



KMI EXCLUSIVE NEWSLETTER

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Dear Clients and Investors

SOLVING THE BREXIT PUZZLE

Our decision to part ways with the EU has intensified calls for co-ordinated industrial strategy, although some pundits believe we would be better served by a libertarian trade policy.



For the past 12 months, we've resisted the temptation to publish speculative pieces on what a post-Brexit economy might mean for UK equities. But by the time this magazine hits the newsstands we should have an idea as to who will be entering into the negotiating phase of the exit process with our erstwhile partners in Europe. So, in this issue, with

others published over the coming months, we will try to outline the likely implications for the various sectors and sub-sectors that arise from the negotiations.

We have also assiduously avoided proselytising from a political angle – we’re essentially agnostic on that score. But the process will undoubtedly have a profound effect on the way in which the UK’s economy is organised, the level of capital inflows and on the flexibility of our labour market.

So, where there are potential danger signs, we’ll do our best to highlight them. But we also feel that the exit process, although likely to be challenging in the near term, could throw up a thematic investment opportunities as the eventual terms of Brexit are crystallised.

Should government intervene in the economy?



The most terrifying words in the English Language

One of the most contentious issues in political theory is the extent to which government should intervene in the economy. Indeed, in the year this magazine was first published, America was lurching towards Civil War, partly over the issue of protective tariffs (Federal tariffs made it more expensive for southern states to buy from the north, severely stagnating economic growth in the south).

This debate has taken on a new resonance following the vote to exit the European Union (EU) and the subsequent publication of a government green paper on industrial strategy. In a foreword to the document, Prime Minister Theresa May defined last year’s EU vote as “an instruction to the government to change the way our country works”.

But in truth the imperative for change must have been obvious to policymakers long before the referendum result. The UK is powered by the world’s fifth largest economy, has leading technological positions

across a range of industries and can lay claim to four of the ten best universities globally, according to the QS World University Rankings. And yet, figures from the ONS show the UK lagging the rest of the G7 in average productivity growth in terms of both output per hour output per worker.

Low productivity and maligned service sector



Curiously, the situation actually worsened in the aftermath of the 2007-08 financial crisis, with whole-economy output per hour around 15 percent below the level implied by its pre-crisis trend. Some social commentators claim this is symptomatic of the primacy of the UK's service sector, which, it is argued, has engendered the growth of low-level service jobs at the expense of value-added areas of the economy. But this argument is unsatisfactory in itself, not least of all because it's tainted by political dogma and largely ignores the contribution of our so-called 'invisibly exports' to the economy.

It also takes no account of the fact that millions of UK workers were employed in these types of service jobs in the mid-19th century, when the country boasted the highest economic output per capita of any nation in the world. Blanket assumptions on the desirability of a dominant service sector, particularly with regard to financial services, morphed into political orthodoxy for those groups ideologically opposed to the labour market reforms of the 1980s.

The standard view, at least among those supporters of the social democratic political model that gained supremacy in much of Western Europe in the 1990s, was that we needed to 'rebalance' the economy in favour of a beleaguered manufacturing sector through improved co-ordination between capital, industry, labour and the executive. The

transformation of West Germany's (FRG) post-war economy, the so-called 'wirtschaftswunder'. Was often held up as an exemplar, although it could be argued that by lauding the FRG's economic policies from 1949 onwards you run the risk of making a virtue of necessity. Consider that of the 16m apartments that had existed in the FRG before the war, by 1945 2.5m had been utterly destroyed and another 4m were damaged beyond repair – that's all the stimuli that you could ever want in an economy.

The denigration of the service sector – at least in some quarters – may well have been bound up with the decline of heavy industry in the UK and the resultant diminution of trade union power. This helps to explain why attempts to implement a co-ordination industrial policy in the is country have floundered in the face of vested interests. Through the 1960s and 1970s attempts by government to implement industrial strategy ground up against a trade union movement that was defined by an implacable opposition to capital and a narrow view of working class interest. Indeed, many trade union practices through the period were hardly discernible from those already in them. The subsequent rigidity of labour markets acted as a disincentive to investment – and, by definition, innovation.

Mixing cause and effect

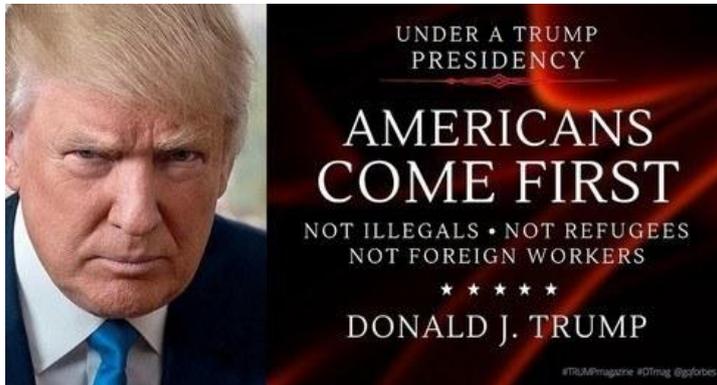
Leaving aside labour relations, the standard reasons given for our relatively low rates of productivity centre on low capital investment and poor skills, but that essentially mixes cause and effect. A study into UK industrial production conducted nearly twenty years ago by the McKinsey Global Institute concluded that “contrary to conventional wisdom, the main causes of low labour productivity are a lack of exposure to global best practices and low competitive intensity”.

The study highlights “product market barriers” such as trade restrictions and excessive regulation, which constrain competition and so limit the pressure on management to adopt more efficient production practices. The McKinsey analysts concede that many of the regulations have been put in place “to promote legitimate social objectives, yet the economic cost of these objectives has been largely overlooked”.

Regulatory intervention in the EU

If you accept this conjecture then you would be forced to question whether our membership of the EU has been a major contributory factor. Because whatever its benefits may have been from a wider perspective,

there can be no doubt that the world's biggest trading bloc is essentially protectionist in nature. At the March EU summit, leaders from member states issued a joint statement essentially decrying Donald Trump's 'America First' trade proposals as protectionist, while simultaneously tabling a draft submission on trade that included a call from EU leaders to adopt measures that would give the bloc more scope for imposing duties on excessively low-priced imports or companies buoyed by unfair subsidies.



Those lamenting our prospective departure from the union warn that we risk an uncertain future outside the single market and Customs Union, but if the Mckinsey research is to be believed, the level of regulatory intervention inherent in our membership of the EU may have acted as a major drag on the economy, whatever the social and security benefits. The fact is that the tariffs and subsidies that lie at the heart of the EU regulatory framework serve to distort markets by diverting capital flows and propping up inefficient industries.

You might take a counter-view based on the success of the northern European member states in export markets, but that ignores the continent's shrinking share of global trade and a derisory comparative growth rate. And in terms of the EU's complex tariff regime, it not only reduces exposure to genuine competition, but its costs are borne by European consumers. However, protectionism in all its forms is hardly the sole preserve of the European commissioners. Some economists see it as a vestige of the age of mercantilism, when the governments of Western Europe regulated the economy and commerce to promote domestic industry often at the expense of free trade.

A strategy for the post-Brexit era

“A proper industrial strategy to get the whole economy firing,” was one of the main pledges that Theresa May made during her campaign to lead the Conservative party and the country after Brexit. Six months later a

132-page green paper followed, setting out the new prime minister's plans to pour money into disruptive technologies capable of transforming the UK economy.

The response was mixed. Some business groups opted not to comment until a more detailed white paper is published later this year. Others pointed out that the consultation paper was vague and offered little in terms of new initiatives.

Dredging up bad memories

One quote from Carolyn Fairbairn, chief of the Confederation of British Industry, particularly stood out: "There are too many historic examples of flash-in-the-pan industrial strategies," she said. "This one must be different."

With the creation of the Monopolies and Mergers Commission in the late 1940s, the government moved to raise productivity by exposing UK companies to more competition, but business struggles on without an overarching strategy until the beginning of the 1960s when the Macmillan government created the National Economic Development Council. It could be argued that the co-ordinated strategy pursued through the decade was actually quite successful, evidenced by notable improvements in labour productivity and the average rate of GDP growth in the period 1961-73. However, the oil shock that followed the Yom Kippur war and the onset of 'stagflation' saw Westminster revert to an increasingly defensive, protectionist industrial strategy.

Mr Fairbairn's reference to previous failed experiments probably included disastrous attempts by the government to prop up industries in the 1970s. A failure to make the millions pumped into companies such as British Leyland and British Steel work left a scar on the phrase 'industrial strategy' and the notion of state intervention for years to come.

No quick wins

Business leaders also warned that it would take much more than a short fix to get the UK economy and its manufacturing industry back up and running at full throttle. Despite boasting some of the world's most revered industrial names, the UK has become known in recent years for poor productivity, under performance and a limited support for innovators. Skill shortages have also developed into a serious problem and will presumably get worse once European talent starts getting turned away at the border.

Most agree that the best way to tackle this different task is to not give up at the first sign of trouble. The depth of challenges ahead, make more

profound by protectionist rhetoric and Brexit trade uncertainty, require careful planning, an open mind and plenty of patience, attributes that previous champions of industrial strategy generally failed to offer.

An open mind

Mrs May might similarly be advised to reassess her opposition to foreign takeovers. Rather than view these transactions as gift-wrapping the best that Britain has to offer to competing nations, she should perhaps check out statistics showing that foreign-owned businesses are generally much more generous and productive investors in local industry.

Looking abroad can help in other ways, too. The success of active industrial policy in post-war Japan and post-Mao China could serve as useful examples of how to make a success of the government's so far loose pledges. Less modern sources of inspiration might come from the UK's industrial revolution, which back in the 18th century was credited with improving living conditions, creating new jobs, boosting trade and unleashing a wave of pivotal technological advancements.

So, what's the plan?

Aside from promising to increase research and development (R&D) spend by £2bn a year, Mrs May plans to review R&D taxation, create a new research institution, enlist the guidance of industry experts and make it easier for businesses to procure intellectual property rights. She also pledged to address regulatory barriers and help companies to boost exports.

Rather than throw money and support at anyone with a business card, assistance will only be provided to specific industries identified as already being internationally competitive, or at least having a decent chance of becoming so. Here's a breakdown of the sectors that Downing Street reckons merit special attention, together with the listed companies that could benefit from loosening of government purse strings.

Digital



Rest of world



UK?

If the government is to make a success out of its industrial strategy, high-speed, reliable internet access must be provided. In the 21st century, broadband connections are as important to businesses as telephones, which is why it is no longer acceptable that some parts of the country still occasionally have to wait several minutes for web browsers to load.

At the end of last year, only 2 per cent of addresses were connected to a full-fibre line, making the UK one of the slowest countries in Europe to adopt the latest gold standard of internet technology.

To tackle this issue, the government is subsidising providers to build the necessary infrastructure to deploy fibre-optic cables offering speeds in excess of 1Gbps across homes and businesses. A large sum of money has also been set aside to develop 5G, the next major phase of mobile telecommunications.

BT (BT.A), which recently signed a research agreement with Chinese company Huawei to develop 5G on a global scale, has emerged as the biggest beneficiary because its Openreach network owns most of the country's pipes and telephone cables.

Broadband providers operating outside of BT's vast jurisdiction, such as **CityFibre (CITY)** and **KCom (KCom)**, will be called upon to upgrade the nation's internet capabilities elsewhere. Both provide fibre-optic broadband in tier two or three cities, including Hull, Peterborough and York.

In the case of extremely rural locations, other solutions may be necessary. Aerospace and defence company **Cobham (COB)** believes its signal amplification technology, which is capable of transmitting high-speed connectivity at sea and underground, could provide the most cost effective option to power internet connections across the country's sparsely populated islands and other remote spots.

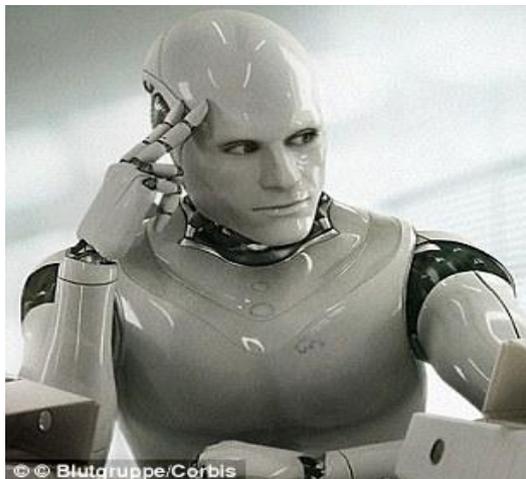
Better and more widely used internet connections also need to be protected, especially in a world where even teenagers can shut down

government networks. To avoid these types of embarrassing situations and the compromising of highly sensitive information, Downing Street pledged to invest £1.9bn in cyber security.

Over the past few years, defence specialists **BAE Systems (BA.)**, **Babcock (BAB)**, **Qinetiq (QQ)** and **Ultra Electronics (ULE)** have invested heavily in procuring and developing products designed to disarm cyber warfare threats.

Other companies clamouring to be at the forefront of this relatively new, fast-growing market are **NCC (NCC)**, **Sophos (SOPH)**, **BT**, **Falanx (FLX)** and **FDM (FDM)**. London-headquartered FDM operates a fairly unique business model, hiring jobseekers from various backgrounds, training them up as 'Mounties' and then sending them out to protect client companies against cyber security attacks.

Robotics and artificial intelligence



A future where intelligent man-made machines drive cars, go to war and churn out goods in factories might sound daunting. But it also promises to save the nation billions of pounds, put the UK's manufacturing capabilities back on the map and potentially erase the UK's shameful reputation as one of the least productive developed countries in the world. US juggernauts Apple, Google, Intel, Twitter and Microsoft have spent large sums of capital buying up UK artificial intelligence start-ups, indicating that the country already has the technical know-how to lead the development of robotics at this critical juncture. Among the government's key objectives at this stage is to leverage this expertise to make self-driving vehicles a reality.

Auto giants BMW, Daimler, Ford and Volvo are currently in the testing phase. However, to make a commercial success out of an industry plagued by spiralling costs, regulatory hurdles and lack of consumer trust, they each require much better technology. In his March budget,

Chancellor Philip Hammond promised to invest a further £270m to help ensure that UK companies can rise to these various challenges.

Automotive innovators **AB Dynamics (ABDP)** and **Ricardo (RCDO)** are likely to be among the first companies consulted. Other potential winners include companies capable of equipping cars with sophisticated internet access. Driverless vehicles run on cloud-based traffic and navigation services, so they require robust signals and hack-free software to avert the risk of dangerous collisions. The likes of **Laird (LRD)**, **Spirent (SPT)** and **Telit Communications (TCM)** might just have the answer to those complex needs.

Investment in drone technology similarly featured highly on the government's wish list. Pilotless aircraft can serve all types of purposes, including launching missile strikes in war zones, delivering packages, surveillance, boosting farm production and feeding the world's poor, as private company Windhorse Aerospace seeks to prove.

Some of the most interesting quoted companies operating in the sector include Aim-traded pure play **Strat Aero (AERO)** and defence giants **Qinetiq**, **TT Electronics (TTG)** and BAE Systems. BAE's Taranis stealth drone, developed in collaboration with **Cobham**, **Qinetiq** and **Rolls-Royce (RR)** can reportedly dodge enemy radars and fly at supersonic speeds.

Artificial intelligence also has a key role to play in offices and factories. Aim-traded **Blue Prism's (PRSM)** software robots, which are already being used by Accenture, Fidelity and Npower, are trained to *automate* routine back-office clerical tasks.

And **Renishaw**, one of the world's most revered engineering names, is a global leader in metal 3D printing systems. The group's ability to create fully functional three-dimensional objects with a computer could maximise a production output across a number of different industries.

Batteries and power storage

One of the government's main objectives is to power the nation of fossil-free energy. Provided that costs are lowered and better storage capabilities are developed, battery technologies are viewed as the best way to achieve this goal, which promises to benefit both the environment and consumer pockets in years to come.

The green paper specifically focused on facilitating the adoption of electric vehicles. Limitations in currently used lithium-ion batteries, including high costs, slow recharging and limited range compared with standard internal combustion vehicles, have so far impeded the rollout of cleaner, cheaper-to-run cars and trucks. By investing about £870m and

opening a new research institution, the government hopes to become the first country to find a breakthrough.

Achieving this lofty goal is likely to require some form of assistance from speciality chemical giants **Johnson Matthey (JMAT)** and **Croda (CRDA)** and engineer consultancy **Ricardo**. All three companies are at the forefront of innovating cutting-edge battery technologies for use in vehicles. The government has put electric battery development as central plank of its industrial strategy, promising to inject £250m to boost R&D in the field.

Investors might also want to consider the miners responsible for digging up the highly sought-after materials used to power batteries. Leading the charge are **Baconora Minerals (BCN)**, owner of the world's largest lithium clay deposit in Mexico, **BHP Billiton (BHP)**, one of the biggest single producers of nickel, and **Glencore (GLEN)**, which last year dug up 23 per cent of the world's cobalt, the increasingly scarce commodity used to improve battery stability and capacity.

Another exciting aspect surrounding the development of electric vehicles is the potential to hook up older models to the national grid. By using disused car batteries, the nation's wind and solar farms could finally be able to stoke up enough energy to provide electricity at will, 24 hours a day.

Utility company **Centrica (CNA)** has already been commissioned to build one of the biggest battery storage facilities in the world. Another possible beneficiary is **Redt (RED)**. The group's vanadium liquid batteries supply long-term energy storage under all types of weather conditions, even to the most isolated local grid services.

These solutions could help the government to deliver on ambitious plans to close all coal plants by 2025 and ensure that the millions it's investing in offshore wind developers, such as **SSE (SSE)** and **Good Energy (GOOD)**, don't go to waste.

Leaf Clean Energy (LEAF), a provider of venture and growth capital to innovators in the sector and engineer **James Fisher (FSJ)**, which is involved in the nuclear decommissioning process, might also be called upon to ensure that Downing Street makes good on its promises. A recent report, endorsing the burning of human, animal and plant waste as another valid alternative to coal power, means that biomass players **Active Energy (AEM)**, **Aggregated Micro Power (AMPH)**, **Drax (DRX)**, **ReEnergy (RGY)** and **Stobart (STOB)** may similarly have an important role to play in reducing carbon emissions.

Healthcare and medicine



Population growth, tightening budgets and striking mismanagement have transformed the UK's National Health Service (NHS) from one of the most envied institutions in the world to a sprawling mess teetering on the brink of collapse. According to a green paper, the government reckons many of these challenges can be overcome by introducing new more cost-effective diagnostic tools, treatments and technologies.

The UK houses plenty of companies at the forefront of developing cutting-edge medical technology: although a lack of domestic demand has seen most focus on foreign markets. Downing Street's determination to upgrade the nation's crumbling health system may just tempt some of these names to reconsider their sales strategies.

*IT and back-office functions are already areas that the NHS has started investing in to boost efficiency and cut down on costs. **Ideagen's (IDEA)** digital management software is now used to create paperless and easier-to-navigate medical records. Plus, general practitioners have **IMIS' (EMIS)** software installed on their machines, enabling them to easily share patient data and individualised care plans in real time.*

*According to Chancellor Philip Hammond, the first wave of the industrial Strategy Challenge Fund's £270m 2017-18 financial year outlay will partly go towards funding technologies designed to get drugs to patients faster. **Midatech Pharma (MTPH)**, engineering conglomerate **Smiths Group (SMIN)** and chemicals group **Scapa (SCPA)** all provide the type of drug delivery propositions that Department of Health is after.*

To aid this push, the government is keen to encourage investment in innovative new medicines. In the UK, there's a surprisingly lengthy list of biotechnology companies, addressing everything from chronic diseases to basic cold symptoms and back pain.

*Some of the most exciting breakthroughs include **OptiBiotix's (OPTI)** food products, which tackle obesity and cholesterol issues, **Premaitha***

Health's (NIPT) use of maternal blood samples to eliminate the risk of babies being born with Down's Syndrome or other genetic diseases and Verona Pharma's (VRP) RPL554, reportedly the first drug of its kind to treat severe asthma and cystic fibrosis.

Of course, developing the next best cures will only have a successful outcome if patients are diagnosed properly in the first place. Given long waiting times, staff constraints and endless complaints, any tools that achieve this complicated task both quickly and effectively are likely to be appreciated.

Netscientific (NSCI) and Deltex Medical (DEMG) currently provide solutions to monitor blood levels from home, while Toumaz (FST) claims its electronic plasters can detect heart attacks. Engineers Carcio (CAR), Morgan Advanced Materials (MGAM), Oxford Instruments (OXIG), Renishaw (RSW) and Victrex (VCT) also manufacture various forms of sophisticated medical diagnostic equipment.

Space and satellites

Global powers have battled it out for decades to earn bragging rights on space exploration. During the Cold War, Russia and the US happily spent billions on sending their citizens and satellites into space, in what became an epic duel to prove to the world the superiority of each side's technological, military and economic firepower.

Critics complain that space missions, which have continued into the 21st century, are little more than expensive showboating exercises. Scientist this differently, arguing that excursions into the solar system pave the way for modern technologies, such as laptops, satellite TVs, mini vacuum hoovers and smoke detectors and enable us to better predict weather and natural disasters.

Perhaps it's for these reasons that the government's green paper stressed a desire to invest more in satellites and space technology. The global space industry is reportedly worth in excess of £400bn, so building a sizeable market share could feasibly play a pivotal role in the re-firing the UK economy.

Britain is already home to some of the world's leading satellite manufacturing and applications specialist, credited, among other things, with devising better GPS devices for driverless cars, air traffic control and ship navigation. At present, these companies generate revenues of about £12bn a year, a large chunk of which is generated by the EU-funded Galileo satellite navigation system.

With Brexit on the horizon, these companies are going to need all the extra support they can get to compensate for a lack of EU funding. Without the right level of financial assistance, it's unlikely that the

government will hit its ambitious target of taking 10 per cent of the global space market by 2030.

Several leaders in the field, such as e2v technologies, ABSL Space Products, Bradford Engineering and ERS Technology, have been taken over by foreign companies. But plenty still trade on the London Stock Exchange, including Aim-traded **SciSys (CSY)**, a manufacturer of bespoke mission-critical control systems for space programmes.

There is also a handful of space communication groups listed on the UK market. **Inmarsat (ISAT)**, **Avanti Communications (AVN)** and **Satellite Solutions Worldwide (SAT)** each specialise in delivering high-speed broadband to hard-to-reach locations from space.

Financial services thrive despite global competition

Financial services is the fastest-growing area of the UK economy over the past 25 years and – perhaps revealingly – it is a sector unencumbered by EU red tape, at least in relative terms. Now you may take the view that our experience through 2007-08 show the City's light-touch regulatory regime in a rather poor light, but that misses the point. This sector has been exposed to global competition – and rather aggressive global competition at that – yet it has thrived through product innovation and despite genuine price pressure. Until now, the UK's financial services sector, along with the wider advisory complex (law, accountancy etc), have been relatively unfettered by EU regulations, even though they've been guided by authoritative standards such as GAAP. As a consequence, they form part of a specialist skills export base that has taken on a genuine global dimension. It's part of a higher-growth export model, tapping into the growth of Asia's middle class. As median incomes rise, there is a commensurate increase in demand for the type of service industries in which the UK excels. And it's worth noting that unit profitability within value-added service industries has increased relative to manufacturing as the comparative advantage shifts away from labour-intensive industries. A report published last year by Deloitte showed that the London economy has generated 1.71m high-skills jobs, while global rival New York mustered a relatively modest 1.16m. Our ability to export specialist skills abroad has underpinned the expansion of UK's global role in financial services, but there is no doubt that our decision to cut ties with the EU has imperilled our pre-eminence in global financial circles. One of the key battlegrounds in the unfolding Brexit negotiations will be access for UK financial corporations in Continental markets once – in all likelihood – we lose our EU financial services passport. The system enables banks with a base in the UK to access customers and financial markets in the trading bloc. The sector remains a key area of

concern for policymakers in light of last year's vote, but if the result had been different it is likely that the Square Mile would have been increasingly subject to financial regulations drafted by the European Commission, as the decision-making process in this area is largely being given over to qualified majority voting where there is no national veto.

The EU is a political project at its heart, so it's difficult to imagine that the UK, short of major compromise, will be able to avoid a so-called 'cliff-edge exit' and disruption across a range of industries. In all likelihood, investors will need to brace themselves for a period of intense volatility. However, our departure from the EU, specifically the Customs Union, does mean that we could derive benefits from improved capital allocation, with eventual cost benefits accruing to both UK supply chains (intermediate producers) and consumers through the removal of the EU tariff wall. It may be that our economy will be forced to reshape itself in response to increased exposure to global competition, but investors needn't fret on that score. As we've outlined, those domestic industries least entangled in the existing tariff regime have been quick to exploit the world's fastest-growing markets. It's understandable that some industrialists would be in favour of maintaining the status quo, but history demonstrates that while barriers to trade often help very specific industries, they distort market outcomes and are at odds with one of the central economic reasons for promoting globalisation, namely that certain regions have different resources and are better at producing certain things.

Happy Investing!

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