of the same companies. It is also shows the initial volume and value of UKRI grants that have given rise to the spin-outs, plus the additional grants and equity investments that have sustained these companies.

As the chart indicates, **the market value for these companies is nearly £11bn.** This is over 5-times more than the net worth value for these spin-outs. The market value is also a third more than the combined value of the various inputs that have both led to and supported the spin-outs.

Chart 3: Indication of inputs and company values associated with a sample of spin-outs tracked and provided with a market valuation by Beauhurst (taken from the UKRI Spin-outs 2023 Dashboard)



Although the market value cannot be considered a return on investment, it demonstrates that the market value of these UKRI funded spin-outs outweighs the cumulative investments that are made to both bring them to fruition and help sustain them.

Conclusion

This analysis of the volume and value of UKRI-supported spin-outs represents a preliminary attempt to develop an overview of the collective impact of spin-outs enabled by UKRI investments. The analysis indicates that UKRI's collective value goes beyond investing in research and development and is leading to viable spin-out companies that are having real-world impact. These organisations create jobs, attract inward investment, survive for longer, and generate further financial value to their local economies.