

ECONOMIC CRIME – PLUS ÇA CHANGE

A warm summer's evening, and a packed London Guildhall awaits the launch of an excellent new biography of Sir Thomas Gresham, Queen Elizabeth I's banker. As opening praise for the great man of Tudor and Elizabethan times fades, the truth – from Cambridge historian John Guy – begins to emerge, and in waves. Alderman Professor Michael Mainelli, Chartered FCSI(Hon) reviews the book and provides an insight into Sir Thomas's life, which paints a more graphic and nuanced picture of a grand wheeler-dealer (pp.67-69). Widespread economic crime of the kind practised by Sir Thomas – from market manipulation on an epic scale through false accounting to illegal arms dealing – still blights our world.

Addressing the opening of this year's Cambridge International Symposium on Economic Crime – now in its 37th year and with record attendance of more than 2,000 from every continent but Antarctica – Michael Mainelli was fretting. "After nearly 40 years of our symposia, fighting economic crime still means wildly different things to different people," says Mainelli. "To some, it's fighting criminals, others terrorists, others tax evaders. To some financial institutions it's a lovely barrier to entry, to challengers a

minefield. To lawyers, accountants, and consultants, a gravy train. To technologists an opportunity, for consumers a disaster. We are not losing the plot; we have yet to find the plot."

Cooperation between the public and private sector is key, and Michael is in a unique position – as Aldermanic Sheriff of the City of London, he will live in and be responsible for the workings of the Old Bailey, London's Central Criminal Court. So how can the public and private cooperate? "I believe that there are some basic economic forces we should amplify. First, we should be firmer about enforcing anti-competitive laws. Anti-money laundering and know-your-customer rules should promote trade, not hinder it. Fighting economic crime should ensure that account opening and switching will be easier and smoother, not harder and more complex."

The ethical dimension is strong, he believes: "Having encouraged society to use markets for things like asset allocation, risk decisions, or solving systemic problems such as economic advancement or climate change, we have an ethical obligation to police those markets and prove that society's trust was not misplaced."

Charles Randell CBE, chair of Britain's Financial Conduct Authority (FCA), warned the Symposium that "financial crime, specifically fraud against individuals, has reached epidemic proportions". He stressed the FCA's commitment to the success of the UK

government's economic crime plan, alongside public and private sector partners, to beat investment

// FIGHTING
ECONOMIC CRIME
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DIFFERENT PEOPLE //

fraud. The plan, published earlier this year alongside the creation of the National Economic Crime Centre, "demonstrates a determination at the political level to coordinate strategy across the many bodies with responsibilities for financial crime."

CISI chair, Michael Cole-Fontayn MCSI, followed through with a strenuous call for action. "Economic crime," he said, "is the largest and fastest-growing category of crime in the UK, and it disproportionately affects the vulnerable. To tackle the challenges it presents, we need greater public-private cooperation. This could be significantly accelerated by legislation to improve the sharing of data, information and intelligence between and within government and industry, and wherever possible in real time."

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THE TRANSATLANTIC VENTURE CAPITAL DIVIDE

DR KEITH ARUNDALE INVESTIGATES DIFFERENCES IN APPROACH BETWEEN EUROPEAN AND US VENTURE CAPITAL FUNDS



“While working in my former career at PwC, I became intrigued with the apparent underperformance of European venture capital (VC) funds compared to their counterparts in the US. I decided to undertake doctoral research – under the supervision of Professor Colin Mason at the Adam

Smith Business School, University of Glasgow – to investigate the difference in performance between UK/European and US VC funds. I conducted a series of in-depth interviews with venture capitalists from 64 different VC firms on both sides of the Atlantic. I supplemented my VC interviews with 40 further interviews with other stakeholders in the sector, including limited partner investors, entrepreneurs, VC-related individuals, advisers to the sector and corporate VC firms.”

Dr Arundale’s thesis, with a comprehensive bibliography, is published on the University of Glasgow website at theses.gla.ac.uk/30827

Historically, there has been a long-standing difference in performance between European and US VC funds, though returns do now appear to be improving and the gap between Europe and the US is narrowing. For example, the ten-year VC returns data to 2017 show that UK VC funds achieved a 6.6% pa return, according to a performance measurement survey by the British Private Equity & Venture Capital Association (BVCA) and PwC, while US VC funds achieved a 9.0% pa return (Cambridge Associates). Earlier data from Invest Europe show that the ten-year returns for VC funds to 2013 were 5.03% for the US but just 0.84% for Europe. This historical difference in performance has led to reduced allocations of funds raised for European VC from non-governmental sources, such as the traditional institutional investors, and a reliance on government agencies, particularly the European Investment Fund, for the funding needed for investment into high-growth entrepreneurial companies in Europe. In 2017, government agencies contributed 27% of the total European VC fundraising amount, though this fell to 18% in 2018 (Invest Europe).

So what explains the performance difference? Are US VC firms simply better at investing in potential high-return investments? Previous studies have not

fully explained the performance gap between European and US VC funds, attributing some of the difference to “unmeasured fund characteristics or the environment in which funds operated”.

The study sought to ascertain if there are generally agreed factors that may give rise to the performance difference between European and US VC funds for the sample of firms investigated. Potential factors may be of three types, as depicted in figure 1 below.

First, they may be structural, resulting from characteristics of the funds themselves, for example the size of the funds, their strategic focus or the backgrounds of the investment executives who manage the funds. Second, they may be operational, such as the investment practices of the VC firms which manage the funds. Third, they may reflect wider environmental factors, such as culture and attitude to risk and the wider ecosystem in which the funds operate.

The principal findings of the research are summarised below. The aim is to communicate to institutional investors that the UK/European environment for venture capital is improving and, as UK and continental European VC firms adopt more best practices (some of which are based on those of the US VC firms sampled in this research), the performance of UK/European VC funds should improve even further, encouraging increased institutional funding for the sector.

METHODOLOGY: A PRACTICAL APPROACH

Embracing engaged scholarship with practical experience in the VC sector, the approach taken in the research was to carry out interviews of around one hour’s

FIGURE 1: OVERVIEW OF CONCEPTUAL FRAMEWORK

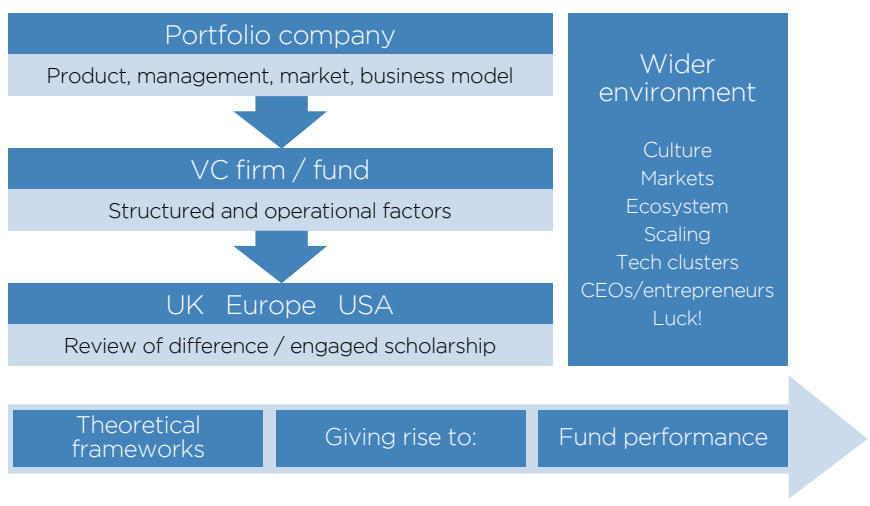


TABLE 1: SIZE OF FUND, SECTOR AND STAGE STRATIFICATION OF VC FIRMS IN SAMPLE

Number of firms	US	UK	Cont. Europe
Size of fund			
Small (<US\$84m)	3	9	8
Medium (US\$84m-US\$365m)	12	13	6
Large (>US\$365m)	10	2	1
Sector			
IT	10	8	2
Life Sciences	3	2	1
Mixed	11	8	10
Focused	1	6	2
Stage			
Seed / early	11	11	9
Venture (including early)	12	13	6
Growth	2	-	-

duration with senior VC practitioners and other stakeholders in both Europe and the US, using a semi-structured aide-mémoire approach. The interviews, which took place in 2013 and 2014, covered the entire investment process (origination, due diligence, approval, execution, monitoring and exiting). There are relatively few studies that have employed qualitative interview techniques to investigate VC fund performance and VC firm investment practices. The majority of the existing studies use quantitative techniques on large data-sets applying regression analysis of variables and/or survey techniques involving questionnaires sent to a large number of participants for completion.

The VCs interviewed in the research formed a purposive sample drawn from membership of professional VC associations and from personal and other contacts in the sector. The sample size of VC firms (64 separate firms) uses the concept of saturation and also allows for the assessment of variation between the distinct VC groups in terms of geographical location. The VC firms were sourced from a cross-section of stage and sector specialisms, as can be seen in the table above.

Half the VC firms were focused on early-stage ventures, the others invested across the venture stages, with two firms focused on growth deals. Firms invested across the broad spectrum of IT and life sciences, sometimes specialising in one or both of these sectors and sometimes having a narrow focus on specific areas, such as digital media.

Some 70 interviews (at 64 separate firms) were carried out with senior VC executives from 39 separate European and 25 separate US VC firms as follows:

Europe: UK 24, France 3, Germany 3, Ireland 3, Scandinavia 2, Spain 1, Switzerland 2, Netherlands 1.

US: California 13, Boston 4, Pittsburgh 4, Baltimore 1, Cincinnati 1, New Jersey 1, New York 1.

Interviews were also held with 40 other stakeholders, including limited partner

investors, entrepreneurs, corporate finance and other advisers and corporate VCs, comprising 19 from Europe (15 UK, 4 continental Europe) and 21 from the US. The ensuing thematic analysis involved over 2,500 pages of interview transcripts. While the research comprises some 110 interviews in total, which is certainly comprehensive for a qualitative study, the findings cannot be extrapolated to the full population of VCs.

FINDINGS

Several differences were found between UK/European and US VC firms and the structural, operational and wider environments in which they operate, as summarised here.

STRUCTURAL FACTORS

US funds in the sample (average size US\$282m) were considerably larger than UK (US\$168m) and continental European (US\$128m) funds. There is a shortage of finance, particularly of later-stage finance, for growing and scaling companies in Europe.

There's a massive inefficiency in the UK because you haven't got scale of funds; you're forever having to look to raise another round of funds and then another, and at each break point for the next fundraising, there are valuation and allocation disputes. It's hugely inefficient, a huge drain on management time.

UK limited partner

The larger size funds in the US allow VCs to follow through with their initial investments which, in turn, better permits investee companies to scale.

US VC firms have proportionately more partners with operational and entrepreneurial backgrounds than European firms, which may well assist in the screening and value-adding capabilities of US VCs. European VC firms have a greater proportion of partners with a financial, investment or consultancy background.

People who are good entrepreneurs are often the folk who end up becoming venture capitalists here.

US entrepreneur

US firms have around one more partner in total than European firms. The research also reveals that US firms share responsibility for deals more than UK and continental European firms, often having two partners working together throughout the life of an investment. Additional knowledge and experience gained by two partners working together reduces information asymmetries which could lead to better investment and consequent better fund performance.

There is also evidence of US VCs clubbing together to make relatively small investments in very early, seed-stage investments in order to 'test the water' and thereby reduce the risk of missing out on potential outlier investments which have the potential to contribute disproportionately to the overall returns of a fund.

OPERATIONAL FACTORS

For the sample of VC firms included in the study, there are a number of operational areas where the investment practices of European VC firms differ from those of US firms. A theme approach to identifying 'hot' future areas for potential investment is adopted more by US VCs than by European VCs, with the latter tending to follow the trend. US VCs put considerable resources into researching and developing innovative new areas for investment. Getting ahead of the competition in this way and investing at the earliest stages of new technologies could contribute to the better performance of US VC funds.

About ten times per year, partners decide where to put resources to try and identify an investment thesis, and present it to the group with respect to: is there an investable idea behind that?

US VC

In addition, more US VCs have pursued a home run, 'one in ten' investment strategy than European VCs, perhaps due to the intensely competitive environment in which US firms operate, where taking a middle ground approach does not work, compared to Europe where there are constraints with funding and scaling.

When we speak with one of our LPs in particular, their constant push is "are you taking enough risk in your portfolio?"

UK VC

With a one in ten investment strategy, it could be that one or two stellar-performing investments achieve outlier returns of 10x or more and return the fund as a whole, compared to more of a growth strategy where several investments might achieve more modest 2x or 3x returns.

The brand strength of US VCs has an impact on attracting quality deal flow, whereas European VCs have more of a proprietary approach to generating deals.

I can't think of European VC-backed firms that would have the same kind of brand franchise for a start-up that would be as attractive as some of the Silicon Valley groups here in North America.

US limited partner

While most US VCs in the sample reach investment decisions unanimously or by consensus, a senior partner could force or 'railroad' the decision in some US VCs. Consensus may 'kill' the outlier deals which may produce outlier returns.

More US VCs, particularly West Coast based VCs, have 'entrepreneur-friendly' terms in their term sheets as opposed to the 'investor-friendly' terms found with European VCs and with some East Coast based US VCs. This again demonstrates US VCs' focus on the upside of investment growth as opposed to the

European concern to protect the downside risk.

Europeans are saying "how do I not lose?" and Americans look at the question "how do I win?"

US Silicon Valley VC

There is perhaps a greater use of milestone-based financing/drip-feeding by European VCs.

American CEOs think that European VCs just want to drip-feed them; the European VCs under-capitalise companies.

US Silicon Valley VC

US VCs focus on the metrics portfolio companies need to manage to determine how much money to continue to invest at subsequent rounds.

The US VCs know exactly what metrics they're willing to fund. The reason they're willing to put another US\$X in is because they've seen that happen before.

UK corporate VC

European VCs syndicate with other VCs, often for monetary reasons. US VCs may not need additional finance but collaborate to pool expertise and know-how.

We syndicate not because we need to, but because we want to.

US VC

European VCs appear to keep poor-performing investments going for longer than US VCs. On the other hand, more US VCs wait for the best exit than European VCs, who tend to exit early, perhaps due to fundraising pressures from their investors or issues with scaling in Europe. US VCs appear more able to achieve optimal exits for their investments as a result of their wealth of contacts with potential trade buyers, such as large technology companies, and an overall easier exit process in the US, including a stock market that is more receptive to technology companies. European VCs achieve less than optimal realisations for their investments,

which result in less profitable exits and lower returns for their funds.

You've got to take the best offer on the table for the money that you've got so you're maximising your return within the capabilities you have of limited fund sizes, and that is a big issue for the UK.

UK limited partner

WIDER ENVIRONMENTAL FACTORS

There are several differences in the wider environments in which European and US VCs operate.

European VCs have a lower propensity for risk and do not 'think big enough' with their investments.

There are just as many smart people with good ideas in Europe, [but there's] a lack of entrepreneurial capital and mindset.

US adviser

US VCs' risk approach is perhaps exemplified in their one in ten home run investment strategy, noted above. There is also more of a willingness to share contacts, talents and information in the US, particularly in the unique environment of Silicon Valley, versus more of a proprietary approach in Europe.

There is a relative lack of experienced CEOs and serial entrepreneurs in Europe compared to the US.

I think Europe is getting there but we don't have that large enough base yet of entrepreneurs and CEOs that have done it before.

UK corporate VC

The difficulty of scaling by investee businesses in Europe is well known, largely due to a relative shortage of funds and the fragmentation of the European markets.

In Europe we don't have big enough home markets to build great home run returns, so companies need to be international from day one.

UK VC

There is also complexity due to copyright law in Europe.

While there is now a unitary patent system and copyright across Europe, the issue is who licenses it for which territory. This puts off US VCs from investing in the UK.

Patent expert at Silicon Valley based tech company

There are difficulties of exiting in Europe with less receptive stock markets and poorer connections with large corporates.

You don't IPO your company in London unless there's something wrong with it usually. Because it's not an exchange that's going to value a high-tech company.

UK corporate VC

Overall there appears to be a more open and sharing approach in the US, contrasted with a more proprietary, protectionist, hierarchical approach in Europe.

Silicon Valley was specifically highlighted with its unique open but tightly networked ecosystem.

The investments, the CEOs and their teams are surrounded by a phenomenal ecosystem [in Silicon Valley]: connected advisers, connected partners. The Valley is just unique.

UK VC

CONCLUSION: THE WAY FORWARD?

The different structural aspects of European and US VC firms and the differences in their operational investment practices may well contribute to the historical difference in performance between European and US VC funds, along with various cultural and economic differences as noted above and summarised in figure 2, right. The differences that have been identified in this study make an important contribution to explaining some of the unmeasured differences in performance between UK and US VCs referred to in earlier studies.

The implication of this research is that the solution to the funding gap in the UK and continental Europe is not simply a matter of increasing the supply of finance. Rather, there is a need for fundamental changes in both the practice of European investors and in the wider ecosystem in which they operate. European VCs could consider adopting more of a higher-risk,

'home run' investment strategy if considered practical and rational, the pursuit of outlier deals championed by senior, experienced partners, the use of 'entrepreneur-friendly' terms and less focus on the downside, and a 'theme' approach to identifying hot areas for investment. European VCs could also consider raising larger funds, if practical, for follow-on funding and scaling, hiring more partners with operational and entrepreneurial backgrounds and exiting from investments when the most value can be achieved, depending on market conditions and scaling potential.

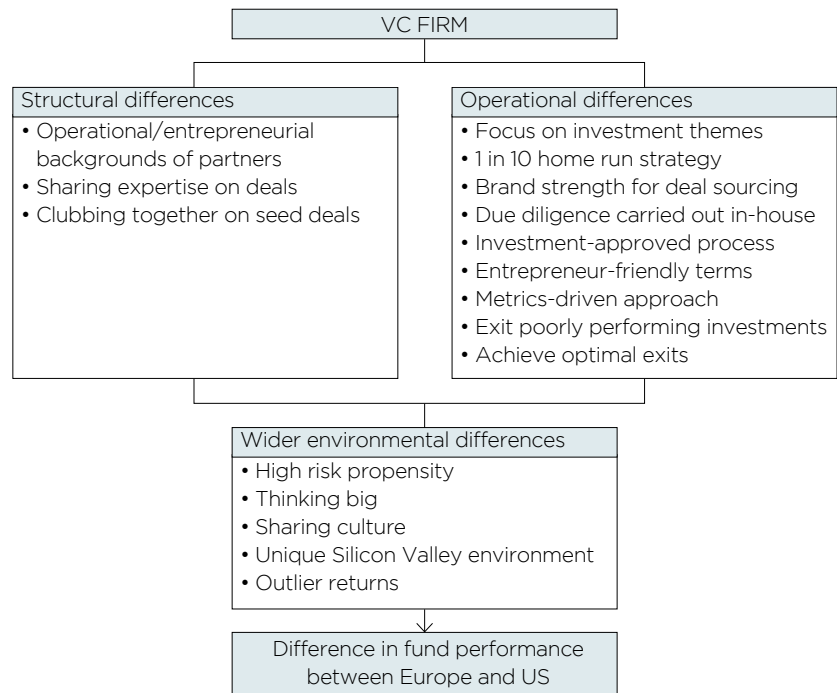
A less proprietary approach, more networking and sharing of information, including dissemination of best practices, and building collegiate syndicates could also be encouraged. In the wider environment there is a need for more receptive public markets for technology companies, together with a ready supply of good CEOs and entrepreneurs willing to form serial ventures.

As noted at the beginning of this paper, European VC returns do appear to be improving. There are many excellent features about the VC sector in Europe. For example, in the UK we

generally have an adequacy of start-up finance with business angel syndicates and crowdfunding, as well as some VCs willing to take the risk of investing at the very early stages. We have much technological innovation from the universities, centres of excellence in artificial intelligence, fintech and other areas and more people studying entrepreneurship and joining entrepreneurial companies. However, there is more that we can learn from the US VC sector. US VC firms are more aggressive. UK/European firms are more timid. This is not a cultural issue. It is due to real economic factors, including a more competitive environment in the US and issues with scaling, fragmented markets and a relative lack of later-stage finance in Europe.

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FIGURE 2: DIFFERENTIATING FEATURES OF US VENTURE CAPITAL FUNDS IMPACTING ON FUND PERFORMANCE GAP



GROWING THE DIGITAL ECONOMY – THE ROLE AND PURPOSE OF FINANCE IN THE FOURTH INDUSTRIAL REVOLUTION ¹

DEVELOPING COUNTRIES HOLD THE KEY TO SUSTAINABLE INCLUSIVE ECONOMIC DEVELOPMENT. THEY NEED TO DEVELOP CAPITAL MARKETS, STIMULATE ENTREPRENEURSHIP, CAPTURE VALUE-ADDED THROUGH SUPPLY-CHAIN INTEGRATION, DEVELOP PHYSICAL INFRASTRUCTURE AND LEVERAGE THE CIRCULAR ECONOMY

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INTRODUCTION

International trade is the exchange of capital, goods, and services across international borders and has existed throughout much of human history. Without it, citizens of countries would only have access to the goods and services produced within their national borders. In emerging markets, international trade represents a substantial and increasingly significant share of gross domestic product (GDP). International trade has helped in reducing extreme poverty throughout the world.² At the same time, it has become central to the climate change debate, now that the world is at a tipping point, to try to address it and prevent the worst from happening.³

The world is also transitioning from the third to the Fourth Industrial Revolution (4IR). This paper explores the role that the capital markets of emerging market countries along the New Silk Road could play in growing the digital economy and contributing to sustainable economic development now that the era of 4IR is emerging.

THE TRADITIONAL SILK ROAD

The original Silk Road was a 6,500km network of trade routes that connected the East (China) to the West (Southern Europe). Travelled by traders, merchants, pilgrims, monks, soldiers, and nomads, the Silk Road routes were central to the development of the civilisations of China, the Indian subcontinent, Persia, Arabia, and Europe. People from eastern China to those living along the Mediterranean Sea benefited not only from the trade of goods such as silk, porcelain and teas, but also from the exchange of ideas (for example, religions) and technology (for example, gunpowder from China). The traditional Silk Road was instrumental in the cultural interactions between the inhabitants of these regions for centuries.

THE EMERGENCE OF THE NEW SILK ROAD

Historically, China's coastal regions, such as Shanghai and Guangdong, have been destinations for low-cost manufacturing, providing easy access to labour and convenient import and export options for raw materials and finished goods. For China, as well as Kazakhstan, state capitalism was at the core of rapid economic growth, but both countries recognise that state capitalism has largely run its course. This is because governments are good at infrastructure investment, but not so good at innovation.

In 2012 the Chinese private sector overtook the public sector in terms of share of China's GDP, adding over 60% to the country's GDP. China has developed, and continues to develop, its economy based on the existing 22 hub-and-spoke⁴ clusters, which are making a rapid transition from labour-intensive to capital- and technology-intensive industries, such as pharmaceuticals (around Shijiazhuang) and civilian aerospace (around Xi'an). Each of these is an ecosystem in its own right, driven by innovation and private enterprise. What is also increasingly apparent is that China

has been pushing manufacturing westwards for the following five reasons:

- 1. Improved infrastructure:** impressive investment over the past 20 years in infrastructure provides access to most cities and provinces in China.
- 2. Access to labour:** a large and largely untapped pool of workers is available in China's western provinces.
- 3. Lower cost:** labour, land, construction, management supplies and overhead costs are all significantly lower than in China's coastal regions.
- 4. Strong local government support:** municipal governments of China's smaller cities are likely to provide strong support and reduce the red tape for manufacturing businesses willing to invest.
- 5. Proximity to markets:** Europe can be reached faster and more cost-effectively over land from western China than from over land and sea.

The New Silk Road, a term first coined by Alexander Van de Putte, Ged Davis and Wai Chiew Chik in the World Economic Forum's report from 2006, *China and the world: scenarios to 2025*,⁵ is an ambitious multibillion dollar project to connect China with Western Europe along a 2,500km railway through Kazakhstan.

Just as the ancient caravans transformed the world, bearing ideas and cultures along with their silks and spices, Kazakhstan is a partner in the modern equivalent to this central Eurasia trade route to stimulate economic growth, with potential repercussions the world over.

¹ This paper is based on a presentation made by Van de Putte at the 'Belt, road & bridge: creating new China-Europe connectives' conference on 1 May 2019 in London. His speech is available on [CISI TV](#).

² 'Towards the end of poverty', *The Economist*, 1 June 2013.

³ 'Trade and climate change', *World Trade Organization*, 2009.

⁴ 'What's next for China?' *McKinsey & Company*, January 2013.

⁵ *China and the world: scenarios to 2025*, *WEF*, 2006.

Connecting China with Europe, Turkey, and the Middle East will encompass more than just a transit route from point A to point B; this New Silk Road will create an economic corridor and promote stability, and energy security, while opening up trade. China and Kazakhstan will be among the many beneficiaries. The New Silk Road is the gateway to the world economy, and it is the mission of our governments to develop that gateway to the fullest. The New Silk Road offers major time and cost advantages over alternative transport corridors. For example, to transport goods from Western China to Central Europe over the Trans-Siberian land-bridge takes 14 days, by sea up to 45 days, while over Kazakhstan, it could be as little as eight-ten days. This makes the New Silk Road an interesting transshipment alternative for time-sensitive and/or medium- to high-value density products (for example, raw materials and grain) or for subassembly (for example, computers, printers, gearboxes for cars, cars).

The massive investment required to make the physical infrastructure portion of the New Silk Road a reality has not gone unnoticed, and many countries along its path entered into heavy debt financing often provided by Chinese institutions. As a result, many developing countries in the Eurasia region have unhealthy country-level balance sheets that are overleveraged.

THE FOURTH INDUSTRIAL REVOLUTION WILL INCREASINGLY DRIVE DIGITAL TRADE

The global economy was growing rapidly until the 2008 financial and economic crisis, when it experienced its biggest test since the Great Depression. Since then, global physical trade and financial flows have struggled to find a new growth model. Digital trade, on the other

// THE NEW SILK ROAD IS THE GATEWAY TO THE WORLD ECONOMY //

hand, has taken off and continues to grow exponentially.⁶ This shift from physical to digital trade is largely driven by the emergence of 4IR.

In 2016, Klaus Schwab of the World Economic Forum argued that we stand on the brink of a technological revolution that will fundamentally alter the way we

live, work, and relate to one other. He defines 4IR as “a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and

even challenging ideas about what it means to be human.”⁷

Economies and companies that want to experience sustainable business growth need to harness 4IR. Hubs such as the Astana International Financial Centre (AIFC) consist of two interrelated sub-ecosystems. Sub-ecosystem 1 comprises traditional financial sector players, such as commercial banks, private banks, investment banks and insurance companies. Their main objective is to provide financial products and services to the economy and society at large. Sub-ecosystem 2 (AIFC fintech) comprises start-ups, tech entrepreneurs, and other technology companies that focus on the crucial technology aspects of 4IR, such as blockchain, cyber security, and AI. Professional services firms operate at the intersection of the two sub-ecosystems, alongside VC firms, R&D centres and training providers. Successful AIFC fintech companies

eventually become financial sector players or help transform traditional financial sector players to disrupt their business model. These two reinforcing sub-ecosystems make it a dynamic and innovative financial sector ecosystem ready to compete in 4IR.

AIFC fintech will leverage the following 4IR technologies:

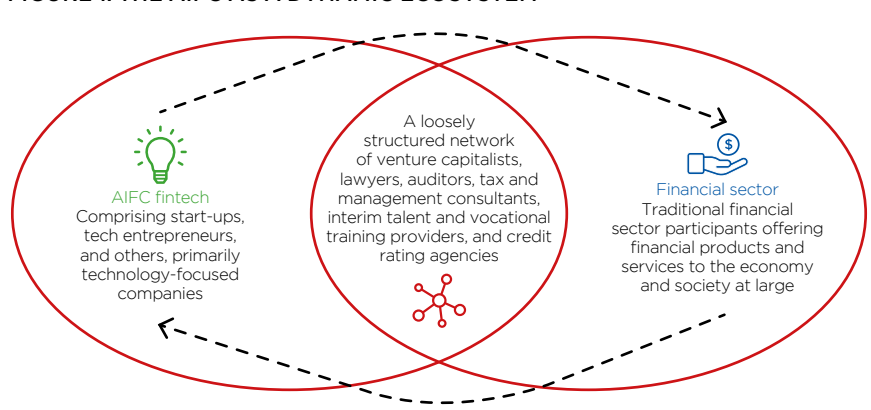
- 1. Datacentres and big data:** Big data, data over the size of a petabyte, is driving the need to develop datacentres and network infrastructure. With 4IR, data centres need to be designed with the future in mind and need to be highly scalable
- 2. Blockchain and distributed ledger technology:** Blockchain has application areas in finance, logistics, global value chains, mining, and oil and gas, and is therefore important for the various aforementioned sectors. At AIFC, blockchain is at the core of the fintech revolution and will enable traditional banks to become digital banks.
- 3. Internet of things (IoT), connected devices and artificial intelligence (AI):** Two countries have a nationwide IoT network: the Netherlands and South Korea. The IoT, combined with connected devices (for example, robots), has the potential to provide seamless automation to otherwise mundane manual tasks, such the automation of forex and stock trading.⁸ For example, robots connected through an IoT network and enabled by AI could autonomously improve agricultural development from seed dispersal to weed removal and

⁶ *Digital globalization: The new era of global flows*, McKinsey Global Institute, 2016.

⁷ *The Fourth Industrial Revolution*, Klaus Schwab, Penguin, 2017.

⁸ *A forex or stock trading robot is a computer program based on a set of forex or stock trading signals that helps determine whether to buy or sell a currency pair or stock at a given point in time. Forex or stock trading robots are designed to remove the psychological element of trading and improve the efficiency of digital trading.*

FIGURE 1: THE AIFC AS A DYNAMIC ECOSYSTEM



Source: Astana International Financial Centre; Sustainable Foresight Institute

TABLE 1: FINANCING LANDSCAPE FOR SUSTAINABLE PROJECTS

Commercial	Development institutions	Government
Banks • Debt/equity, guarantees on loans, funds Asset managers • Debt/equity, funds, SPVs, leases, private placements Private equity/Venture capital • Equity, funds, SPVs, private placements Institutional investors • Syndicated loans, private placements, debt	• Multinational • Bilateral • National	• Grants • PPPs • Guarantees on loans • Sovereign debt
	Private	
	Project developers • Equity/leases	

Source: AIFC Research

investors, development institutions and government financing (Table 1).

The Morgan Stanley Capital International (MSCI) Emerging Markets Index is used to measure equity market performance in global emerging markets and is the de facto index used by investors to channel investments to growth markets. The MSCI Emerging Markets Index grew from 10 countries in 1988 to 24 countries today and represents 13% of world market capitalisation. Most developing countries are currently not part of the MSCI Emerging Markets Index and need to explore ways to upgrade from frontier to emerging market status. This is relatively straightforward, while the benefits are significant.

Benefits include:

- Increased capital inflows: The MSCI Emerging Markets Index has over US\$2tn of assets benchmarked against it. Inclusion in the Index would not only increase the exposure of developing countries' stocks to international investors, but also lead to passive inflows from funds that follow the Index's progress.
- Enhanced liquidity: Liquidity in developing countries' stock markets is typically very low. Capital inflows resulting from inclusion in the Index will substantially boost liquidity in developing countries' stock market and economy.

harvesting, thus improving crop yields and virtually eliminating the need for pesticides, thereby resulting in healthier crops.

4. Security and cyber security: With the benefits of 4IR also come additional and emerging risks, such as cyber security. In the age of 4IR, companies need to protect every node in the system through comprehensive cyber security that is robust, resilient and secure.

Based on a 2016 McKinsey Global Institute study,⁹ digital trade and especially digital finance has dramatic upside potential, especially for developing markets, along the path of the New Silk Road, including:

- providing access to financial services for 1.6 billion in developing countries, especially women
- boosting annual GDP of all developing markets by US\$3.7tn by 2025 – a 6% increase
- creating nearly 95 million new jobs across all sectors – a 3.5% increase.

However, one cannot explore the opportunities without considering the risks. Challenges include: 1) rising inequality because of job losses due to automation and the use of artificial intelligence, 2) data privacy issues, 3) cyber security and cyber crime, 4) dealing with bias within artificial intelligence, and 5) the overall resilience of the global financial system.

⁹ 'Digital finance for all: Powering inclusive growth in emerging economies', McKinsey Global Institute, 2016.

¹⁰ 'Global wealth: reigniting radical growth', Boston Consulting Group, 2019.

¹¹ 'Amundi and The Economist release a study of asset-owner priorities for ESG investing in Asia', Amundi Asset Management, 26 June 2019.

CAPITAL MARKET DEVELOPMENT TO ENHANCE LIQUIDITY AND INCREASE CAPITAL INFLOWS

There is also no shortage of capital or sources of capital to finance the sustainable trade over the New Silk Road and globally. According to the Boston Consulting Group,¹⁰ global wealth now exceeds US\$200tn and, since the 2008 global financial and economic crisis, this wealth has struggled to find bankable projects anywhere in the world. The global renewable energy internet could provide this opportunity for global investors to make a game-changing contribution to sustainability, while at the same time provide superior returns in line with the findings of the 2019 Amundi study.¹¹

Sources of capital are diverse and growing and include banks, asset managers, private equity, institutional

TABLE 2: MSCI MARKET CLASSIFICATION FRAMEWORK AND REQUIREMENTS

Criteria	Frontier	Emerging	Developed
A. Economic development A.1 Sustainability of economic development	No requirement	No requirement	Country GNI per capita 25% above the World Bank high income threshold* for three consecutive years
B. Economic development B.1 Number of companies meeting the following Standard Index criteria • Company size (full market cap)** • Security size (float market cap)** • Security liquidity	3 US\$776m US\$776m 2.5% ATVR	3 US\$1,551m US\$776m 15% ATVR	5 US\$3,102m US\$1,551m 20% ATVR
C. Market accessibility criteria C.1 Openness to foreign ownership C.2 Ease of capital inflows/outflows C.3 Efficiency of operational framework C.4 Availability of investment instrument C.5 Stability of the institutional framework	At least some At least partial Modest High Modest	Significant Significant Good and tested High Modest	Very high Very high Very high Unrestricted Very high
* High income threshold for 2018: GNI per capita of US\$12,056 (World Bank, Atlas method) ** Minimum in use for the May 2019 semi-annual index review, updated on a semi-annual basis			

Source: [MSCI Market classification framework](#), June 2019

- Reduced cost of capital resulting from increased trading volumes: Being part of the MSCI Emerging Markets Index should lead to a fall in the equity risk premium because of risk diversification. This will help draw in new investors, such as endowment funds and hedge funds. As stock prices swell as a result, even more investors are drawn to developing countries, effectively creating a virtuous circle.

Small and medium-sized enterprises (SMEs) play a critical role in the economy. They tend to be more nimble and dynamic compared to larger companies and therefore drive innovation and more sustainable business growth. SMEs, however, need access to growth financing to scale their business. In most developing countries, a capital market for SMEs does not exist. There are at least four benefits for developing

countries to develop an SME market: 1) it provides access to equity capital to scale the business beyond what would be possible through venture capital (VC) funding; 2) it provides exit options for VC firms. Therefore, VC firms are more likely to provide risk capital at earlier stages of the SME development; 3) a listing often requires SMEs to bolster corporate governance, including the recruitment of independent non-executive directors. A well-composed board will help SMEs identify viable strategic growth options beyond those that typically the founders were able to identify, 4) over time, a lower cost of capital which in turn will help the SME to grow more sustainably, and 5) increased visibility to a diverse group of stakeholders, which could result in additional revenue growth.

WHERE WILL ALL THE CAPITAL GO?

With enhanced liquidity and improved equity capital flows, the question arises: where should all the capital go to drive sustainable economic development? There are three areas that come to mind:

¹² 'What is the circular economy?', Ellen MacArthur Foundation, 2015.
¹³ 'Europe's circular-economy opportunity', McKinsey & Company, September 2015.
¹⁴ Estimate based on the Ellen MacArthur Foundation circularity indicators.

1. Doing things smarter: Leverage the circular economy (CE) to make existing assets more sustainable and competitive. A CE is one that is restorative and regenerative by design and was popularized by the Ellen MacArthur Foundation and McKinsey & Company.¹² According to McKinsey, the CE has the potential to create €1.8tn of incremental value in Europe by 2030.¹³ In natural resource-rich countries, the potential (as a percentage of GDP) is much larger and estimated at up to 2% of incremental annual GDP growth.¹⁴ This is because there are many

// THE CIRCULAR ECONOMY IN NATURAL RESOURCE-RICH COUNTRIES WILL CREATE SKILLS AND JOBS //

opportunities to reduce, reuse and recycle waste in the extraction industries' value chain by leveraging skills, enabling infrastructure, and SMEs. The circular economy in natural resource-rich

countries will create skills and jobs, improve – or at least help maintain – natural capital, and create financial capital that is not dependent on the volatility of the demand for natural resources.

2. Capture value-added: Capture value-added through supply-chain integration and the development of physical infrastructure. To connect the more than five billion people who live in the Eurasian region, Kazakhstan plays a central role given its geographic location and its good relationships with its neighbours. Investment in infrastructure, including clusters, will be key to making the New Silk Road a success, given infrastructure has a high economic multiplier. The Asian Development Bank estimates that, on average, US\$750bn per year of infrastructure investment is required until 2030 in Asia alone. Not all will be destined to make the New Silk Road a reality, but it is probably the largest multi-country infrastructure project ever undertaken to enable east-west trade.

3. Leapfrog into the future: Given 4IR, it would be unwise not to leverage some enabling technologies to make better use of infrastructure. For example, the internet of things (IoT), combined with autonomous vehicles, has the potential to dramatically

improve the efficiency of how infrastructure is used, because logistics providers will now be able to track each item in the supply chain and ensure that it finds the fastest and most cost-effective way to its ultimate destination. The potential for digital technologies to disrupt value chains is enormous.

CONCLUSION

As mentioned earlier, all this requires large amounts of investment and, under the initiative of China, the Asian Infrastructure Investment Bank (AIIB) was created in late 2015. The AIIB has 37 founding members and 20 non-regional members and has, according to the UN, the potential for scaling up financing for sustainable development.

However, countries along the New Silk Road's path cannot rely purely on China and primarily debt financing. Instead, they should develop their own capital markets and promote SMEs to drive innovation and entrepreneurship. The New Silk Road has the potential to accelerate trade, economic growth and sustainable development for all the countries along its path.

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SIR THOMAS GRESHAM: TUDOR, TRADER, SHIPPER, SPY¹

BY ALDERMAN PROFESSOR **MICHAEL MAINELLI**, CHARTERED FCSI(HON),
EMERITUS PROFESSOR OF COMMERCE AT GRESHAM COLLEGE

Alderman Professor Michael Mainelli, Chartered FCSI(Hon), profiled in this edition on pages 30 to 33, has made a special study over many years of the life and work of Sir Thomas Gresham, founder of the eponymous college and subject of a vibrant new biography by Tudor historian John Guy.

The following article has been updated and adapted from Michael's website at mainelli.org. It is one of the most eye-opening studies of a revered historical figure for many years. While Sir Thomas was indeed the founder of the first serious English challenge to the power of Oxford and Cambridge as seats of learning, and a (mainly) loyal servant to monarchs, he had a more robust side, from which many lessons – particularly on ethical behaviour – are still to be learnt.

THE LEGEND

Sir Thomas Gresham (1519–79) is the best known of all 16th-century English merchants and financiers. Gresham served four Tudor monarchs, managed to keep his head, and all the while made money.

He helped to make London a great international financial centre by importing from Antwerp the idea of a 'bourse' or 'exchange' for items such as shipping and insurance. He built the Royal Exchange and installed the first English shopping mall or bazaar on the first floor of the building. His will enabled a challenge to the dominance of Oxbridge in higher education at the time.

Sir Thomas was a true cockney, born within the sound of Bow Bells on Cheapside around 1519. He attended St Paul's School and Gonville Hall (later to become Gonville and Caius College), Cambridge. In 1543 the Mercers' Company admitted the 24-year-old Gresham as a liveryman dealing in cloth. In the same year he went to Antwerp to make his fortune.

¹ Mainelli.org/?page_id=1497.

² greshams.com/prep-schools-2/archives/history-society-lectures/sir-john-gresham/.

His legend is as a wizard of global finance and one of the wealthiest men of his era. He rose through the mercantile worlds of London and Antwerp to become indispensable to Tudor monarchs. He was something of a maverick both in business and in life. His guiding hand at the helm helped to keep England safely afloat financially in some of the most turbulent of times, but he followed his own rules. Recent appraisals show that while he made money much of the time, his two biggest speculations for the Crown went badly wrong, and he died heavily in debt despite the vast scale of his reputed assets.

He made his greatest discovery as early as the 1550s – bankers and money markets could hold monarchs and sovereign governments to ransom, just as much as the reverse. We're still living with his

legacy. Today his name is remembered in the institutions he founded (the Royal Exchange, Gresham College), through an economic principle (Gresham's law) that he did not in fact invent, and for starting to place the City of London at the economic centre of the world.

THE TUDOR

According to family legend, the founder of the family, Roger de Gresham, was abandoned as a baby in long grass in north Norfolk in the 13th century. A woman's attention was drawn to the foundling by the chirping of a grasshopper, hence the family symbol. While this is a beautiful story, it is more likely that the grasshopper is simply a heraldic rebus on the name Gresham, with 'gres' being a Middle English form of grass (Old English 'græs'), and 'gressop' a grasshopper. The grasshopper emblem first appears in correspondence from London to the Pastons in Norfolk in the mid-1400s.

James Gresham, Sir Thomas's grandfather, was from the Norfolk town of Holt. He became a London legal agent working for Sir William Paston, a prominent judge from a family of Norfolk gentry.

Sir Thomas's father, Sir Richard Gresham, his uncle Sir John Gresham, and later Sir Thomas himself were merchants actively trading in Antwerp and London. They had a lucrative sideline undertaking specific missions for the Crown, for example supplying tapestries for Wolsey in the 1520s and armaments for Henry VIII in the 1540s. Richard, in particular, was also engaged in short-term lending (Tudor 'payday' loans) to Londoners and courtiers during these years, while speculating extensively, and highly profitably, in land

// HIS GUIDING
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FINANCIALLY //

and lead after the Dissolution of the Monasteries.

Sir Thomas owed much of his success to the patronage of his father

and uncle; both were two of the most effective of the Tudor financiers, but were known to be ruthless, greedy and were widely hated.

The head of history at Gresham's, Simon Kinder, expanded on this in a History Society lecture called 'Shovellor of human manure':

Sir John was accused of crafty business dealings as early as 1526. In 1532 an Antwerp merchant, Nicholuccio Vinnaciese, pleaded with Henry VIII to give him protection from the Gresham brothers who, he claimed, had had him wrongfully arrested and had attempted to destroy his credit rating amongst his fellow merchants.

In 1535 Sir Francis Bigod wrote to Thomas Cromwell complaining that he 'dare not come to London for fear of Mr Gresham'. When Sir John Gresham died in 1556 his death was celebrated in verses which carried the following catchy title, translated from the original Latin – 'The epitaph of that stupid and squalid usurer, John Gresham, a soldier who shovels human manure ... who is buried in hell'. Similar verses celebrated the demise of Sir Richard Gresham in 1549.²

THE TRADER

Gresham was no stranger to rigging markets. He writes to Lord Cecil in 1558, “Dyd I not raise it to 23s, and paid his whole detts after 20s., and 22s whereby wool fell in price from 26s 8d to 16s., and cloths from ix li a packe to xl and xxxvi li a packe, with all other our commodities, and forrayners.”³

Throughout the 1550s and 60s, Sir Thomas continued to acquire significant properties in several counties, such as Osterley Park and Boston Manor in West London. He built his City mansion near Bishopsgate around 1563 on the site now occupied by Tower 42. The unsettled times preceding the Dutch Revolt against the Spanish rulers of the Netherlands compelled him to leave Antwerp for good and bring much of the trade with him to London. Queen Elizabeth I then found Gresham useful in other ways, including acting as jailer to Lady Mary Grey (sister of Lady Jane Grey) for three years.

Monarchs such as Holy Roman Emperor Charles V and his son Philip II, king of Spain, and big banking and trading firms, such as the German-based Fuggers, raised funds on the Antwerp Bourse. The extravagancies of Henry VIII and mismanagement of trade by Sir William Dansell, the king’s merchant in the Low Countries, financially embarrassed the English monarchy. By late 1551, Edward VI appointed Sir Thomas as Royal Agent in Antwerp. A shrewd dealer, Gresham advised the king to manage actively the value of pound sterling by buying low and selling high on the Antwerp Bourse.

THE SHIPPER

Antwerp was very cosmopolitan and large for the time, with a population approaching 100,000, double that of London or Rome. The growth of the cloth trade between London and Antwerp was the single most important factor in the City of London’s expansion. Just 25 merchants accounted for half of London’s cloth exports, and the two biggest exporters were the brothers, Sir John and Sir Richard Gresham.

³ archive.org/stream/in.ernet.dli.2015.40825/2015_40825_Life-And-Times-Of-Sir-Thomas-Gresham--Voll_djvu.txt

// HE MAY NOT HAVE INVENTED GRESHAM’S LAW BUT HE UNDERSTOOD IT WELL //

Sir Thomas proved so successful at manipulating royal debt that within a few years King Henry’s successor, the young King Edward VI, had discharged most of his debts. On the accession of

Queen Mary in 1553, Gresham fell from favour, perhaps due to his Protestant leanings, and was relieved of office. Alderman William Dauntsey replaced him, but Dauntsey quickly proved unsuccessful at

finance and Gresham was reinstated.

Instructions in 1558 under Mary Tudor said: “Gresham shall with all diligence repair to Antwerp ... for the speedy receipt to our use of 100,000 pound bargained for by [a German banker] and for the borrowing to our use of 100,000 pound more ... at such favourable interest as he may [obtain].” Not only were his services retained throughout Mary’s reign (1553–58), but besides his salary of 20y shillings per diem he received grants of church lands to the yearly value of £200.

By Elizabeth’s accession in 1558, Sir Thomas was a royal favourite. He may not have invented Gresham’s law (‘bad money drives out good’), but he understood it well, explaining to Queen Elizabeth that because her father and brother, Kings Henry VIII and Edward VI, had replaced 40% of the silver in shilling coins with base metal, “all your fyne gold was conveyed out of this your realm”. William Cecil put Sir Thomas in charge of recoinage. To his, Elizabeth’s and Cecil’s credit, within a year (1560–61) debased money was withdrawn, melted, and replaced, with a profit to the Crown estimated at £50,000. The restoration of the coinage improved commerce and positioned London nicely to profit from increasing turmoil on the Continent. This also demonstrates that ultimately ‘good money drives out bad’, as people will revert to a strong currency backed by the appropriate authority.

THE SPY

On his own account, and on that of his father and uncle, Sir Thomas carried on

business as a merchant and acted in various matters as an agent for King Henry VIII. He was clearly a ‘merchant adventurer’ with an international network of agents, though the sobriquets ‘arms-dealer’ or ‘gun-runner’ might apply too. He procured armaments and munitions for the defence of the realm, particularly against Spain and France. There are tales of bullion concealed in bales of pepper or armour. In 1560 he writes to Queen Elizabeth I, “Yt maye please your most Excellent Majestie to understand, that for the better profe to your highnes: for the conveyans of soche bullion and golde as I shall provyde for you, I have sent you this letter inclosed in the stonne worke being no smale comforte unto me: that I have obteyned to the knowledge therof for the better conveyans of your treasure, which thing must be kept as secretlie as your Majestie can devize, for yf yt shulde be known or perseved in flandders it were as moche as my liffe and goods were worth, besides the lose that your highnes shuld susteyne therbie.”

Sir Thomas acted temporarily as ambassador at the court of Margaret of Parma, for which he received his knighthood in 1559. He passed intelligence to William Cecil (Lord Burghley, Secretary of State for

Elizabeth and her great spymaster) – such as King Philip’s plans to ally with the King of France. A ship from 1570 was discovered in the Thames in

// HE WAS CLEARLY A ‘MERCHANT ADVENTURER’ WITH AN INTERNATIONAL NETWORK OF AGENTS //

2003 with cannons inscribed with grasshoppers and marked ‘TG’.

Sir Thomas’s manoeuvring released English monarchs from some crushing burdens of debt and allowed for vital military preparations during the wars of religion, above all between England and Spain, that set Europe ablaze.

GRESHAM COLLEGE

Thomas married Anne Ferneley (1521–96), a widow with two sons. The only child they had together, Richard, died in 1564 at the age of 19 from ‘a fever’. He also had a daughter who

predeceased him, as did his sister. Despite his London marriage, Sir Thomas still continued to reside principally in the Low Countries. Later, in 1559, he bought a large house at 43 Lange Nieuwstraat, as well as a Flemish country mansion. Sir Thomas died suddenly of a stroke ('apoplexy') on 21 November 1579.

Sir Thomas's will of 1575 established his most enduring legacy, Gresham College:

I Will and Dispose that one Moiety.. shall be unto the Mayor and Commonalty and Citizens of London ... and the other to the Mercers ... for the sustenation, maintenance and Finding Four persons, from Tyme to Tyme to be chosen, nominated and appointed And their successors to read the Lectures of Divinity, Astronomy, Musick and Geometry... and distribute to ... Three Persons... and their successors from Time to Time, to be chosen and appointed meete to reade the Lectures of law, Physick and Rhetorick, within myne now dwelling House in Bishopsgate Street

His wife contested his will in favour of her sons from her first marriage for 17 years, but without success. After she died, College lectures began in the Bishopsgate mansion (now the site of Tower 42). The first professor of geometry was Henry Briggs, populariser of the logarithm. Other notables include Edmund Gunter, with his 'Gunter's chain', a distance-measuring device used in surveying; John Greaves, who set up observation posts in the Middle East in 1638 to observe the Moon's eclipse; and the composer John Bull, widely regarded as one of the founders of the modern keyboard repertory.

An intellectual high point followed a lecture by the professor of astronomy, Christopher Wren, on 28 November 1660. Thirteen men formed a 'College for the Promoting of Physico-Mathematicall Experimentall Learning'. A Royal Charter of 1663 named it The Royal Society of London for Improving Natural Knowledge. Many Gresham notables played a part in the Royal Society, perhaps none more so than Robert Hooke, a Gresham professor from 1664

to 1703, and curator of the Royal Society from 1661 to 1703.

After over 150 years at Bishopsgate, the College gained purpose-built premises on the corner of Gresham Street and Basinghall Street in 1842. In 1991 the College moved to Barnard's Inn Hall, a 13th-century hall located close to Chancery Lane. As well as the original seven professors of divinity, astronomy, music, geometry, law, physick, and rhetoric, an eighth of commerce, now business, was added in 1985. The disciplines covered by the College's sponsored and visiting professors now range widely from the environment to information technology.

SIR THOMAS GRESHAM'S LEGACY

Sir Thomas left many marks on the topography of the City of London. The grasshopper, his family symbol, can be spotted around the City, as weathervanes at the top of his major commercial contribution, the Royal Exchange, and in many crests, seals, and stained-glass windows. A large grasshopper hangs at 68 Lombard Street, site of St Martin's Goldsmiths.

His major philanthropic contribution, Gresham College, thrives, over four centuries on, at Barnard's Inn Hall in Holborn. Its former location still exists, and a street before the Guildhall commemorates the family. His grave is prominent in one corner of St Helen's Bishopsgate. At least three statues of Sir Thomas stand in the City, one in a north-facing alcove of the Royal

Exchange, one on Holborn Viaduct, and the other in the Old Bailey. A portrait by Holbein

in Mercers' Hall, where Sir Thomas was Master Mercer three times, is possibly the first full-length painting of a 'commoner' in Britain. Outside London his various properties extended well beyond his Norfolk origins to include estates such as Mayfield House in Sussex. Sir Thomas is a tough subject for biographers accustomed to focusing on monarchs, their families and their

wars. He traded in several lands and worked in several languages. To some he was austere, to others manipulative, to others ruthless. How did he really make his fortune? How rich was he in

modern terms? Was his support for 'new learning' in his will a commitment that education should be available to

merchants, tradesmen, and navigators, rather than just to gentlemen scholars, or was it a throw-away bequest?

// TO SOME HE WAS AUSTERE, TO OTHERS MANIPULATIVE, TO OTHERS RUTHLESS //

FIRST NEW BIOGRAPHY SINCE 1839

Drawing on extensive new research and several startling discoveries, the eminent Tudor historian John Guy recreates Sir Thomas's life and singular personality with astonishing intimacy. He reveals a survivor, flexible enough to do business with merchants and potentates no matter their religious or ideological convictions. Sir Thomas's mind was a calculating engine; he was a smuggler and arms dealer, an extortioner who was backed by royal authority, and he was a coldly unsentimental figure even to members of his own family.

Even Elizabeth, England's steely young queen, found herself disconcertingly at odds with Sir Thomas's ambitions. In their collisions and wary accommodations, we see our own conflicts between national sovereignty and global capital foreshadowed. A story of adventure and jeopardy, greed and cunning, loyalties divided, mistaken or betrayed, this is a biography fit for a merchant prince. Five hundred years after his birth, now is the time to take stock of his legacy.

// AN INTELLECTUAL HIGH POINT FOLLOWED A LECTURE BY PROFESSOR CHRISTOPHER WREN //



Gresham's Law: The Life and World of Queen Elizabeth I's Banker, John Guy, Profile Books, 2019, 320 pages

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