A Stock Exchange for Scotland: Early background research November 2018

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Roger Mullin, John Millar, Michelle Thomson

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Roger Mullin

Roger is Honorary Professor at the University of Stirling's Management School, a former member of the Sustainable Growth Commission, and a vastly experienced researcher. Before entering parliament, he undertook 27 international assignments for UN agencies, the World Bank and Asian Development Bank. Since leaving parliament in 2017 he has been appointed Chair of the Board for Revive Campaign Ltd which supports the All Party Parliamentary Group for Explosive Threats.

John Millar

John is a doctoral researcher at the University of Edinburgh Business School where his research is looking at a number of strategic topics relating to the Scottish asset management industry. Prior to this he worked for 24 years as a portfolio manager for two investment management firms based in Edinburgh.

Michelle Thomson

Michelle has a background in financial services, IT, property and the creative sector as well as a breadth of experience in private business. She was a key member of parliament serving on the Business, Energy & Industrial Strategy Select Committee, leading on a range of inquiries which achieved national prominence. Since stepping down from parliament in 2017 she has been appointed as Ambassador for the All Party Parliamentary Group for Fair Business Banking and is currently leading on their Contracts workstream.

With thanks to Dr Jim Walker, Chief Economist of Aletheia Capital Ltd for his foreword and international insight.

FOREWORD

When I moved to Hong Kong 28 years ago it was my first step into the world of stockbroking. Of course, I knew a bit about the 'Dark Side' – investment banking and broking – from my three years working at a large commercial bank in Edinburgh but, truth be told, I had no clue how stockbrokers operated or what they actually did.

Twenty-eight years later and some parts of the broking world still remain a mystery to me but from an economics perspective the benefits of functioning capital markets are quite obvious.

Countries with an undue reliance on the banking system – and by that I mean the companies that operate within these countries – as a source of capital find that the entrepreneurial spirit is suppressed and economic growth is curtailed.

The establishment of a stock exchange unleashes a dynamism that can scarcely be imagined by the layman.

As the authors of this report to establish a Stock Exchange for Scotland point out in Chapter 5, the economic benefits flowing from stock market activity are many and well-established.It is also a chance to put Scotland firmly on the world map.

Countries like Indonesia, Malaysia, the Philippines, Thailand and Vietnam (my areas of expertise) are visited by thousands of fund managers from around the world each year searching for opportunities to invest in their start-up and established companies.

Not all are particularly successful but they all understand the advantage of broadening capital markets. By so doing they increase the sources of funds for their domestic companies, they attract attention and they attract foreign money.

Unlike these emerging markets Scotland is already rich and has a fully functioning economy and, in all fairness, there are a number of rather large stock exchanges only 400 miles south.

But that is the point. There are stock exchanges in London that compete with each other in the capital-raising business. Some have specialist niches, others are global in reach.

From nothing in 1990 China now has three functioning stock markets all serving different purposes. The Stock Exchange for Scotland need not compete with London; it can complement it and, at the same time, serve Scottish companies directly.

In this time of global capital flows a new Stock Exchange for Scotland is a golden opportunity for Scottish enterprises to make their mark and broaden their appeal internationally. Good luck to the venture.

Dr Jim Walker
Chief Economist
Aletheia Capital Ltd
Hong Kong

CHAPTER 1: INTRODUCTION

> **I would welcome the return of a Stock Exchange to Scotland especially if it returns with the highest possible emphasis on its core functions of:**
> **- raising capital,**
> **- enabling companies to buy productive assets and grow in Scotland and**
> **- ensuring liquidity... and commits itself to helping Scotland retain much more of the wealth that it generates.**
>
> **Jim Mather**
> **Former Minister for Enterprise Energy and Tourism**
> **Visiting Professor at Strathclyde and Heriot Watt universities**

This is the report of an initial piece of research commissioned by Kirkman Ltd. The research for this report was conducted in the period 9 – 20 November 2018.

Momentous Change Ltd was invited to undertake this study and they recruited the assistance of Edinburgh University Business School. Those conducting the study were John Millar of Edinburgh University Business School, Roger Mullin of Momentous Change Ltd and Michelle Thomson of Momentous Change Ltd. Roger Mullin was the overall lead and editor in charge of this report.

An overarching aim was to explore areas which may be followed up by more substantial research at a later date. The expectation was this may involve the following:

- The dates of foundation and the securities lists of each of the Scottish exchanges in 1971 showing the big old names but also the sectors of industry that were publicly capitalized.
- Analysis of the size and frequency of trade sales and exits to private equity and the dominant role they play in the economy of Scotland.
- Evidence of entrepreneurship in globally relevant sectors.
- Evidence of leadership in asset management and impact investing - Baillie Gifford, Standard Life and Alliance Trust.
- Academic support of the growth economy by leading business schools, ICAS, Law Society of Scotland.
- Reference to Ireland and others such as Portugal.

While this report cannot claim to provide the last word on any of these and related areas of interest, this short study has already begun to highlight why reintroducing a stock exchange, built on modern lines, with a keen interest on impact investing, will be an important initiative for Scotland. It is interesting to note the range of supporting quotes we are able to cite in this report, as testimony to the goodwill that exists towards this initiative.

Some areas of research, such as the views of a range of professional bodies, will require in depth interviewing at a later stage. Others, such as performance issues in other exchanges will require much greater data analysis. However, we believe this short report already provides much evidence that should dispel any thought that, given good leadership and management, Scotland would not be able to host an effective and sustainable stock exchange.

Advantages of having stock exchanges

It is probably not fully understood by the general public what the advantages are of having a stock exchange. Stock exchanges are associated with wealth creation and investment, but they are much more than that. In addition to the buying and selling of shares in listed companies, stock exchanges enable businesses to access capital and the opportunity to enhance their public presence. Where there is intelligent leadership, businesses can use the opportunities stock exchanges bring, to grow and enhance their companies. The financial and regulatory costs involved can be seen as a good investment in creating successful businesses of scale.

Blissett[1] has argued, for example, that six of the main benefits to a business of a stock exchange listing are:

- Access to capital
- Enhanced profile
- Ability to attract better employees
- Increased visibility
- Ability to maintain control
- Reduction of the cost of other capital

As we note shortly, the proposed new stock exchange for Scotland, will also have the additional drivers of being able to invest in ethical, sustainable investments with good corporate governance. This, arguably, is of growing relevance

> **Across the country Scotland historically had quite a number of Stock Markets. When they closed organisations not only lost the ability to raise funds locally – we also lost the local infrastructure in the form of corporate financing and the legal services. I welcome this announcement and am delighted to see the plans for it to be headquartered in Edinburgh – the largest UK financial centre outside of London.**
>
> **Frank Ross**
> **Lord Provost of Edinburgh**

in an increasingly discriminating market place.

The proposition

The proposition is to create an international stock exchange based in Scotland offering a channel for international and domestic investors into the Scottish economy. Trading will be in debt, equities and investment trusts.

The exchange, based in Edinburgh will provide a secure investment route in the form of a sophisticated and market ready regulated trading platform. Plans are already in place for representative offices in Glasgow and Aberdeen.

The technical infrastructure uses a proven European model to provide the standard functions such as listing, price dissemination, order-entry and execution, clearing and settlement. The platform offers access at better value than competitors by utilising the latest cloud-based technology.

The exchange will attract and build a renewed ecosystem of advisor expertise for Scotland. Benefits will flow to issuers, intermediaries, corporates, investment trusts, retail investors, local authorities and other organisations.

In addition to a conventional stock exchange, additional services and support will be provided to bridge the gap between companies and their shareholders. This will connect companies with their community of stakeholders: employees, suppliers, customers and investors, so that the business knows who its owners are. Long-term holdings and the promotion of mechanisms to lock in capital will reward those with patient capital to invest.

Independent research undertaken in a feasibility study showed clear, and to date unsatisfied demand for issuers and investors based in Scotland who want to invest in pro-social companies based and operating in their local communities. There is cross party political support in Holyrood and Westminster with a strong view that the exchange is “necessary”.

The exchange will offer investors the ability to invest in Ethical, Social and Good Corporate Governance (ESG) investments. This too brings benefits to corporations, investment funds and local authorities to become certified for ESG investments. The demand for ESG investments is growing and companies that seek to list must provide an initial impact assessment as part of the admissions process. This is also required to be updated, resubmitted and published annually.

Over time, further localisation will be strengthened as the concept of municipal bond issuance is developed to support local initiatives and services.

The core launch team have proven expertise in this arena and evidence of previous successful market launches.

Scotland has set ambitious targets, particularly in the promotion of a clean circular economy, clean energy sources and in ambitious emission reduction targets. The Scottish Government has made a commitment to be aligned with the United Nation’s Sustainable Development Goals by 2030 and the Scottish Government has already backed the plan for an exchange as part of its wider financial infrastructure development.

CHAPTER 2: A BRIEF OF SCOTLAND'S STOCK EXCHANGES

The history of Scotland's stock exchanges is a history of how they supported entrepreneurial activity and economic growth.

Scotland had a network of stock exchanges from the 1840s up until the early 1970s, a period of almost 130 years. Stock exchanges operating in major cities played a valuable role in serving the needs of the investors and of the companies operating in their local areas, providing the capital needed for their long-term expansion. This section traces the historical development of share trading in Scotland, from its informal beginnings to the establishment of more formal structures across the country[2]. It shows the central role these exchanges played in funding the expansion of Scotland's industrial base. The discussion then examines the consolidation of the regional exchanges into a single Scottish Stock Exchange in 1971 before the subsequent absorption of the latter into the London Stock Exchange in March 1973.

Early share trading and the first Stock Exchanges

From the late seventeenth century onwards, there existed opportunities to buy and sell shares in the limited number of joint-stock companies operating in activities such as banking, insurance and shipping[3]. Such transactions were typically handled by lawyers with prices set by a negotiation between buyer and seller. Due to the ad hoc nature of such transactions, there was no public record of share prices and the fees charged were large.

By the nineteenth century the situation had started to change. There was a significant increase in the number of joint-stock companies, increasing the range of opportunities on offer to private investors. A succession of speculative booms increased demand for shares and increased the incentive for individuals to specialise in the handling of share transfers. So it was that the first stock brokers appeared in Scotland in 1824, at the tail end of one such boom[4].

The growing interest in share trading was further boosted by the railway boom which started in the late 1830s, a period during which substantial funds were raised to fund the rapid expansion of the railway network. This increased activity placed considerable strain on the existing informal arrangements and resulted in the establishment of more formal meeting places where transactions could be carried out during set hours and under established rules. This led to the establishment of the first Scottish stock exchanges in Glasgow and Edinburgh in 1844 and Aberdeen in 1845[5]. Two further exchanges followed, in Dundee in 1879 and Greenock in 1888.

The growing importance of the Scottish Stock Exchanges, 1840-1900

Prior to the Joint Stock Companies Act of 1856 which introduced limited liability companies to Scotland, most companies in Scotland were not industrial in nature but instead operated in service activities such as banking, insurance, transport and public utilities[6]. Following the introduction of the 1856 Act there was a dramatic increase in the rate of formation of new limited companies. Alongside this, an increasing number of industrial and commercial companies issued

> **Scotland had a network of stock exchanges from the 1840s up until the early 1970s, a period of 130 years.**

transferable securities with the aim of raising new funds for investment or releasing the capital of existing owners.

The result was a huge increase in the amount of capital raised on the Scottish stock exchanges. In 1840 there were 106 publicly listed joint-stock companies in Scotland with a total paid-up capital of £18.6m. By 1900 these numbers had risen to 520 publicly listed joint-stock companies in Scotland with a total paid-up capital of £408.1m, increases of 390 per cent and 2,094 per cent respectively over that 60-year period[7].

One catalyst for these increases was the growing level of activity on the exchanges; membership of the Glasgow Stock Exchange rose from 49 in 1845 to 188 in 1900, while in Edinburgh membership rose from 26 to 61[8]. This reflected the increasing public demand for company stock issued as private firm or joint-stock companies became aware of the benefits of public issuance as a means of raising capital which was cheaper and more flexible than other forms of finance[9].

As Table 1 overleaf shows, railways retained the dominant role in the Scottish stock exchanges, but there was aggressive capital-raising in other areas; industrial sectors such as brewing, distilling, engineering, textiles, iron and steel, and coal all raised significant amounts of money from the capital market.

As an example, the family-owned Paisley thread manufacturer J & P Coats took the opportunity to list their company in 1890 as a means of expanding their business and soon became established as a Scottish 'blue chip' firm[10]; by 1907 they had 17,000 shareholders[11].

Beyond national borders, substantial amounts of capital were also raised from Scottish investors to fund overseas ventures such as tea plantations, cattle ranches and mining operations. A large number of new investment trusts was created which had a similar outward orientation, making substantial investments in the North American railroads.

Table 1: Scottish Joint-Stock Companies, 1900[12]

Area of Operation		Percentage	Paid-up Capital
Transport		**11%**	**73%**
	Railways	6%	72%
	Tramways	2%	-
	Shipping	4%	1%
Financial		**19%**	**7%**
	Banking	2%	2%
	Insurance	6%	1%
	Investment	11%	4%
Mining		**12%**	**3%**
Agriculture		**5%**	**2%**
Commercial & Industrial		**37%**	**11%**
	Commercial	6%	1%
	Food & Drink	13%	3%
	Metal & Engineering	6%	2%
	Textiles	4%	3%
	Paper & Printing	3%	1%
	Building Materials	2%	-
	Chemicals	3%	1%
Urban Facilities		**18%**	**5%**
	Gas & Water	1%	-
	Services	9%	1%
	Property	2%	-
	Municipal Securities	3%	5%
Total (Raw numbers)		**520**	**£408.1m**

The Scottish stock exchanges in the 20th Century

From 1900 onwards Scottish stock exchanges started to lose their distinctive identity. As Michie describes: "[u]p to 1900, the vigour of Scottish joint-stock company formation and the limited moves towards large British-based concerns meant that there remained a need for a separate Scottish stock exchange. However, neither Scottish joint-stock enterprise nor the Scottish investor confined operations to Scotland alone but gradually adopted a world perspective"[13].

As the scale of Scottish companies grew and investors' horizons expanded, markets "tended to drift to London"[14]. The weighting of local companies fell and regional expertise was diluted:

over the course of the 1920s and 1930s Edinburgh lost its leading positions in insurance shares and bank shares[15].

Nonetheless the Scottish exchanges continued to play an important capital-raising role. In the 1926-29 boom there were over 200 new issues, 165 of them by Glasgow brokers. On either side of World War 2 there were on average 20-25 new issues a year, this figure rising to 60 in the 1960s[16].

Over time the need for the Scottish exchanges to merge became increasingly apparent. Following the Jenkins report of 1962 the decision was taken to create a single Scottish Stock Exchange formed from the Glasgow, Edinburgh, Dundee and Aberdeen exchanges (the Greenock Stock Exchange did not join and closed in 1965). The Scottish Stock Exchange came into force in January 1964 with a membership of 200. Each of the exchanges operated as before – a full merger took place in April 1971 when all share dealings were centralised in Glasgow.

By June 1971 the membership of this Scottish Stock Exchange stood at 34 firms; 20 from Glasgow, 8 from Edinburgh, 3 from Aberdeen, 2 from Dundee and 1 from Stirling[17]. The exchange traded a relatively small number of bonds issued by British and Commonwealth governments and primarily Scottish city corporations, county councils and public boards. The volume of stocks traded was much larger; the sector breakdown is shown in Table 2 below.

Table 2: Sector distribution of the Scottish Stock Exchange, June 1971[18]

	Number of companies	% of total
Banks	9	1.6
Scottish Banks	2	
Other Banks	7	
Breweries, Distilleries, Etc.	21	3.8
Canals Docks and Harbours	2	0.4
Commercial, Industrial, Etc.	310	56.3
Financial Trusts, Lands and Property	21	3.8
Insurance	19	3.4
Investment Trusts	90	16.3
Unit Trusts	5	0.9
Iron, Coal and Steel	17	3.1
Mines	13	2.4
Oil	9	1.6
Shipping	9	1.6
Teas, Coffee and Rubber	24	4.4
Telegraphs and Telephones	1	0.2
Tramways and Omnibus	1	0.2
Total	**551**	**100.0%**

> **The Scottish Stock Exchange came into force in January 1964 with a membership of 200.**

Reflecting the changes which had happened since 1900, the composition of the exchange in 1971 was something of a hybrid between Scottish firms of various sizes and large British concerns. Scotland's industrial base was well represented through engineering and shipbuilding firms like John Brown, Yarrow and Company and James Howden, textiles firms like Coats Patons and Low and Bonar, and a significant number of brewers and distillers. These sat alongside large British firms like Imperial Chemical Industries and Rolls Royce.

A number of the 1971 names retain a stock market listing today. These include A.G. Barr, John Menzies, Scottish Television and Weir Group. The level of survival is particularly high among the sizeable contingent of investment trusts, most notably Scottish Mortgage which is now a member of the FTSE 100 index.

A lasting legacy

The Scottish Stock Exchange merged into the London Stock Exchange in 1973. During their 130 years of independent existence, the stock exchanges of Glasgow, Edinburgh, Aberdeen, Dundee and Greenock had played two vital roles. Firstly, they provided a growing range of opportunities for an investor base which expanded significantly over time, greatly increasing the variety of investments on offer. Secondly, the issuance of new stocks on these exchanges provided large volumes of cheap and flexible capital to businesses, enabling them to innovate and to expand the scope of their operations in Scotland and further afield. By doing so they made a large and lasting contribution to the prosperity of the nation.

CHAPTER 3: INVESTMENT MANAGEMENT IN SCOTLAND – A GLOBAL SUCCESS STORY

Scotland has long been recognised worldwide as a centre of excellence in investment management. Figures from the Investment Association (IA), the industry's main membership body, show that at the end of 2017 the assets managed in Scotland by IA members amounted to £615bn, representing 8% of the UK total[19]. This percentage rises sharply when measured by headquarters location: almost a quarter (23%) of the assets managed by UK-headquartered asset managers are run by firms with headquarters in Scotland[20]. With clients located worldwide, Scottish investment managers have a substantial global footprint.

The scale and economic importance of these firms is reflected in employment statistics. Figures from the same Investment Association report show total asset management industry employment of 13,100 in Scotland, 13% of the UK total[21]. This figure breaks down as 7,600 direct employees, and 5,500 working in indirect activities such as fund administration services.

The Scottish reputation for excellence in fund management derives from two distinct sources: the historical lineage of today's firms, and their ability to adapt and to align themselves to the changing needs of their customers.

The origins of Scottish fund management

Looking first to the past, two groups of institutions laid the foundations for today's Scottish investment industry. The first was the investment trusts established in Dundee and Edinburgh in the 1870s. As Nigel Morecroft writes in his history of the sector's development: during this period "the Scottish investment companies significantly improved the initial proposition and professionalised the process based on fundamental analysis and thoughtful, team-based investment decision-making"[22].

Pioneering investment trusts like the First Scottish (established by Robert Fleming in Dundee in 1873) and the Scottish American Investment Company (launched in Edinburgh in the same year) adopted a long-term approach, enabling local investors to invest in opportunities which would otherwise have been inaccessible. The most notable examples were the North American railroads to which these and other trusts provided significant capital.

The second group of formative institutions was the Edinburgh-based life insurance companies, most notably Standard Life. In 1911 Standard Life established the new role of 'investment superintendent'[23], the first of several measures which saw them placing a far greater emphasis on their investing activities. This was reflected by a shift in their asset allocation away from Government bonds into the stocks and shares issued by a growing number of listed companies. Again, the provision of investment capital to these companies was instrumental to the latter's subsequent growth.

The Scottish investment trusts and life insurance companies of the past established a tradition which can still be seen in the DNA of today's successful Scottish investment firms: a long-term approach to investment, a sharp analytical focus, an openness to new opportunities, and, crucially, a responsible attitude to governance. The latter is

> **Scotland has long been recognised worldwide as a centre of excellence in investment management.**

exemplified in the description of the Edinburgh financial sector as “honest, competent, stable and conservative”[24], though this description underplays the entrepreneurial drive displayed by both the early industry pioneers and today’s leading firms.

A distinctively Scottish approach – long-term, responsible and engaged

Particularly important in differentiating Scottish investors from their rivals elsewhere has been their focus on long-term investing and the responsible stewardship of their clients’ capital.

In combining a long-term investment approach with principles of stewardship and engagement, these firms can all be seen to have pre-empted one of the recommendations made by Professor John Kay in his 2012 Review of Equity Markets; for Kay “[a]ny positive impact on company performance and overall returns to savers must come through investment research which aims to understand the activities of the company and their long-term consequences, and from direct engagement with the company itself”[25].

This ethos is the ‘golden thread’ which connects today’s leading Scottish investors: firms like Walter Scott, Stewart Investors and Baillie Gifford have all achieved significant growth in their businesses by placing these principles at the very core of their investment identities.

Walter Scott defines its investment philosophy as follows: “It is to align our clients’ interests with companies that are capable of generating wealth over long periods of time”[26]. Central to this is a commitment to “upholding the highest governance standards, both at the firm and at the companies in which it invests”[27].

Stewart Investors similarly describes its investment approach as the management of “long-term portfolios on behalf of [their] clients”. In so doing the firm places a huge emphasis on “the principle of stewardship – careful, considered and responsible management of our clients’ funds”[28]. All members of the firm’s investment team sign a Hippocratic Oath which underpins their individual and collective commitment to, among others, recognising that “our role within society is to allocate capital where it can be used most productively for the future benefit of all"[29].

With total funds under management of close to £200bn[30], Baillie Gifford ranks among the largest managers of equities in the UK. The firm has consistently been a proponent of long-term investing, as their "Shared Beliefs" document makes clear: "Successful active management is not easy; it requires dedication, independent thought and a long-term perspective"[31]. More recently, the firm has coined a new term to encapsulate what they do, that of 'actual' investment. This concept of actual investing marks a reiteration of the same principles which motivated the first Scottish investment trusts, acting "on behalf of clients to identify and back fundamental investment ideas, not just try to outsmart other investors"[32].

As with the Scottish American Investment Trust and the American railroads of the 1870s, the stated aim is to "develop great companies that provide for the needs and wants of people, thereby benefitting society as a whole"[33].

Impact investing – the next opportunity

Another way in which the Scottish investment industry of today echoes its 19th century predecessors is by developing new products which meet the changing needs of investors. A prime example of this is the growing market in impact investing. Aberdeen Standard Investments (ASI) has established itself as a leading player in this area, a status confirmed by the recent decision of the directors of the Global Sustainability Trust to appoint ASI as investment manager of its new £200m investment trust[34].

Impact investing[35] is defined by ASI as "investing in companies and investment portfolios that have the intention of generating positive social and environmental impacts alongside financial returns"[36]. As such it goes beyond the environmental, social and governance (ESG) analysis that has become a common feature of investment decision-making; rather than screening negatively (to avoid companies falling short in specified areas), impact investing screens positively for those companies which are making a positive contribution to society. In so doing there is a clear alignment with the emerging needs of investors, be they large pension funds or socially-engaged individuals, and with the United Nation's Sustainable Development Goals.

Aligned values

The Scottish companies named here and many others have remained true to the traditions of their ancestors while developing and refining their propositions to reflect their clients' changing needs. By doing so they have built world-class investment businesses. The industry continues to evolve, and the emergence of impact investing as an increasingly mainstream activity offers firms new opportunities to build on their well-established resources and capabilities.

Importantly, there is a clear alignment between investment institutions which recognise their responsibilities as stewards of their clients' assets and consistently demonstrate their commitment to long-term investing and the aims and values of the Scottish Stock Exchange. The opportunities for future partnership are clear.

CHAPTER 4: PRIVATE EQUITY IN SCOTLAND – INVESTMENTS AND EXITS

> **We floated our family company on the London Stock Exchange last year. Had there been an option of a Scottish Stock Exchange, then that would have been something that we would have seriously considered. A Scottish Stock Exchange will bring jobs and investment to Scotland.**
>
> **Sandy Adam**
> **Chairman, Springfield Properties**

Private equity is a major source of funding for young businesses in Scotland. This chapter demonstrates the scale of private equity investment in recent years and explores the means by which investors exit their positions, finding that trade sales are the preferred method of exit. Importantly, the number of IPO listings is much lower.

Private equity in Scotland – a large and growing presence

Professor Richard Harrison and colleagues describe the important role played by private equity investors: "It is now widely recognised that access to a strong supply of risk equity capital is important for national and regional economies because of the catalytic role that it plays in the entrepreneurial process"[37]. High-growth companies developing new forms of technology are particularly reliant on this type of capital as banks are often reluctant to lend to companies with a high proportion of intangible assets.

Not only do the providers of risk capital supply financial resources; they are also invaluable sources of expertise, know-how and social capital[38] without which firms' chances of success are greatly reduced[39].

Figures produced by the British Venture Capital Association (BVCA) show the important role played by private equity in funding businesses in Scotland. BVCA members have invested in a total of 129 Scottish companies, which between them have aggregate turnover of £4.04bn and 18,921 employees[40]. The revenue of these businesses equates to 2.6% of Scottish GDP[41].

As Harrison and colleagues make clear, the venture capital institutions which make up the BVCA are the most likely to participate in larger transactions, defined as those over £10m in size. Such deals rely primarily on capital from outside Scotland[42]. However other investor groups are active in the Scottish risk capital market; these include angel investors, founders and those hybrid investors who combine financial criteria with policy returns[43].

Table 3 above shows the total scale of risk capital investments in Scotland between 2005 and 2016, aggregating the figures for all investor groups.

The table shows a steady increase in the number of deals completed. The figures for total amount invested are distorted by larger deals such as the £176m invested in FanDuel and £88m invested in TauRx in 2015 and the £128m invested in Skyscanner in 2016[45]. Excluding these, there is a significant step up in the amount invested in 2014, with the £189m invested in 2016 representing a new high.

Table 3: Aggregate risk capital investments, 2005-2016[44]

	Number of deals	Amount invested (£m)	Amount invested (omitting deals >£10m) (£m)
2005	177	82	82
2006	154	113	113
2007	144	114	114
2008	185	119	119
2009	166	106	106
2010	201	128	128
2011	140	90	90
2012	149	141	123
2013	149	215	128
2014	224	264	182
2015	214	472	176
2016	285	336	189

Exit strategies – trade sales

Among those companies which have obtained external equity investment, market data show a clear preference for sales to trade buyers or private equity as the favoured means of exit. The frequency of IPOs is much lower.

It is not possible to show aggregate trade sales data as the value of such deals is often not disclosed. However Table 4 overleaf uses published figures to show some of the most significant sales over the last five years.

Table 4: Significant sales to trade buyers, 2013-2018[46]

Name	Activity	Date	Proceeds
FNZ	Financial technology	Oct 2018	£1.6bn[47]
FanDuel	Fantasy sports	July 2018	$465m[48]
Skyscanner	Travel search technology	Nov 2016	£1.4bn
BenRiach Distillery Company	Whisky distiller and bottler	Jun 2016	£285m
Iomet Pharma	Biotechnology	Jan 2016	£280m
Optos	Retinal imaging technology	May 2015	£259m
Ferguson Group	Shipping containers	Sep 2014	£320m
Reservoir Group	Oil and gas services	Aug 2013	£353m

This is a small selection of the total number of sales to trade buyers over the period 2013-2018. The list focuses on the largest deals; behind there is a large number of transactions of a smaller scale or where no deal value was announced. Even so, the aggregate value of these deals alone is £4.5bn, a large amount in proportion to Scotland's economy and one which supports the assertion by Harrison and colleagues that Scotland has a smaller but higher quality pool of growth businesses than the UK as a whole[49].

These figures exclude an alternative exit strategy which is a sale from one private equity investor to another. The largest such transaction in recent times was the sale in October 2017 of Miller Homes to Bridgepoint for £655m.

IPOs – the less favoured path

By contrast, the number of Scottish companies offering investors an exit via IPO is much smaller. The simplest market on which to list is AIM, the London Stock Exchange's international market for smaller growing companies. A search of AIM shows that only 25 Scottish-based firms are currently listed there[50]. Of these, only five (Beeks Financial Cloud, IDE Group Holdings, Nucleus Financial, Quiz, and Springfield Properties) have listed since 2013 and remain listed. (There are examples of other firms, such as FreeAgent, which listed on AIM in November 2016 and was bought by RBS in March 2018.

Outlook

The consistent growth of risk capital investments over the last ten years and the increased support given to such businesses is likely to result in a growing pipeline of companies reaching an exit stage. A certain proportion of these will always be sold to trade buyers. However, the imbalance recently seen between the number of trade sales and the number of stock market listings is large; there are grounds to believe that a differentiated Scottish Stock Exchange would offer an additional option which would encourage a greater number of businesses to retain their managerial autonomy rather than selling out to a larger entity.

CHAPTER 5: REVIEWING SELECTED STOCK EXCHANGES

Few things are more important to the economic well-being of any area than that local businesses should flourish. All too frequently they have difficulty in raising sufficient capital. So a proposal to set up a recognised and regulated stock exchange in Scotland with local representation is very much to be welcomed.

David Simpson

Professor David Simpson founded the Fraser of Allander Institute in 1975. From 1988 to 2001 he was Economic Adviser to Standard Life. From 2005 to 2012 he was Vice-Chairman of the Water Industry Commission for Scotland.

It is always wise to be cautious when considering comparative data. In this chapter we explore some examples of exchanges in other countries, but it should not be inferred this allows us to predict the future scale of activities of a Scottish Exchange. However, it does allow us to conclude that the scale of Scotland's economy should not be seen as a barrier that cannot be traversed by a Scottish Exchange.

A modern context

Let us start by considering the modern context. In our earlier chapter we described the history of Scotland's stock exchanges. In more modern times there has been, overall, an expansion of the number of exchanges internationally. This has, in part, been fuelled by political changes, such as the formation of the European Common Market; the collapse of traditional empires and growth in the number of new independent nations, and the collapse of the Soviet Union and the moves of Russia and others to embrace, at least to some degree, the advantages of market economies.

When what is now the World Federation of Exchanges[51] (WfE hereafter) was formed in October 1961, it was at a time when international cooperation in Europe had been spurred on by the creation in 1957 of the European Common Market. The original membership of the WfE involved only 10 European exchanges. At the time of writing the WfE now represents over 200 exchanges and CCPs (Central Counterpart Clearing) of all sizes, from every corner of the world, with full membership from 71 exchanges and affiliated membership from a further 31. From small exchanges as in Namibia[52] (established in 1992 two years after gaining independence) to the large Moscow Exchange[53] (which went public in 2013) the growth of the WfE is testimony to the perceived advantages of operating an exchange in pursuit of driving forward the cause of economic and business development.

Scotland's future

As we write, there is much turbulence in the political world with uncertainty over Brexit and the possibility of further constitutional change in Scotland. We therefore cannot predict precisely what Scotland will look like in, say, 10 years from now. However, we can reflect on the experience of other countries of similar stages of economic development and size of country.

Sustainable Growth Commission

In May 2018, the report of the Sustainable Growth Commission was published[54]. This lengthy report used 12 comparator countries[55] of similar population size and stage of development, from which it sought to learn lessons to spur policy actions aimed at securing higher levels of sustainable growth in Scotland.

A notable feature of the financial infrastructure of each of the 12 countries (although not commented upon in the report) was the presence of a Stock Exchange. We present shortly some of the data on a selection of 9 of these exchanges. The three not selected are all part of the Nasdaq Nordic grouping, for which comparable data is not currently published under World Development Indicators.

Key data on exchanges

The table which follows illustrates some basic data on the activity levels in 2017 of 9 of the comparative countries, plus that of Portugal, which has been added as it is part of the Euronext group. The intention is for the Scottish Stock Exchange to partner with Euronext.

It is noted that there is a huge variation in scale and activity levels across the listed stock exchanges, reflecting historic developments and specialist expertise.

Belgium, Ireland, The Netherlands and Portugal are all now part of the Euronext family. The value of trades for the Euronext group is not currently available by country with the exception of Ireland which was still a stand-alone company in 2017.

It is noted in the table below that the scale of all the exchanges is measured in billions of dollars in terms of market capitalization.

There is very considerable variation in scale including in market capitalization to GDP ratios. It would be extremely unwise therefore to use any of this data to make a prediction

Table 5: Data on Exchanges[56] for year 2017 in US$

Country	Market Capitalisation of listed domestic companies	Market Cap to GDP ratio	Number of listed domestic companies	Value of trades (as percentage of GDP)
Austria	$150.6billion	36.2%	67	$40billion (9.6% of GDP)
Belgium	$437.8billion	88.9%	116	
Hong Kong	$4,350.5billion	1,274.1%	1987	$1,953.1billion (572%)
Ireland	$146.6billion	43.9%	41	$28.9billion (8.7% of GDP)
The Netherlands	$1,100.1billion	133.2%	102	
New Zealand	$94.7billion	46.0%	164	$11.9billion (5.8% of GDP)
Norway	$287.2billion	72.0%	180	$117.8billion (29.5% of GDP)
Portugal	$75.6billion	34.7%	43	
Singapore	$787.3billion	243.0%	483	$219.6billion (67.8%)
Switzerland	$1,686.5billion	248.4%	228	$948.3billion (139.7%)

of where a Scottish Exchange may end up after a few years of initial development. However, it is instructive to look at some illustrative figures.

For example, if the Scottish exchange had existed in 2017 and attained the market capitalization to GDP ratio (hereafter "ratio") of the lowest country ratio – 34.7% for Portugal – we can calculate what that would have meant for Scotland in terms of market capitalization. In 2017, Scotland's GDP[57] was estimated at £168.5billion. This is equivalent to US$220.735billion based on an exchange rate, at the time of calculating, of $1.31 to the £. Therefore the market capitalization figure for Scotland based on the above would have been $76.6billion. If it matched Ireland's ratio of 43.9% its market capitalization would have been $96.9billion. Furthermore, if its trading turnover matched Ireland's rate, it would have been of the order of $19.2billion.

Impact for Ireland

In Ireland, a study was published in 2014[58] into the wider impact of having a stock exchange, using fairly traditional measures of impact.

There is growing interest in measuring social and environmental impact[59], but the study in Ireland back in 2014 excluded these areas, although they will be of interest to the Scottish Stock Exchange.

The Ireland study entitled *Irish Stock Exchange: Local Support Global Reach* with a change of name from Irish to Scottish would beautifully sum up aspects of the Scottish Stock Exchange ambitions.

Amidst much useful information, the following describes important impacts prior to 2014.

In terms of local impact 4 overarching benefits were identified.

1. Source of equity for enterprise
2. Lowers the cost of capital for domestic firms
3. Creates local knowledge and specialization
4. Delivers macroeconomic benefits including greater R&D intensity and higher levels of foreign direct investment

Based on an analysis of 2012 figures, the Irish study revealed significant impacts.

Table 6: Impact of Irish Stock Exchange on aspects of ecosystem

ISE related ecosystem	Direct (Euros €)	Economy wide (Euros €)
Output/sales revenues from Irish operations	€377	€704
Tax contribution (including stamp duty)	€230	N/A
Irish employment incomes supported	€177	€314
Irish non-labour business expenditure	€130	€242
GVA/GDP contribution	€207	€325
Irish employment supported – full-time equivalents	2,101	2,977

> **More challenging for a new stock exchange is it may have to consider carefully how to overcome the lack of a track record to demonstrate it has the expertise and experience to enable trust to be gathered.**

Put simply, a successful stock exchange has significant benefits for local economies in terms of wider impacts on the financial ecosystem.

Motivation factors for listing

Of particular interest when looking to start up a new Stock Exchange are the factors motivating key groups to engage with the exchange. The Irish study produced some valuable insights in this regard[60].

None of the below factors are particularly surprising and all, with good management and leadership, could equally well be proposed as objectives for a Scottish Stock Exchange.

Perhaps of even more interest are the factors which appear to have influenced investors.

Table 7: Top 6 most significant factors in company's decision to list with Irish Stock Exchange

Motivation Factor	Percent Companies
Access to Irish Investors	88.4%
Access to International Investors	80.8%
Achieving the best valuation for company	77.0%
Ability to maintain or grow liquid market for shareholders	72.0%
Profile of company raised with investors, customers, suppliers, other finance providers and employees	69.2%
Access to option of dual listing with certain international markets.	68.0%

Table 8: Top 5 most significant factors in decisions of global investment managers to list investment funds with the Irish Stock Exchange

Motivation Factor	Percent ISE Fund Sponsors
Efficiency of listing process	100%
Experience and reputation of the Irish Stock Exchange and Central Bank	87.5%
Open Communication and willingness to engage	75.0%
Irish Stock Exchange competitive listing fees	75.0%
Expertise and technical knowledge	62.5%

It is telling that for both the table above and below, all respondents agreed a key factor is the efficiency of the listing process. More challenging for a new stock exchange is it may have to consider carefully how to overcome the lack of a track record to demonstrate it has the expertise and experience to enable trust to be gathered. It is encouraging to note in this respect the project team is to partner with Euronext.

The importance of effective communication with clients is important to note. Establishing a clear communication strategy from the outset seems highly desirable given the importance of communication suggested in these two tables.

The above tables suggest areas where a Scottish exchange may usefully focus upon.

In summary, stock exchanges successfully operate in many countries of similar size and stage of development to Scotland. They are making significant contributions to the development of capital markets, and the example of Ireland provides some useful insights into the wider benefits that they bring to a local economy. Ireland also provides useful insights into those aspects of operations that help attract business.

Table 9: Top 6 most significant factors in decision of debt issuers Irish Stock Exchange

Motivation Factor	Percent of debt listing agents
Efficiency of listing process	100%
Experience and reputation of the Irish Stock Exchange and Central Bank	100%
Expertise and technical knowledge	100%
Communication and willingness to engage	88.9%
Irish Stock Exchange competitive listing fees	88.9%
Choice of markets	66.6%

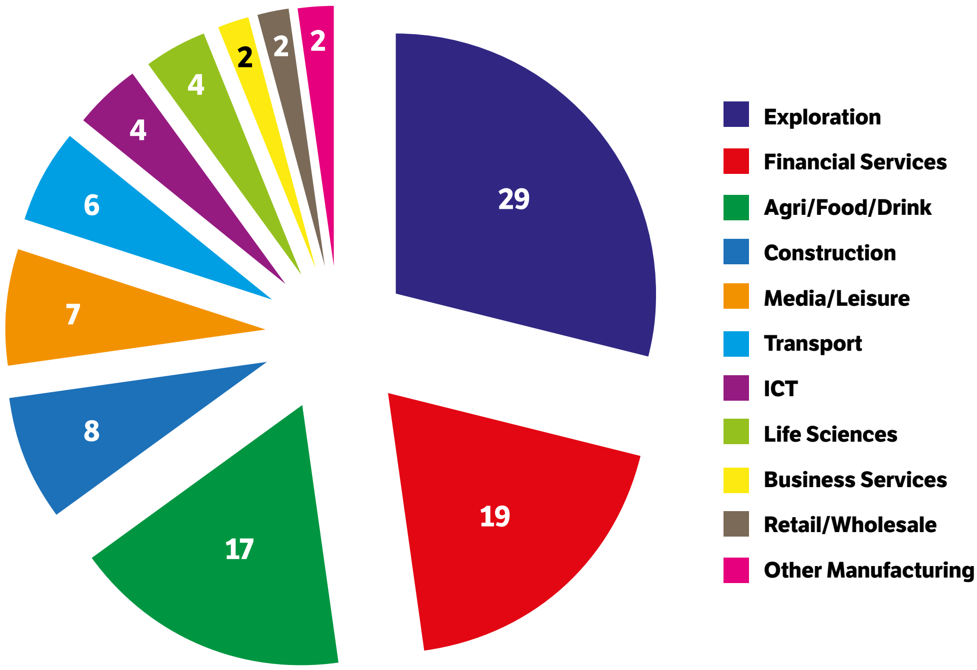
CHAPTER 6: KEY FACTORS

> **A new Stock Exchange for Scotland, while having international ambitions, will inevitably be highly dependent upon serving the domestic economy for its own sustainability and development.**

> **We are strongly of the view that the time is right for a new stock exchange for Scotland to be launched and add to the abilities of Scotland to address her future.**

An unknown at present is the sectoral profile likely to emerge for a new Scottish Stock Exchange. The chart below describes the profile by sector of listed companies in Ireland in 2014. It is simply observed that there is a very wide spread of sectors involved.

so-called maturing markets. One report by PWC[61] predicts that maturing markets are expected to account for a 65% share in global growth by 2021. Furthermore, these growth markets are predicted to enjoy almost two times the absolute



The above reflects, in part, sector activity within the Irish domestic economy. What can we say about the sectors that may engage with a Scottish Stock Exchange? This is a difficult question at present, requiring deeper research than can be offered at this juncture. However, as with all stock markets it will be influenced by trends in the market place both globally and domestically. What then do we know of such trends?

Global trends and indices

In terms of global trends, there is considerable evidence that greatest growth will come in

growth in world GDP as compared to developed markets. This will provide significant opportunities for businesses, with knock-on benefits for stock exchange activity.

Maturing markets

The global sectors that are expected to lead are:

- Financial Services; with this sector growing faster than the overall economy across a range of markets. There are particular opportunities in China, Thailand, India and Bangladesh, but all developing societies will be touched in some manner.

- Transport & Communications which includes connectivity infrastructure across both transport and communication. Mobile and internet penetration is vital in both rural and urban areas. China, Brazil, India, Russia and Turkey are quoted as the five largest markets by sector size.
- Health & Education - includes the adoption of technology driven solutions (where Scotland has considerable expertise). Household spending on education has grown significantly in China, Bangladesh and Egypt.
- Retail & Consumer Goods are being sought by the emerging middle classes and the way they consume has a different profile when compared to developed markets. Key products include clothing, entertainment, leisure and cars.
- Manufacturing, supported by new production technologies will lead to new competition in manufacturing. It is anticipated Thailand, Indonesia and Mexico will become regional hubs for cars, Bangladesh in textiles and Poland in food and drink.
- Agriculture – there is clearly a continued and sustained need for this but the real opportunities are "to produce more food better – by improving integrity, transparency and trust throughout the supply chain".

Globally too, there are an increasing number of new initiatives aimed at boosting trade. For example, on 21 March 2018 at the close of the "Creating One African Market" conference in Kigali, Rwanda, most African leaders signed a framework establishing the African Continental Free Trade Area, the largest free trade agreement since the creation of the World Trade Organization.

The free trade area aims to create a single market for both goods and services in Africa. If the remaining 10 African countries sign up, by 2030 the market size is expected to include 1.7 billion people with over $6.7 trillion of cumulative consumer and business spending[62].

It is of course notoriously difficult to predict with any significant degree of accuracy the future pattern of business and trade in general, and emerging and developing markets in particular. Nonetheless there is a consensus that growth is likely to be strongest in maturing markets for some years to come, and that it will occur in diverse sectors and not be confined to traditional sectors such as agriculture.

Entrepreneurship

Entrepreneurship, across all sectors, is an important feature of dynamic markets. The Global Entrepreneurship and Development Institute have developed a set of indices[63] build around 14 mainly qualitative pillars that support entrepreneurial activity. The pillars are: Opportunity Perception; Start-Up Skills; Risk Acceptance; Networking; Cultural Support; Opportunity Start-Up; Technology Absorption; Human Capital; Competition; Product Innovation; Process Innovation; High Growth; Internationalization, and Risk Capital[64]. Rating the majority of countries in the world has produced the Global Entrepreneurship Index[65]. The following table lists the top 15 countries (out of 137) by this index.

Table 10: Global Entrepreneurship Index Rankings

Global Rank	Country	Score (max 100)
1	United States of America	83.4
2	Switzerland	78.0
3	Canada	75.6
4	Sweden	75.5
5	Denmark	74.1
6	Iceland	73.5
7	Australia	72.5
8	United Kingdom	71.3
9	Ireland	71.0
10	The Netherlands	67.8
11	Finland	66.9
12	Germany	64.9
13	France	64.1
14	Austria	63.5
15	Belgium	63.0

We note first of all that 8 of the top 15 countries feature in the Sustainable Growth Commission report as 8 of the 12 comparator countries. In other words, countries of comparable scale and economic development to Scotland feature strongly in the list. Unfortunately however, we do not have data for Scotland with which to benchmark her performance against the above list.

Scotland

What of Scotland? A new Stock Exchange for Scotland, while having international ambitions, will inevitably be highly dependent upon serving the domestic economy for its own sustainability and development. Furthermore, a new Stock Exchange for Scotland will complement the drive to grow Scotland's economy in a sustainable fashion fuelled by other initiatives such as the establishment of a Scottish National Investment Bank[66].

Scotland has considerable economic potential and strengths that will provide significant opportunities for a new Scottish stock exchange. Amongst these strengths are the following.

Financial services

This report has already reviewed the strengths of the asset management sector in Scotland. She has a long history, and indeed a global reputation in financial services, particularly in high value areas. This project therefore will be launched into a very well established market place, with all the benefits that presents.

Energy

Scotland has been an energy producing country for centuries. In times past this was based on the deep mining of coal, but over the last 40 years and more it has been a leading oil and gas producer. It has in addition to exploration, developed global businesses in energy services. It has been claimed[67] that international activity now accounts for more than half of total sales of Scotland's oil and gas supply chain companies, with a value in excess of £11billion in 2015.

Of particular interest however, is the growing emphasis on renewable sources of energy, as the global economy tries to find ways of meeting the challenge of climate change. Scotland has a competitive advantage in this area. For example, in 2016, Scotland generated 54% of its electricity needs from renewable sources – mainly hydro and wind power[68]. Scotland has most of the UK on shore wind resources and up to 25% of Europe's tidal power, 10% of its wave power and approximately 25% of the European off shore wind potential[69].

With world-wide demand growing apace for renewable energy expertise and resources, Scottish businesses in this area are well placed to further expand.

Life Sciences

The life sciences sector is another of Scotland's great strengths with huge potential. This has most recently been confirmed on 12 November 2018[70], by the release by the Scottish Government of the latest figures showing that turnover stood at £5.2billion in 2016 and on trend for achieving the strategic target of £8billion by 2025.

Food and drink

Scotland has an international reputation for its food and drink. Its most famous export products include whisky, salmon, and shortbread, but other drinks (such as gin), fish (including crustaceans and other foods (such as cereals and meat) also make significant contributions. In 2017 Scotland exported approximately £6billion worth of food and drink[71]. Furthermore, its growth is exceptional, with a £570 million rise since 2016.

> **We need to tackle the underlying challenges in our economy and labour market, increase the competitiveness and sustainability of the Scottish economy and reduce inequality.**
>
> **Nicola Sturgeon**
> **First Minister**

Tourism

Scotland also has a growing tourism sector[72] whose performance is strong. Latest figures from Visit Scotland, for example, state in their summary report for 2017 that:

"Tourism in Scotland in 2017 saw 166million tourism trips (International, domestic overnight, and domestic day trips) taken generating over £11.2billion in expenditure."

Creative Industries

Scotland's creative industries comprise over 15,000 businesses employing over 70,000 people plus large numbers of freelancers. Scottish Government data[73], reports the sector as worth around £5billion annually.

National Policy Priorities

Scotland's economic strategy lists the sectors which are its prime focus and which gives Scotland key competitive advantage. These are:

- Food & Drink (including agriculture & fisheries)
- Creative Industries (including digital)
- Sustainable Tourism
- Energy (including renewables)
- Financial & Business Services
- Life Sciences

Precisely the areas we discussed briefly above. However the Scottish Government add that, in the words of the First Minister[74], the central purpose:

"has been to create a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth."

Sustainable economic growth is a frequently recurring theme of government statements. Again we quote the First Minister[75],

"We need to tackle the underlying challenges in our economy and labour market, increase the competitiveness and sustainability of the Scottish economy and reduce inequality. We need to ensure that there are sufficiently skilled and well-paid job opportunities available, support the move to the low carbon age, take advantage of the opportunities presented by globalisation and technological change and ensure that the benefits of economic success are shared by everyone."

We note here the recognition that part of the economic sustainability agenda is to move to a low carbon age, characterised too by advancements in technology and the sharing of benefits more widely. We would argue that the aims of the new Scottish Stock Exchange are entirely in tune with such ambition.

New National Performance Framework

Going even further is the pursuit of sustainability and on 11 June 2018; the First Minister re-launched the Scottish Government's National Performance Framework. It incorporates the UN Sustainable Development Goals,

"fulfilling the First Minister's commitment to embed them in all government activity"[76]

The National Framework sets out 11 high level aims as summarised in the following diagram.

This National Framework presents a view of a future Scotland that the proposed new stock exchange for Scotland will be entirely compatible with, and indeed will make a contribution towards fulfilling a number of the aims.

In summary

Given the above discussions, we are strongly of the view that the time is right for a new stock exchange for Scotland to be launched and add to the abilities of Scotland to address her future.

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