

Innovation can be at the heart of our nation if we give it the help it needs

LEADING business-friendly female Scots politician caught giving public money to risk-laden private enterprises! Or: Nicola Sturgeon's announcement this week of a £78 million, helping smooth the way to Scotland as an "innovation nation", no less.

You may well roll your eyes back till the scary white bits show – particularly if you've been the subject (or more accurately object) of some "innovation" programme in your workplace. But roll them back downwards: this really matters.

Like any other developed-world economy, Scotland needs to find a way to raise itself steadily out of its own deficit hole, the sides made slippery with fiscal, demographic and many other challenges.

Making new stuff that the planet wants to buy or use is at least something we can actively get on with. It's also based on a national resource which is in potentially infinite supply: the imagination and energy of our people.

But there are some unresolved dilemmas at the heart of innovation policy that we're steadily working our way through in Scotland. One key debate is about where best to put public money, in order to generate the most powerfully innovative companies. The two contending approaches seem to be "upstream" and "downstream" innovation.

"Upstream" innovation is recognisable from the pages of Wired magazine, or movies such as *The Social Network*. Nesta, the innovation charity (to which, let me disclaim, I am contracted as a curator) describes "upstream" as the combination of "cutting-edge university research, entrepreneurial finance, and fast-growing new businesses, especially but not only in the technology sector".

The metaphor means, I guess, that innovation comes best from incredibly fertile and powerful initial conditions. Innovation is a ground-breaking force, bursting through the crust of convention and complacency, providing a new flow of possible products and services.

You can see how this fits with the heroic-entrepreneur narrative that frames American innovators such as the electric-car pioneer Elon Musk, or the late Steve Jobs (the Apple founder about

Keep feeding the blue-sky creatives as well as directing research to business needs

Pat Kane



to be mythologised in a film by Danny Boyle). Where public money comes into this model is an acute question. The economist Marianna Mazzucato – who now finds herself both on Sturgeon's Scottish Council of Economic Advisers, and on Corbyn's Economic Advisory Committee – has caused a stir over the past few years with a very effective conference routine.

She holds up an iPhone (which popular mythology says sprung whole and entire from the hippie capitalist brain of Mr Jobs). She then itemises all the parts of its machinery and software which relied on state-funded, blue-skies primary research – a lot of it from the US defence budget.

Private companies don't have the capacity to make these visionary techno-scientific commitments. Yet, as entrepreneurial enterprises, they benefit from using the fruits of this public research.

Why, asks Mazzucato, can't the state also be an entrepreneur? Just like the venture capitalists, why can't the state get a direct return on its investment – and particularly from these potentially mega-profitable companies who have directly benefitted from state-sponsored science?

Looking at Scotland today, you can imagine Professor Mazzucato's ideas finding traction. This week we found Scotland has more top-rated research universities per head of population than any other country.

Read any reporting on innovation in Scotland, and you can see how much this country is abreast of the 21st century's most transformative sci-tech. Medical neuroscience, gaming, renewable energy, genomics ... The building-blocks of an age of plenty and wonder are right at the heart of our ancient universities' research interests.

So "upstream" innovation, as in the Silicon Valley model, would seem to fit the way things are in Scotland. But we're missing something – indeed, quite a few things.

One is that we don't have America's (or even London's) density of venture capitalists, those San Fran moguls who are willing to risk their private investments in university start-ups, but also know they have a vast internal market in the US – one that can absorb failure and amplify success.



So for small nations, the state has to step in as investor – as it does in many other successful small and innovative countries, like Finland, Estonia or Israel. Yet as readers of this paper may keenly appreciate, the Scottish state currently lacks some of the necessary powers required.

A serious, multi-billion national innovation investment bank is what nation-state independence would have allowed us to set up. The "Scottish Business Investment Bank" – mentioned in the SNP's May manifesto and building on Scottish Enterprise's small fund – is an on-off project that doesn't look like it will remotely hit the mark.

As for this week's announced fund, the STUC's Stephen Boyd – a sharp watcher of innovation policy – welcomed its arrival. But Boyd also cautioned it was "a mistake for the First Minister to present the new fund as a potentially transformative measure. It's nowhere near



We don't want inferiorism here: the implication that radical innovation is no' for the likes o' us



the scale necessary to overcome Scotland (and the UK's) most damaging structural problem: the failure of the financial sector to support growing, innovative businesses with patient, committed capital."

The new fund is clearly flowing in at the other end of our watery metaphor – what's called "downstream" innovation. Downstream innovation doesn't wait for the next paradigm-changing new invention, but looks much more closely at what existing companies in the marketplace need from R&D.

Downstream innovation tries to redirect university departments away from what Nesta calls "curiosity-driven basic research", towards "more applied research and technological development and deployment". It also expands the meaning of innovation away from the techno-Eureka! moment. Downstreamers look for new ideas that work at the level of daily business practice – pricing, location, marketing, etc.

Now I understand the hands-on spirit here, a Scotland that "CanDo" (the official branding for the "innovation nation"). Whatever Scotland is, it ain't no Cupertino, CA. So what do we actually have, and how can we make the best of it?

The Nesta research identifies one more advantage small nations have: the ability to sweep up people in a "national mission" for innovation. A story that says ideas are welcome from society, culture and daily life, as well as from the labs of brainiacs, is to be entirely welcomed.

Some upstream innovation from Elon Musk the electric car pioneer

Image: AP

Hugh MacDiarmid's old aspiration for this kind of society still inspires me: "I never set een on a lad or a lass/but I wonder gin he or she/Wi' a word or a deed'll suddenly dae/An impossibility". Look out for the Unusual Suspects Festival later this month in Glasgow, which aims to foment this everyday culture of innovation.

However, just a wee hold-on-a-minute. We don't want any unnecessary inferiorism here; the implication that radical, world-changing innovation is "no" for the likes o' us". Go online and you can find an overly-cute web cartoon from Scottish Enterprise that preaches the downstream message, under the headline that "innovation isn't rocket science".

But we should still find a way for innovation to be rocket science as well. In recent years, Scottish scientists have zoomed in to the tiniest scrap of our biology (Ian Wilmut divining the process of cloning with Dolly the Sheep), or zoomed out to the most fundamental particle of our cosmos (Peter Higgs's anticipation of the Higgs-Boson). We should try to support the stream of innovation at its sparkling, elemental, daring source, as well as conduct our trade routes across its wide forths and basins. An "ImagiNation" – the free thought of scientists and artists, supported to follow their curiosity – should always sit behind an "Innovation Nation". The makar and the maker are fellow visionaries in Scotland's future.

Taskforce lays out plan for Fraserburgh in bid to save 650 Young's jobs

AN ECONOMIC recovery plan is to be drawn up to help find work for the 650 people set to lose their jobs at fish processors Young's Seafood in Fraserburgh.

In July, the firm announced the plant would close after the loss of a £100 million contract to supply salmon to Sainsbury's.

The plant's owners then decided to keep it open along with a smokehouse in Grantown on Spey, saving 250 jobs.

A Scottish Government-led taskforce met for the first time yesterday to lay out plans for the future of Fraserburgh and the workers. It agreed the plan, which is aimed at helping Young's seek new business, as well as supporting workers made redundant find new work, and how to create long-term employment in the town.

The Fraserburgh plant will be a much-reduced operation focussing on hot and cold smoked ready-to-eat products.

The taskforce includes representatives of Young's, Union of Shop, Distributive and Allied Workers (USDAW), Scottish Enterprise, Skills Development

Scotland, Aberdeenshire Council, local elected representatives and industry bodies.

Scottish Business Minister Fergus Ewing, who chaired the taskforce meeting, said: "Young's Seafood has taken its decision and we are doing everything possible to support the workers and mitigate the impact on the town and the wider area.

Dominic Kerrigan, Young's Seafood board director, said the meeting was constructive but admitted their decision to vastly scale down their workforce would have a "significant impact" on the local community.

He said: "We are committed to working with the Scottish Government, and all other stakeholders to deliver the best possible support for our employees and the local community."

Aberdeenshire Council co-leader, Richard Thomson, said he was committed to working with other agencies to find work for those made unemployed. He added: "We are committed to working with our partners for the benefit of those affected by this decision to help them find alternative employment."

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