Patient capital – where are we now?

A REVIEW AND UPDATE

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ACKNOWLEDGEMENTS

While the patient capital review was taking place, we were fortunate to be able to interview a number of industry experts. We also undertook a desktop review of published sources and attended conferences to obtain a broader perspective on the current status of patient capital. This includes helping to define the space and exploring some inherent limitations of the conventional venture funding model.

Many thanks to all those who spent time with us to discuss patient capital. We would especially like to acknowledge input from Victor Christou (then of Cambridge Innovation Capital), Robert Trezona (IP Group Plc), Zoe Clements (Palatine Impact Capital), Garri Jones (then of Numis), Farrukh Khan (Acumen Fund), and Mark Cheng. Quotes are anonymised but included within this report.

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1 The patient capital review – where are we now?

One of the most debated subjects in venture finance currently is 'patient capital'. The UK government's patient capital review was prompted by the possibility that patient capital could help startups access more of the finance they need, so that the UK could then break away from being a place more known for ideas than unicorn successes.

This solution to risk funding is particularly tantalising given the participants involved in debating patient capital. Of course, many of the usual suspects, such as venture funds, took part. But some potential new players – pension funds and other sources of institutional funding – have also been engaged. Understandably, pension funds are not about to shift a major part of their portfolios to venture funding, but with *trillions* rather than *billions* under management, a fraction could make a significant difference to the capital available to startups. Government recognises this is unlikely without help. For one thing, pension funds are more likely to fund the funders rather than become VCs. Securing the right structure and helping mitigate risk could bring capital into the space. And another idea that works for pension funds is one of patience.

Will patience be rewarded?

Some ventures take a long time to become commercially sustainable and achieve their growth potential. Patient capital has arisen in part because of the mismatch between this extended vista and the more limited horizon implicit in the traditional VC structure – a limited partnership of some 10 years' duration. Longer horizons are particularly relevant for sectors outside of the digital space. Furthermore, some funds seek to secure a position with ventures early, notably science-based, university-linked spinouts. Additional strain on the customary 10-year timeline appears when investors seek to avoid a premature exit which would limit the exit multiple and deliver low returns. For a company experiencing exponential growth, even a small amount of time can make a big difference. Hence the need to be patient.

Where are we now?

- The Patient Capital Review was announced by the Prime Minister in November 2016; HM
 Treasury concluded its own review on 23rd January 2017
- The Patient Capital Review Industry Panel, chaired by Sir Damon Buffini, published its response in October 2017¹
- HM Treasury published Financing growth in innovative firms: a consultation response in November 2017
- A £2.5bn patient capital programme was launched on 13th June 2018, which in conjunction
 with the private sector this is expected to bring in £7.5bn of investment for British business².
 Specific initiatives include:
 - £400m existing and approved venture and growth fund commitments
 - o £30m evergreen investment in capital raise of Draper Esprit plc
 - £9m investment in a Dementia Discovery Fund, a 15-year life VC fund
- British Business Investments (the commercial arm of the British Business Bank) launched a new £500m Managed Funds Programme to invest on commercial terms in large-scale funds of funds to boost the amount of patient capital available to UK high-growth businesses.

2 Defining patient capital and the current landscape

2.1 Definition

We adopt the definition used by the UK Patient Capital Review, which focused on "...the supply of long-term capital to both successful start-ups looking to reach large scale, and capital intensive R&D based businesses, such as those spun out of universities".

This approach contrasts with that more common in the US, where patient capital is associated with blending *social* and *financial* returns and is positioned between traditional venture capital and philanthropy.

2.2 Structure of main venture funding vehicles

Fixed term venture capital fund – is usually run by general partners (GPs) who manage the fund and provide an advisory service on investments. Venture funds are raised from limited partners (LPs/investors) who, with the GPs, own a pool of money which invests in a portfolio of ventures. The funds are often established with a 10-year duration (sometimes with an eight-year life and provision for a two-year extension). The managers typically receive an annual management fee (or 'advance share of profits') of around 2% of the fund value and a performance bonus ('carried interest') calculated as a proportion (often 20%) of the uplift in value if the portfolio above a specified 'hurdle' rate (such as an alternative 'safe' investment return) (Figure 1).

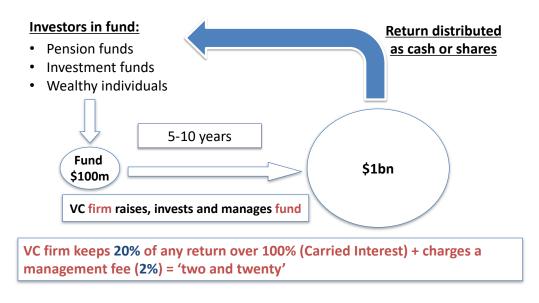


Figure 1 The Venture Capital Cycle (Source: David Gill)

Publicly listed venture capital fund – these funds are listed on a stock exchange, enabling access to shares in the listed company and an alternative means of raising funds. The cash generated from venture exits is returned to the balance sheet for re-investment in other opportunities. This is essentially an evergreen fund which is listed.

Evergreen fund (or permanent capital PE) – this has an indefinite fund life, meaning investors and come and go throughout the life of the fund. Typically the fund is re-evaluated³ every four or so years so the portfolio can be valued and carry incentive calculated, which is when LPs can exit or change their investment in the fund. The evergreen fund only incurs one management fee unlike the fixed term venture capital funds.

Venture capital trusts⁴ (VCTs) — are a UK closed-end collective investment scheme listed on the London Stock Exchange to provide private equity capital for small expanding firms, generating dividend distributions and capital gains for investors. They are a form of publicly-traded private equity introduced by the Conservative government in the Finance Act 1995 and attract various tax reliefs. Vehicles include evergreen and limited-life funds in generalist or specialist areas.

2.3 Current size of patient capital funding

Recently "patient capital" has become a source of investment for the UK's emerging tech start-ups, with some data suggesting it has overtaken traditional venture capital⁵ in research-driven sectors. Without an agreed definition, it is challenging to interrogate the data, but activity suggests significant interest in patient capital. For instance, in 2015 Draper Esprit research indicated patient capital groups had investing \$998m in UK tech-startups, representing 36% of the investment received. Traditional limited partnerships invested \$953m, which represents 34% of funds received⁶. Furthermore, while VCTs have historically tended to be seen as relatively 'safe' tax-advantaged investment vehicles for affluent individuals, recent regulatory changes have refocused VCTs towards innovative sectors (see section 3.4 below). In 2017/18 Venture Capital Trusts raised £745million, 30% more than the previous year,

Globally, evergreen funds are predominantly based in the US (54%), with the UK in second with 20% of funds. The industry focus mirrors that of traditional VC structures with the majority being in software (46%).

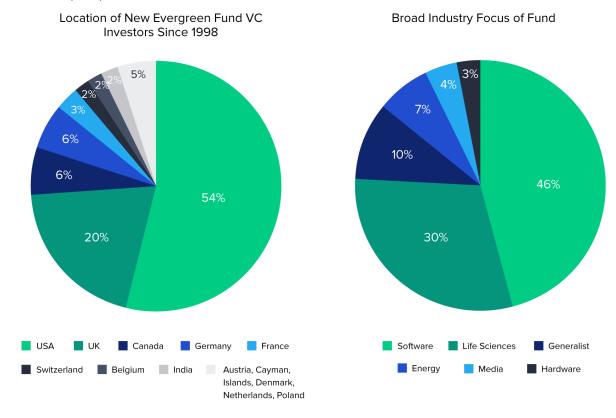


Figure 2 Evergreen fund analysis (Source: Pitchbook)

3 Does the UK have a venture funding problem?

Discussion of patient capital is often based on the assumption that the UK has a venture funding problem which constrains enterprises scaling up and limits returns to investors. The debate is nuanced, but some key data indicate that the UK could do better. But by how much, to what purpose and with what implications for fund structures?

3.1 Does the UK have enough venture funding?

Assuming for simplicity that the UK economy is comparable to that of the US, then when normalised by size of the two markets, the UK has half as much venture capital as the US⁷. However, inconsistencies remain in the data.

For example, data from late 2018 show Europe nearing the US in terms of exits (acquisitions and IPOs) of VC-backed companies with deals of \$107bn vs \$136bn⁸ (Dealroom; see Figure 2 below). \$40 bn of this was from the UK, including exits from Funding Circle, Farfetch, FNZ and Zoopla. Contrasting data suggests a more pronounced difference, with €47.5 billion of exits across the EU in 2018 (Pitchbook).

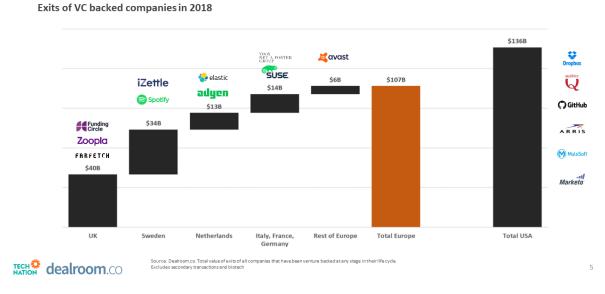


Figure 3 European exits of VC backed companies (source: dealroom.co)

The UK continues to host the most venture activity in Europe. The reasons for this are complex, with no single dominant driver. For instance, patent applications remain a poor indicator of venture activity, as Figure 4 shows. More relevant seems to be the perceived sophistication of the startup and scaleup ecosystem, which tends to be city-focused as geographic proximity enables networking within the ecosystem (e.g. Startup Genome). This reflects prior research conducted by St John's Innovation Centre and others, which examines ecosystems typically at a city level, albeit with the caveat that such ecosystems remain linked to international market and investor opportunities⁹.

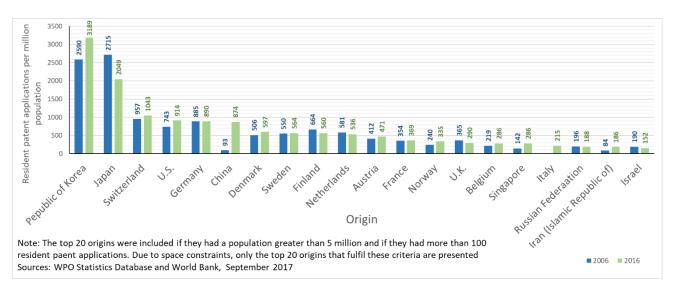


Figure 4 Resident patent applications per million population for the top 20 origins (WIPO Intellectual Property Indicators 2017)

No one indicator on its own establishes the existence of untapped venture potential in the UK, but investors and entrepreneurs alike continue to lament a shortage of risk capital.

3.2 Is the investment duration under pressure?

Does the need for patient capital come from the inference that the current venture capital investment duration is under pressure? That funds predominantly have a 10-year life is true in theory (many are set up that way) but in reality this is not much more than a persistent myth. The data show that most funds activate clauses allowing the timeline to be extended, with one 2013 study in the US showing an average of 14 years or longer (Figure 5).

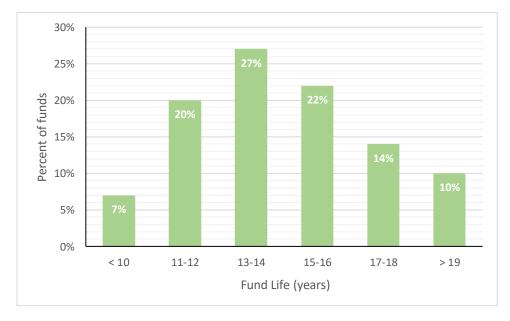


Figure 5 Source: NVCA Yearbook 2013. Adams Street Partners data analysis of the fund life of IT/technology funds 10

3.2.1 Earlier initial engagement by investors.

Increasing investor appetite to secure an equity position early, particularly with science based ventures, extends the life of venture investment at one end of its life. In recent years, this has been facilitated through the emergence of investors who are closely linked to universities and other

research institutions recognised for having a strong science base and venturesome culture (Oxford Sciences Innovation, Cambridge Innovation Capital, IP Group).

Aggregate data mask both the importance of sector and the varying trajectories of different types of tech. Might rising interest in patient capital be a reaction to a "research boom in life sciences benefiting patients and investors alike"? ¹¹ 40% of US venture funding goes to software, but life science funding is increasing. In the UK, the number of life-science deals increased by 3% between 2016 and 2017, with the funds invested increasing by 19%; though this still tracks below activity in 2015, the trend is rising over the longer term (Figure 6). Life sciences remain the second most popular sector for investments. The fundamental investor challenge here is the amount of time required to take an R&D intensive venture to scale:

"...it can take 17 years to build a healthcare business from scratch to exit. It takes eight years minimum...Neither of those models fit into a 10-year fixed life fund vehicle."

"...a 10-year fixed life fund is the wrong vehicle to be investing in deep tech and healthcare businesses."

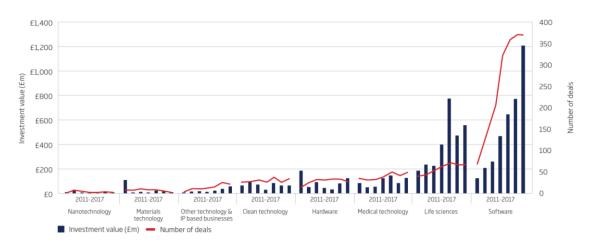


Figure 6 Number and value of equity deals by technology sub-sector (British Business Bank Equity Tracker 2018)

Furthermore, the market has had to account for a new player, crowdfunding, which has overtaken all classes of venture funding other than PE/VC for numbers of equity deals. Does early investment by specialist funds help avoid conflicts with alternative funding streams?

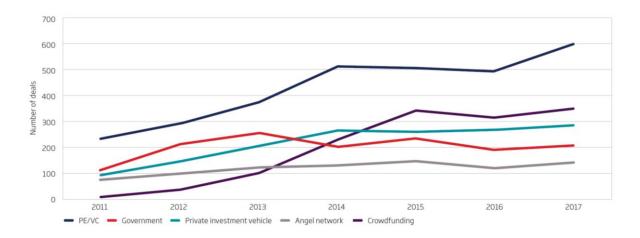


Figure 7 Number of equity deals per year by investor type (Source: British Business Bank Equity Tracker 2018: 28)

3.2.2 Later exits by investors.

At the other end of the investment period, the time to exit is being stretched:

"...companies are going public later and later. It's not necessarily a good thing.

It's a thing."

Estimates vary, with one study suggesting a median time to exit via IPO (or listing on a public market) for a US VC-backed portfolio company was at its peak in 2016 at 8.27 years, though 2017 shows a return to just over 7 years (Figure 8). Alternative exits include acquisitions.

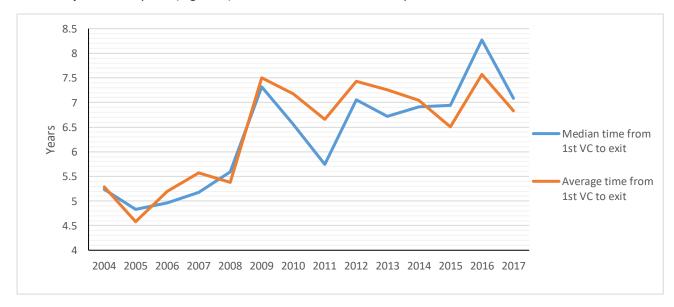


Figure 8 US VC Backed IPO Age Characteristics (Source: NVCA 2018 Yearbook Public Data Pack)

Alternatively as one patient capitalist noted:

"Most people go, 'Well, everyone's funding themselves for 18 months, so if they've done a seed, A, B and C round, that's four times 18, which means six years old'. And I say, "Actually I think you'll find they're about 12 years old."

Financial commentators and policy-makers alike give considerable (undue?) attention to 'unicorns', or private companies valued by their investors at \$1bn or more. Should the UK follow the US, where the structure of the venture industry has made the emergence of unicorns more likely? In recent

years, the US has attracted more funding into the private venture cycle in a way that suggests that series D+ rounds have become a means of keeping companies private rather than risk bursting the unicorn bubble¹² by testing their valuation on public markets. The alternative view is that a longer timeline is needed to secure consistent and well-understood revenues so that the pitfalls of fluctuating valuations on the public market are avoided (Snap can serve as a case study¹³). University of British Columbia research suggests that some unicorns have been overvalued by 170% when different share structures are taken into account, and at least half lose their unicorn status when re-evaluated¹⁴. Time will tell.

As well as the time it takes *VCs* to exit, it is worth examining the *founders' journey* from venture inception to exit, which also indicates some stretching of the conventional 10-year the timeline (Figure 9).

Company	Founded	Exit route	Exit date	Duration
Skyscanner	2001	£1.4bn acquisition Ctrip	Nov 2016	15 years
Funding Circle	2010	IPO	Oct 2018	8 years
Farfetch	2007	IPO	Sep 2018	11 years
Zoopla	2008	IPO	June 2014	6 years
Spotify	2006	IPO	April 2018	12 years
izettle	2010	\$2.2bn acquisition PayPal	Sep 2018	18 years

Figure 9 Examples of time between founding and exits

3.3 Why patient capital now? Is it Brexit?

In 2017 around £3bn of equity investment was deployed to UK scale-up businesses. Of this, around £400m was contributed by the European Investment Fund (EIF), usually matched with private sector capital. The Patient Capital Review Industry Panel estimated that up to a third of venture funding could be withdrawn during Brexit. In April 2018, a report from the European Investment Bank (EIB) said:

"In the wake of Brexit, activity in the UK decreased by 69 per cent year on year, losing the top position it had maintained for years." 15

However, contrasting figures suggest very little impact on the ability of UK startups to raise investment – so far, at least: \$4.8bn (2016), \$8.1bn (2017), estimated \$7.9bn (2018) (dealroom.co)¹⁶.

But further upstream is the impact on R&D. Horizon 2020 is an EU Research and Innovation programme which provides ~€80billion funding over 7 years (2014 – 2020), of which €5.1bn goes to the UK (14.3%). If this funding stalls, the UK government has guaranteed to cover successful bids for UK participants. It remains unclear for UK-led consortia how participants from other countries would have their funding addressed 17, or what relationship the UK can secure post 2020 to maintain access to EU funding (like Switzerland, Norway and others). But perhaps more concerning are issues around the ability to attract talent into the research pipeline from Europe. The recent departure of the European Medicines Agency from London to Amsterdam is not a promising omen.

3.4 Is a lack of follow-on funding and fund size constraining scaleups?

In the EU, VC funds average €56 million in contrast to €156 million in the US. ¹⁸ In the UK, the small size (<£200m) of some funds was viewed by the Patient Capital Report a barrier not only to a fund's ability to deliver follow-on funding to ventures but also to its attractiveness to large institutional

investors, who need to deploy significant sums of money (often multiple tens of millions of pounds) in individual transactions to remain cost-effective and who for reasons of risk-management prefer to have minority stakes in funds in which they do invest. Furthermore, smaller funds have been associated with historically low returns and high charges relative to alternative asset classes. Since 2006, UK evidence suggests a decline in equity investment by pension funds and insurance providers, in contrast with the US, where VC funds use more funding from institutional sources (pension funds, insurance companies, foundations and endowments): 98% vs 55% in the UK¹⁹. Legal and General is an exception and has a dedicated venture capital investment programme²⁰, but many UK pension funds lack depth and expertise in this space, particularly as the sector is heavily fragmented when compared to other G7 countries.

"I would say Legal and General, driven by Nigel Wilson probably at the forefront of this"

In response, the Patient Capital Review recommended the formation of a government-backed vehicle (Patient Capital Investment Company) capable of mediating institutional investment and the deployment of capital into venture funds.

The consultation response on "Financing growth in innovative firms" (HM Treasury, November 2017) identified that the current size limits imposed on the Enterprise Investment Scheme (EIS, or tax reliefs to encourage investment by individuals in smaller firms carrying on a qualifying activity) and VCTs are a constraint on follow-on funding. In response, the EIS limit on individual investments was doubled from £1m to £2m, and the annual investment limit for knowledge-intensive firms was doubled from £5m to £10m for both EIS and VCTs. Furthermore, 'a principles-based test will be introduced into the tax-advantaged venture capital schemes' to ensure investment goes to companies with high growth potential rather than incentivising low-risk 'capital preservation' ²¹.

3.5 Impact on returns

Of course, the carrot for many investors is the promise of returns, specifically generating a premium over listed equities of 2-3%²² as some compensation for the perceived risk and lack of control in the venture space. When a 65% loss rate²³ is expected for early stage investments, the remaining 35% of the portfolio must generate significant multiples of the original investment to achieve acceptable returns. A common rule of thumb is the need for a 30% gross internal rate of return (IRR), which means the portfolio investees *on average* need to return '8X' multiples in 8 years. A four-year exit on the same multiple would demand an IRR of ~70%. Currently, however, the venture space is tracking far below this ambition, with 4.4% for 1996 vintage funds onwards (Figure 10).

Since Inception Performance by Investment Stage and Subcategories to December 2017 - IRR (% p.a.)

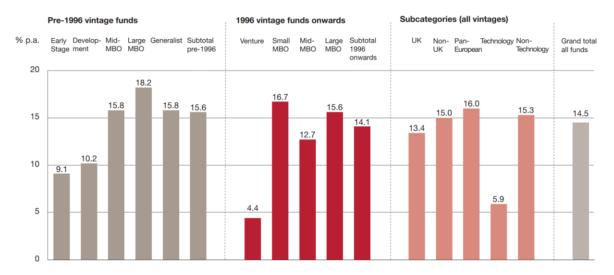


Figure 10 BVCA Performance Measurement Survey 2017 p.4

Whether returns are measured using the right metric is another cause for concern. While the internal rate of return (IRR) remains a common industry standard, the multiple on invested capital (MOIC) can also be a useful reference as it defines the exit value/total VC raised.

"I don't think you ignore IRR. I think IRR only is just a bad way of looking at stuff.

Cash on cash returns is another measure-- I think you need to look at it for two or

three ways."

4 Historical perspective – can Patient Capital learn from the past?

Many of the current issues confronting longer-term investment at scale in transformative ventures (especially those based on commercialising research) have been present since the inception of venture capital in its modern form. By consensus, the first modern venture fund was the American Research and Development Corporation (ARDC) founded by George Doriot of Harvard Business School (HBS), Karl Compton of the Massachusetts Institute of Technology (MIT) and Senator Ralph Flanders of Vermont in 1946 to maintain in the commercial sphere some of the government-inspired war-time collaboration between the managerial skills of HBS and technological prowess of MIT. It was to be a fund managed by a specialist firm, enabling relatively small participations by individual investors in a broad portfolio of investees. From the outset, ARDC had difficulty raising its intended \$5m and settled on \$3m.

Its founders early on recognised both the unusual opportunity inherent in venture funding and the recurrent challenges successor funds would face. Consider the following three contemporary observations:

- 1. First, Senator Flanders reporting on the progress of ARDC on 1st January 1947 and recognising how wholly-disproportionate would be the impact of a minority of transformative firms: 'The post-war prosperity of America depends in large measure on finding financial support for that comparatively small percentage of new ideas and developments which give promise of expanded production and employment and an increased standard of living for the American people.'
- 2. Secondly, General Doriot at the same occasion, identifying how VC as 'smart money' is not fungible with mainstream forms of corporate finance: 'The Company is not a form of bank. It is a builder of new enterprises. Money, skill, knowledge and men are the tools it will use in a program requiring careful planning and long-range thinking.'
- 3. Finally, at the launch of ARDC in 1946 journalist Frank King presaged how often new funds would have difficulty identifying investors and would often rely on knowledgeable supporters to succeed: 'Had not the investment bankers associated with this new company been willing to do a great deal more than ordinarily is expected of them, the new venture might well have died aborning.'²⁴

For present purposes, another intriguing precedent for the limitations of the 10-year fund-life model emerges from ARDC's history. Its first major success was its investment in Digital Equipment Corporation (DEC), made in 1957 – 11 years after ARDC's foundation – and exited with DEC's IPO in 1968 – a further 11 years – producing an IRR of 101% or 500 times its initial stake. Significantly, ARDC was a public corporation and therefore had an 'evergreen' business model. With Doriot's retirement, ARDC was acquired by Textron in 1971, and continues as Textron's venture operation today.

The prototype for a clearly different form of venture capital in the UK began to emerge at about the same time as ARDC. In 1945, the Industrial & Commercial Finance Corporation (the predecessor to 3i, or 'Investors in Industry') was formed by the clearing banks with some leadership from the Bank of England²⁶. In 1994, 3i was floated on the Stock Exchange. The clearing banks took their profits and 3i moved into larger, later-stage investments. In September 2009, it sold off its European venture portfolio. Despite its later retreat from early- stage and growth investment, in the previous three decades 3i had been the outlier among British Venture Capital Association members:

'3i's relationship with the rest of the venture capital industry during the 1980s was at best ambivalent'²⁷. 3i did not become overly focused on later-stage, MBO-related transactions and differed in continuing to fund longer-term, earlier-stage, equity proposals with conservative gearing compared with its newer competitors and hence more sustainable debt burdens for growth firms.

Before its IPO, 3i could behave in this way because its private ownership granted it some freedom from short-term performance measures; its culture favoured collective endeavour and long-term thinking, and (with the exception of 3i Ventures, from 1982 to 1991) it did not provide individual incentives in the form of a carried interest²⁸. Ironically, what should have enabled 3i to become an evergreen fund with long-term thinking – its IPO – led it to become a more conventional private equity fund, and abandon its origins in the venture space.

5 Summary and Conclusion

Revisiting what prompted the patient capital review and subsequent developments, we sought to address some of the fundamental questions of venture finance:

- Is there enough venture funding?
- Are there structural constraints on venture funding?

Whether patient capital is the solution remains uncertain. It is unlikely to harm venture investment, and the possibility of bringing in additional capital from institutional funds is tantalising. Whether this will boost returns remains unclear. Some evidence suggests that the current fixed term LP/GP structure of 10 years does not sit well with all sectors, particularly R&D intensive ones such as life sciences. Likewise, the duration of investments is being stretched not only by funds seeking to invest early but also by their pushing out the exit date to avoid the potential pitfalls of going public or being privately valued before the business model and revenue trajectories are secure. In summary, the raisons d'être of patient capital premise are:

- a) The *opportunity* for more follow-on funding, with the alluring prospect of better returns by being more patient
- b) The *prospect* of pension funds and other institutional investors increasing the pool of capital available for startups.

To achieve greater longevity, evergreen structures need to be considered from the outset. In some cases, this may mean going public, but mitigating the short-term pressures inherent in stock markets (as 3i found after its 1994 IPO), including the risk of being broken up by arbitrageurs who spot that underlying assets are worth more than the share price. A core of supportive long-term investors sharing the mission of a quoted patient capital fund is required: for instance, trusts and endowments with a similar ambition to see new medicines commercialised for social and not simply financial reasons. Furthermore, IRR is a metric of limited utility as it inherently encourages short-termism; cash-to-cash multiples are more realistic, and other metrics (such as multiple bottom lines) also need to be identified. As the cadre of specialist patient capital managers grows again, the asset class can justify taking on greater allocations of pension fund investment.

The conundrum remains: how to kickstart patient capital before proving the opportunity? The most compelling evidence that the patient approach works would come from those who already describe themselves as patient capitalists. Unfortunately, these funds have yet to prove their model as they have not been active for long enough for the results to be clear. Furthermore, remodelling the VC industry towards a single model is not desirable as this would not deliver the variety of funding needed by an inherently diverse set of ventures.

5.1 What's next?

The patient capital review has prompted other questions of the venture space. A timely one is whether the people responsible for directing funding to ventures are representative of the demographic groups seeking funding, including diversity by gender and ethnicity²⁹.

Another emerging issue related to patient capital is what it can derive from impact investment, often seen as a forerunner of the patient capital trend as it balances social impact with financial returns³⁰. Given the accelerating urgency of the UN's sustainable development goals³¹, perhaps impact investment should be desperately impatient. But questions on the quality of deal flow and possibility

of exits continue to raise uncertainty between the balance of returns from social and environmental criteria (impact) and financial returns.

Finally, several of our interviewees referenced 'conviction capital' (where principals invest their own funds with minimal diligence or other formal review process) as a useful adjunct to the patient approach, noting that delays in the deployment of venture funding which can be devastating for cash strapped entrepreneurs. Additional research is needed to unpick if this perspective has an empirical basis.

6 ENDNOTES

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https://www.british-business-bank.co.uk/2-5bn-british-patient-capital-programme-launched-enable-longterm-investment-innovative-companies-across-uk/

³ A challenging task! Returning deployed capital mid-investment presents other challenges, especially if many LPs do a capital call at the same time. https://www.axial.net/forum/evergreen-fund-structure/

⁴ Created by the Conservative government Finance Act in 1995

⁵ Ahmed, M. (2015) "Patient capital overtakes VC for UK tech groups" Financial Times, November 1st (https://www.ft.com/content/d6420472-7f0f-11e5-a1fe-567b37f80b64)

⁶ Ahmed, M. (2015) "Patient capital overtakes VC for UK tech groups" Financial Times, November 1st (https://www.ft.com/content/d6420472-7f0f-11e5-a1fe-567b37f80b64)

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