

Evaluation of Innovation Loans

Final Interim Report to Innovate UK

September 2019



SQW

Executive Summary

Introduction

1. In the 2015 Spending Review it was announced that the UK Government would introduce new finance products to support innovation. Innovate UK worked with the Department for Business, Energy and Industrial Strategy (BEIS) and other partners to develop a new repayable finance product – innovation loans – with the objective of bridging the funding gap for innovative businesses whilst also providing value for money for the taxpayer. Government funded loans for innovation are new to the UK and the Innovate UK pilot is running over two years across financial years 2018/19 and 2019/20. A total of up to £50 million was available for business innovation projects, with UK small or medium-sized enterprises (SMEs) able to borrow between £100,000 and £1 million. In 2019, the pilot was extended with £25m additional funding.
2. The innovation loans pilot programme is delivered by Innovate UK and this evaluation covers five competitions for applications delivered sequentially, commencing in November 2017. These were sector specific competitions (Infrastructure Systems, and Manufacturing & Materials Readiness) as well as three open competitions. The loans are for SMEs that want to scale up by developing new or improved products, processes or services through for late-stage research and development (R&D) projects that have a clear route to commercialisation.

Overall conclusions

3. The evaluation draws on evidence from telephone interviews with 38 businesses (including 10 as case studies) that received an innovation loan. The interviews covered all five competitions. This was 70% of those that had started to draw down the loan at the time of the interviews (June and July 2019), and represents 56% of the total of 69 businesses that have signed a loan agreement. We also undertook telephone interviews with 78 unsuccessful businesses.
4. **At this interim stage, we conclude that the innovation loans pilot has been very successful.** From both the telephone survey and our case study discussions with businesses there is no doubt that it provides much needed finance for innovation, filling a gap in the funding landscape. **In delivery, Innovate UK has built up good relationships and the support is highly valued, reflected in the levels of satisfaction reported by the businesses. The customer journey, including the application process, is well structured, clear and transparent.** Businesses understood what was expected of them at each stage and generally valued the prompt decision making.
5. Communication and bespoke support from the innovation loans team is considered to be more responsive than from private sector and other grant funding programmes. Businesses referenced “support that [went] beyond just lending money” and described Innovate UK staff as knowledgeable, helpful and “[wanting] to see the project succeed...you don’t get that proactive attitude in the private sector – it’s refreshing”.

6. The evidence from businesses is that they could not get this funding, for this purpose, from any other sources (95%) and that the loans have subsequently accelerated and/or scaled up projects in a way that would not have been possible otherwise. The loans have also been important in helping businesses secure a significant amount of follow-on funding, increasing R&D investment and creating high value research jobs.
7. The scale of the economic impact (and value for money) will ultimately depend on the extent to which this pipeline of investment converts into new sales and GVA. At this stage, we would say that the results are very encouraging, and the follow-on investment gives confidence about the prospects of significant financial returns. This equity funding also brings the commercial expertise of the investor, further enhancing the chances of success for businesses.
8. The Business Case (2017) for the pilot estimated a probability of default, based on historic proxy data, of 59% (as a central case). The actual pilot portfolio has a default probability ranging from 19% to 25% (central case). More information will be obtained over time as borrowers operate their loans and succeed or fail as businesses. According to Innovate UK, no defaults had occurred to date.
9. There are three areas that should be considered further as the pilot is developed. These are around how the loans can broaden their reach (particularly geographically and for more established innovative businesses), how to strengthen integration between innovation loans and other Innovate UK funding, and the importance of monitoring demand following the change in interest rate.

Evaluation objectives

10. The overall objective of the interim evaluation is to assess the delivery of innovation loans using a formative (i.e. process) approach and to make an early assessment of progress towards intended outputs and outcomes. In doing so, it provides the opportunity to evolve and refine the policy and its implementation for scaling up/wider roll out. Specifically, the interim evaluation seeks to answer the five evaluation questions:

Table 1: Interim evaluation questions

1. What is the interest in, and demand for, the pilot products?
2. What is the nature of the businesses applying, and the projects which form the focus of the applications for funding?
3. What would have happened to the innovation projects supported if they had not been offered these loan contracts?
4. How effective are the processes of implementation and what are the experiences of the customer journey?
5. What evidence is there of progress towards the achievement of intended outputs, outcomes and impacts?

Source: Study Specification (2017)

11. We completed the following main research tasks as of August 2019:
 - an early review of businesses that had initially shown interest in innovation loans but did not make an application – two online surveys and two papers with findings from them (see below)

- early review of the delivery process – interviews with Innovate UK officials involved in implementation of the pilot: programme leads, representatives from application assessment team, credit assessment, and monitoring officers (see Annex A)
- telephone interviews with 38 successful businesses including 10 as case studies (initial and follow-up case study interviews)
- telephone interviews with 78 unsuccessful businesses
- review of programme documentation and monitoring data.

Interest and demand for innovation loans (Section 4)

12. **Interest in, and demand for, innovation loans has been satisfactory overall.** The pilot received 393 applications seeking £200m in funding, representing four times the capital available for commitment. However, demand in the first two competitions was slower than anticipated. These initial competitions were quite niche in scope. The pilot has learned from this and the later, open competitions, have attracted greater demand.
13. The fifth competition received more than double the number of applications than the first. The pilot programme aims to deliver a target of 100 loans, worth up to £50m, over a two-year period (by spring 2019). To date 73 offers have been made and, of these, 69 loan agreements have been signed. The open competitions have made a big difference. The average loan value is nearly £700k compared to £500k estimated in the Business Case (2017).
14. The applications covered a range of projects from artificial intelligence, internet of things to advanced robotics. The most common project areas were process and manufacturing design technology; smart infrastructure; electronics, sensors and photonics; and energy efficiency. In terms of geography, London, South East, East of England, and North West, made up nearly 70% of the applicants and are the recipients of c. 60% of the loans. In terms of loan agreements signed, the top four regions were: Greater London, South West, South East and North West.
15. Two early review surveys of non-applicants provided feedback on why businesses registered but did not apply. This highlighted several issues in the early rounds which have been addressed in the later open competitions. Some of these related to building a better understanding of the pilot, such as who should apply and what assessors are looking for.

Assessment of delivery (Section 5)

16. **Overall, the delivery of innovation loans has been good.** There are clear and well defined organisational structures and arrangements in place to implement the pilot programme. The structures, roles, responsibilities and reporting of the Innovate UK delivery team are generally appropriate and fit-for-purpose. The process appears to be working better with each competition call.
17. The businesses interviewed provided positive feedback on the customer journey (marketing, application and agreement, and loan drawdown). A clear majority of businesses also considered the delivery of innovation loans to be good or very good in comparison with private sector finance providers.

18. The main reasons for selecting an innovation loan were: attractive terms and conditions, lower overall cost, the patient payback period and retention of ownership. Businesses felt that compared to other sources, the loans had a greater appetite for risk and a willingness to support firms that traditionally were not able to get finance elsewhere.

Assessment of early outputs and outcomes (Section 6)

19. The business survey covers all five competitions and is reasonably representative of the population of 69 businesses, although it under-represents the fifth open round competition. The total of 38 interviews was 70% of the available sample at the time and 56% of all the businesses that have signed loan agreements.
20. **Nearly all the businesses heard about innovation loans directly from Innovate UK (81%),** primarily through mailing lists and events. More than half (58%) had used the loan to recruit or train staff, while just less than half (42%) had used the funds to acquire capital equipment/vehicles.
21. At the time of application, 15 of the businesses (39%) had also applied for other sources of funding. Of these, 11 had sought equity (not necessarily as a substitute for the innovation loan), while the remainder had applied for other grants and commercial loans (including peer to peer lending).
22. The results of the case studies and survey demonstrate that the loans are filling an important gap in the market. The survey found that 95% of the businesses would not have been able to access this type of finance, for this purpose, without the award (finance additionality).
23. It is still early to report on outputs and outcomes given that the funding is still being drawn down, but there is evidence of businesses progressing projects towards commercialisation:
- **New products, services, and processes** – almost a third (12) of the businesses had introduced a new or improved product, service or process (six have introduced new or improved processes). The remainder expected to do so in the future. The majority of businesses planned to produce products or services that will be new to the market.
 - **Moving towards commercialisation/ progression through TRLs** – 29 businesses (76%) had already progressed a product/service towards commercialisation; 11 of the businesses had moved their project from validation and testing to scaling; and four businesses had moved from proof of concept to validation/testing (Figure 1).

Figure 1: Moving towards commercialisation – how businesses have progressed any products/services towards commercialisation as a result of the innovation loan to date

		Latest TRL				
		Developing basic principles or formulating the concept	Developing the proof of concept or testing in laboratory conditions	Being validated or tested in a real but controlled environment	Being tested and scaled in an operational environment	Fully commercialised and brought to market
Start TRL	Developing basic principles or formulating the concept	1	3	3	2	0
	Developing the proof of concept or testing in laboratory conditions	0	1	4	1	1
	Being validated or tested in a real but controlled environment	0	0	1	11	0
	Being tested and scaled in an operational environment	0	0	0	3	1
	Fully commercialised and brought to market	0	0	0	0	0
Base		1	4	8	17	2

Source SQW/BMG survey – base of 32 that responded to the question. Note: the matrix shows the starting TRL on the left and the TRL at the time of the interview across the top. It shows the combinations of the starting and latest positions. The figures in each cell represent the number of businesses progressing from starting TRL to TRL at the time of interview.

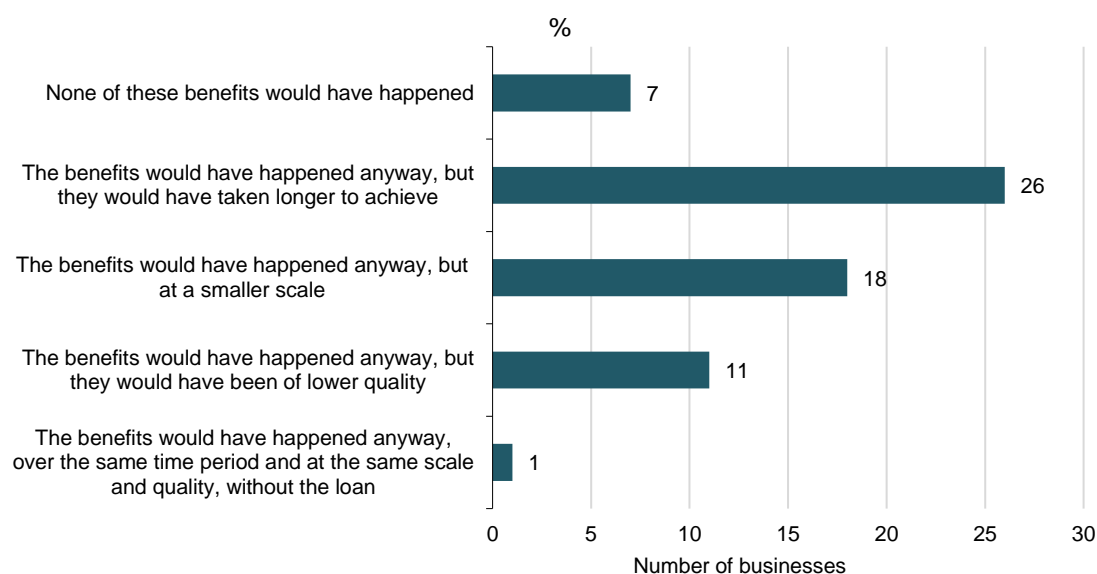
- **Increased R&D investment** – the loans have significantly increased investment in R&D with an average increase of £414k attributed to innovation loans. Applying this average to the 17 cases that reported higher R&D expenditure gives a total increase of £7.0 million to date.
- **Intellectual Property (IP)** – given the relatively short time since many of the businesses were awarded the loan, there has been a high number of IP applications (14 had applied to date and 11 plan to do so in the future).
- **Processes and productivity** – there were six businesses that had introduced new or improved processes to date, and a further 19 expect to do so in the next two years. All believe these processes will reduce costs, and almost all thought it will improve quality and save time.
- **Follow-on funding** – around a third of the businesses have secured follow-on funding so far, worth at least £29 million, and most attribute this to the innovation loans. Nearly all of it was raised through equity (£21 million within the sample) and a smaller amount, £3.7 million, from grant funding. Given the relatively short period since the loan awards, this is very encouraging.

24. The businesses in the case studies also found that the loan improved their ability to raise private sector finance. It acted as an endorsement (or ‘certification’) that helped to de-risk the project for investors and gave the business the confidence to approach investors.

Outcome additionality

25. The pattern of outcome additionality is consistent with the findings from the case studies. These are innovative businesses and, regardless of the loan, they will try to pursue the development of ideas they believe will succeed, eventually. The loan enables them to do this by accelerating development, by allowing activity to be scaled up or by improving the quality of the development. (Figure 2). Among all the case studies, the innovation loan was considered the “important” or “critical” contributory factor to achieving benefits.

Figure 2: Additionality of the outcomes – accelerating projects



Source: SQW/BMG survey (38 cases)

Emerging impacts (Section 7)

26. Despite the relatively short time since many of the businesses had received the loan (and the fact that the loans are still being drawn down) there is evidence of some impacts, particularly on employment. At this stage, this reflects the investments in R&D rather than in scaling up production.
27. The scale of the economic impact will ultimately depend on the extent to which this pipeline of investment converts into new sales and GVA. From the survey and the case studies, we would say that the results are very encouraging. One of the main lead indicators of impact is the high level of follow-on investment which gives confidence about the commercial prospects of these projects.
28. Total employment at the time of application across the 38 businesses was 652 (17 employees per business on average). At the time of our interviews this had risen to 837. These businesses had created 185 new posts. Businesses that received the loan earlier (Infrastructure Systems) have had more time and consequently had grown employment faster.
29. **Three quarters (76%) of the sample reported that employment had increased because of the loan.** All the businesses estimated that in three-years' time they will employ more people, estimating a further 266 FTEs attributable to the loan.

30. There has been less impact on turnover to date. Twenty-four cases provided details of their turnover with the highest turnover reported as £4 million and an average of £938,000. In this context, the loans are clearly a very significant sum for all the businesses. In half the cases (where the business reported turnover data) the loan was greater than their turnover in the last year.
31. Across the sample of 38 cases, 10 businesses reported a combined increase in turnover of £2.8 million, attributable to the loans. While 20 cases reported no impact yet.
32. Taking account of the counterfactual (what would have happened without the loan) and adjusting to reflect the population of 69 loan agreements signed, **we estimate an additional 114 new jobs and £4 million turnover have been supported to date.**
33. One of the aims of innovation loans is to capture direct financial returns through interest income and loan repayments (which may be reduced by losses through borrower defaults). More information on this will be obtained over time as businesses use their loans and grow. As indicated above, the original Business Case (2017) used a higher central default probability estimate compared with the actual pilot portfolio. According to Innovate UK, no defaults have yet occurred, although one business has indicated its intention to enter into a company voluntary arrangement with its creditors.

Evidence from unsuccessful businesses (Section 8)

34. For the unsuccessful businesses (like the successful ones) there were few, if any, alternative sources of funding. Even looking only at the more “investable” cases, a third had been able to find alternative sources of funding. This strengthens the case that the innovation loans are putting additional funds into the market. There was only one case that had found alternative funding after meeting the innovation loans threshold (but had been declined on the basis of the credit review).
35. Where the loans have been made, they have had a significant effect on the timing of R&D and innovation projects. Conversely, where loans were not awarded, firms reported that this has had significant adverse effects on their survival and growth (an indicator of the counterfactual).
36. The survey evidence shows that despite being unsuccessful, businesses felt that they had strengthened their ability to raise and manage investment and improved their investment readiness.

Areas for development

37. The main areas for development of the innovation loans programme are outlined below.
 - Analysis of the programme data suggests that demand (and loans) are concentrated in London and the South East. Given the finance challenges in other regions (including limited demand from more established SMEs), Innovate UK should continue to look at how this can be addressed.
 - Further promotion of innovation loans to finance and business intermediaries - public and private – this is part of a wider issue for Innovate UK/government funding.

- Consider further co-ordination and integration between innovation loans and other Innovate UK funding (including grants) and programmes to accelerate project commercialisation.
- The loan terms have clearly been seen as very attractive and the evaluation findings support the decision to increase the interest rate. It will be important to monitor demand under the new terms.