

“It is time to take the
case for depreciation
seriously...”

RATE OF RETURN

Alan Lockey
Tom Startup

DEMOS

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All errors and omissions are entirely my own.

Alan Lockey
March 2018

Executive Summary

Brexit represents a line in the sand for Britain's political and economic orthodoxy. Yet we do not approach this momentous moment from a position of economic strength. Our productivity is flatlining, our wages are stagnant and we are the most regionally unbalanced economy in Europe. Against this backdrop, radical alternative approaches should be welcomed. One such proposal comes from a school of Brexit supporting economists who suggest that sterling depreciation - or more accurately, a deliberate devaluation – could spark a high growth, export-led manufacturing renaissance that would improve both the UK's trade and balance of payments deficits, as well as boosting its wider economic competitiveness. We label this school of thinking 'Competitive Exchange Rate Strategy' (CERS) and this report assesses the evidence base behind both the theory's major claims and the counter-claims its makes against its orthodox opponents. In particular, we focus on:

- 1) The debate, crucial to the claims made by CERS, that currency depreciations do improve the overall trade balance;
- 2) The objection that CERS would damage living standards by pushing up inflation and the corresponding counter-claim made by CERS advocates that the scale and risk of inflation pass-through from currency depreciations is overstated.
- 3) The claim that CERS could encourage economic rebalancing by focusing on investment in equipment and machinery, which, CERS contends, enjoys a higher social rate of return than other types of economic investment.

Unsurprisingly, the evidence base is mixed – there are few debates in political economy where firm conclusions can be drawn entirely from secondary evidence. Yet on each point we found theoretical evidence that supports, at least in principle if not always in degree, the CERS position. In short, that 1) there is evidence to support the belief that currency depreciation would improve the trade balance and meet the Marshall-Lerner condition; that 2) the risk of rising inflation, though undeniably real, is perhaps more manageable in an era of strong central bank monetary policy management and 3) there is supporting evidence for the 'equipment hypothesis' that higher social rates of return can be generated from investment in equipment and machinery. To be clear, in none of our evidence assessments do we find conclusive evidence to support these

claims, but then again neither do we find a knockdown argument against CERS contentions either.

We raise some concerns for CERS advocates. We would caution them to be less bullish about the ease of managing inflation and would also be less optimistic about the prospect of very high social rates of return too. Furthermore, we would also suggest that high tech and R&D investment represent the best chance for these high social rates of return, alongside high tech investment in more mundane, 'low tech' manufacturing capacity. Nevertheless, we conclude that CERS presents an important and divergent perspective at a crucial juncture for British economy. It is time to take the case for depreciation seriously and discuss it as a legitimate alternative in the debate about our future.

Introduction - A competitive alternative?

It was, perhaps, the moment Brexit 'got real'. With the Prime Minister missing in action and the leading lights of Vote Leave shoulder-shruggingly sheepish, into the void stepped Mark Carney, Governor of the Bank of England. Seeking to calm reeling markets and a tanking pound sterling, Carney promised at least £250bn worth of financial liquidity - with more to come if necessary. His intent, no doubt, was to project a degree of 'business as usual' reassurance. Yet unfortunately for him, a Prime Ministerial resignation and a national, almost wartime-like address from the Bank of England were not indicative of either politics or economics as usual. Panic continued and sterling continued to slide. By the end of the day it had chalked up its record single day plunge against the dollar, falling to levels last seen in the mid 1980s.

Amidst this political chaos, a fraught and anxious country could be forgiven for viewing sterling's plight as an unalloyed and obvious disaster for Britain. Yet of course the merits of currency depreciation – or its deliberate cousin, devaluation - have long been the source of debate amongst economists. On the one hand, there is a widely held view that depreciation will inevitably drive up inflation costs and increase the price of imports. On the other, it is generally – though not always – accepted that depreciation can create new export opportunities by boosting the competitiveness of domestic production. This, some economists claim, can help improve a nation's overall trade position and, by extension, its broader economic strength. Of course, there are one thousand and one caveats to this general overview - and even more individually distinctive positions in between. Nevertheless, the point remains that for some economists at least, depreciation is not necessarily the catastrophe it might have seemed to the bleary-eyed nation receiving Carney's statement.

That said, the orthodox position amongst most mainstream economists retains some sympathy with the more shell-shocked sentiments of 24 June 2016. To be sure, the doomsday-like predictions made by many economists before the referendum have not yet come to pass. Still, there is a growing consensus - including amongst some Brexit-supporting economists - that the early phases of leaving have clearly diminished our national output.¹ Not only that, but on sterling's post-Brexit depreciation, orthodox opinion is crystal clear: it

has harmed living standards by pushing inflation above real wages. Indeed, according to the LSE's Centre for Economic Performance, the subsequent pass-through increased aggregate UK inflation by 1.7 per cent in the year after the vote.²

Moreover, a literature review by the Brussels-based economic think-tank Bruegel has suggested that the oft-supposed benefit of currency depreciation – an improved trade position through more competitive exports – has not yet materialised in post-Brexit Britain.³ As ever, this analysis is caveated with the all important “yet”: even devaluation sceptics would surely concede it is too soon to expect the so-called “j-curve effect” – where the trade position initially worsens because the effects of the price change are instant whilst the time it takes for export demand to increase is much longer - to have fully played out. But it still seems fair to characterise the orthodox position on depreciation as being broadly negative; that the pound's fall has, to quote the chair of the British Chambers of Commerce, “done more harm than good”.⁴

The purpose of this report is to explore whether or not that judgement is fair, not so much for now, but for Britain's long-term future. For on this crucial long-term question it becomes more difficult to ignore a greater level of divergence from the orthodox negativity about sterling's depreciation – and from some of the world's most decorated economists too.

First to dissent was Carney's predecessor on the Bank of England, Lord Mervyn King. Following a further flash crash on the pound – initially precipitated by Theresa May's infamous “citizens of nowhere” speech – Lord King suggested that sterling's depreciation was actually a “welcome change”.⁵

Then, on the same day, Nobel laureate Paul Krugman published a New York Times article that suggested a form of so-called “Dutch disease” might explain why the pound had crashed without an obvious accompanying demand shock after the referendum. Dutch disease – so named after the Netherlands discovered large North Sea oil reserves in the 1960s – refers to the sharp inflow of foreign currency that often accompanies the discovery of cheap natural resources. Not only does this strengthen currency prices, over time the production and export of these natural resources also tends to crowd out other economic activity and thus its overall economic impact is negative. For Krugman, drawing deeply on his history as a trade economist, the City of London's financial exports had long been creating something akin to this phenomenon in the UK, driving up the cost of the pound for other British exporters. Thus, for him the adjustment was a “home market effect” - Britain's financial exporters were merely reacting to a change in the terms of production in a traditional manner: by devaluing their

currency to maintain competitiveness. More importantly, Krugman speculated that whilst this shift would certainly make Britain poorer overall, an escape from “Dutch disease” might, in the long run, benefit the areas that voted for Brexit:

“A weaker pound shouldn’t be viewed as an additional cost from Brexit, it’s just part of the adjustment. And it would be a big mistake to prop up the pound: old notions of an equilibrium exchange rate no longer apply.”⁶

Krugman is not alone in pushing this line of argument either. Ashoka Mody, a former IMF Deputy Director now at Princeton University, has made a similar argument about financial crowding out, albeit one with a much more favourable outlook on Brexit generally. Writing for The Independent, Mody argued the outflow of money was largely connected to a speculative property bubble that had “overvalued” the pound by around 15 per cent. Thus, not only might the Brexit depreciation improve the country’s trade position and assist a much-needed economic rebalancing, it may even have staved off a potential future financial shock by deflating a dangerous property-bubble:

“To the extent the finance-property bubble was sowing the seeds of a financial crisis, Britain was living under a dangerous illusion. Brexit has fortuitously corrected this long-standing distortion in the British economy. It is now easy to see why stock indices are going up. The depreciation of the pound has corrected an overvaluation of the pound, improving the prospects of domestic producers.”⁷

For a school of Brexit supporting economists such as John Mills, Steve Laughton and Graham Gudgin, such comments will be music to the ears – each, in turn, places the potential benefits from depreciation at the heart of the case for a prosperous Brexit. Indeed, Mills in particular has expanded this insight into a theory that aspires towards a light manufacturing boom that, he argues, would help cure Britain’s ailing and unbalanced economy. As ever, there are variations between these economists, but what unites them is the idea that sterling’s depreciation is a good thing and that the conventional risks to currency depreciation are overstated by mainstream economic discourse. Therefore, they collectively suggest Britain should strongly consider the maintenance of a weaker currency level in order to improve its trade and balance of payments deficits, and boost its general economic competitiveness.

For the purpose of debate, we will label this ‘school’ of thinking “Competitive Exchange Rate Strategy” (CERS) – and this report is dedicated to exploring its potential. We will do that primarily by exploring the evidence base that supports the major debates that surround CERS, before concluding with some thoughts about its broader potential as an alternative for a more economically competitive

Britain. The report contains four chapters, including the conclusion.

Chapter One focuses on the relevant debate about trade elasticities and the argument, crucial to the putative success of CERS, that currency depreciations do indeed improve the trade balance.

Chapter Two deals with arguably the most common objection to CERS: that it will damage living standards by pushing up inflation. We assess this claim and the CERS counter-claim that the scale and risk of inflation pass-through from currency depreciations is overstated.

Chapter Three explores whether CERS can be a successful strategy for boosting manufacturing, focusing in particular upon the argument that investment in equipment and machinery enjoy higher social rates of return than other types of economic investments.

Finally, in the concluding chapter we explore in more depth how some of the theoretical debates covered in the preceding three chapters have played out in practices following the post-Brexit depreciation of sterling. We also provide an overall assessment of CERS' potential as a strategy for delivering higher growth, enhanced competitiveness and a fairer model of wealth creation.

Chapter One:

Depreciation and trade elasticities

One of the very few points all sides of the great Brexit divide agree upon is the importance of trade to Britain's future economic prosperity. With good reason too – practically all economists agree that one of the main ways a country grows is by increasing its levels of trade. Competitive Exchange Rate Strategy (CERS) is no different – its advocates believe its supposed ability to improve the UK's trade position to be one of the key arguments in its favour. Whether or not such faith is justified is therefore crucial to assessing its validity as an alternative economic approach for Britain beyond Brexit.

On trade, the key claim made by CERS advocates, as with all champions of currency devaluation or depreciation, is that weakening the exchange rate should, all other things being equal, improve that country's trade position. To be sure, this is not a particularly novel idea - in the era of fixed exchange rates it was one of the most important decisions a Chancellor of the Exchequer could take. But, as CERS advocates point out, the argument has a particular salience in contemporary Britain due to the UK's persistently large total trade deficit, which for the three months up to April stood at £9.7billion.⁸

Drawing upon empirical analyses of past depreciations, whether or not the trade position improves is usually taken to be dependent on the size of the trade 'elasticities' or the shifts in demand for imports and exports the price change brings about. When a currency weakens relative to others, this will likely raise the domestic cost of imports and the foreign price of exports. Thus, the impact on the trade balance depends on how responsive the demand for exports and imports are to these changes in price. Overgeneralising for the sake of simplicity – there are, as ever, a number of critiques of this generalisation – it is often expected that in the short-run, demand is relatively unresponsive (i.e. inelastic) to such changes due to pre-existing contracts and consumer habits. In other words, immediately after a currency depreciation, businesses and consumers – both domestic and overseas - continue to purchase roughly the same amount of goods and services, despite the price change, thus absorbing the short-run costs. Therefore, if demand stays constant, there is an initial worsening of the trade balance as expenditure on imports rises and income from exports falls due to the price change. However, over time – again generalising caveats apply here –

it is often expected that as consumers and firms adapt to the new price points, they will switch to cheaper domestically produced goods and services, whilst foreign demand for exports also rises and is then met through increased export production. If this happens, the trade balance will begin to improve.

In summary therefore, the crucial factor in determining whether depreciation leads to an actual improvement in the trade balance is an assessment of the relative price elasticity of demand for imports and exports. This is often encapsulated by the so-called ‘Marshall-Lerner’ condition which states that a real depreciation will lead to an improvement in the trade balance if the absolute value of the elasticities of exports and imports sums to greater than unity. Or:

$$|PEX + PEM| > 1$$

Where PEX is the elasticity of demand for exports, with respect to the exchange rate, and PEM is the elasticity of demand for imports with respect to the exchange rate.

Of course, even to attempt to apply the Marshall-Lerner condition to historical depreciations is to make a variety of theoretical assumptions. For one, it assumes that net trade starts in a balanced position – i.e. the value of exports equals the value of imports. This, to say the least, is rarely the case in real-world scenarios, which means that satisfying Marshall-Lerner, in real-world examples of currency depreciations, depends instead upon a proportionate assessment of trade elasticities i.e. the proportionate increase in revenue from exports must be larger than the proportionate rise in expenditure on imports. The other persistent challenge in applying Marshall-Lerner to real-world examples is its theoretical assumption that the elasticities of supply are infinite. In other words, that there is nothing stopping domestic producers from responding completely to the change in demand for their goods.

Rapid Evidence Assessment: Marshall-Lerner

To assess whether we can expect sterling depreciation to improve the balance of trade, Demos conducted a rapid-evidence assessment literature review. The methodological aim - albeit with an imperfect sample size - is to pool the results and hopefully distinguish the signal from the noise.

We identified seventeen recent academic papers that either provided estimates of the elasticities of demand for exports and imports for the UK, or assessed whether the Marshall-Lerner condition (MLC) held in previous depreciations,

or both. Because some of the papers included more than one economic model, altogether we identified eighteen different estimates of the MLC. There was no clear consensus, but of the eighteen, ten found that the MLC did not hold, and eight found that it did (see Table One). Therefore, a small majority concluded that the MLC was not met for the UK.

Authors	MLC met?
Houthakker, Magee	N
Marquez	N
Rose	N
Bahmani-Oskooee, Alse	N
Bahmani-Oskooee, Niroomandb	N
Caporale, Chui 1	N
Caporale, Chui 2	N
Senhadji (2 papers) 2	N
Hooper, Johnson and Marquez	Y
Boyd, Caporale, Smith	Y
Mahmud, Ullah, Yucel	N
Bahmani-Oskooee, Kara	Y
Crane, Crowley, Quayyum 2	N
Crane, Crowley, Quayyum 1	Y
Imbs, Mejean 1	Y
Imbs, Mejean 2	Y
Aiello, Bonnano, Via 1	Y
Aiello, Bonnano, Via 2	Y

Table One

However, in more than one study, some of the results were either not significant, or the sign of the elasticities was positive. A positive elasticity of demand would suggest that when the price of goods rose, so too would their demand – which is either very unlikely or suggests there were other strong macro-economic factors that overrode the price change in driving demand. Either way, it raises some questions about the usefulness of the findings to this assessment. When we eliminated these estimates, we were left with twelve distinct assessments of MLC, five of which found that it held, and seven that it did not. Again, this means there was a small majority for the MLC not holding, meaning either that the respective depreciations did not improve the overall trade position, or the theoretical models suggest that the MLC would not hold for the UK in the event of a depreciation.

However, it should be pointed out that these estimates cover different time periods, and some of the data might now be considered of such an age as to make those particular assessments less relevant. Indeed, all seven of the assessments in the second streamlined group which suggested MLC would not hold for the UK were carried out before the year 2000 (see Table Two). In some cases, the data used in these models goes back to the 1960s – before Britain joined the EU and in a very different global economic environment. On the other hand, all five of the estimates that found the MLC was met were published after the year 2000. Generally, they use data from the 1980s and 1990s - the most recent study goes up to 2004. That may indicate that these positive findings should be given more weight.

Authors	Date published	MLC met?	Date period for data
Marquez	1990	N	1973-1985
Rose	1991	N	1974-1986
Bahmani-Oskooee, Alse	1994	N	1971-1990
Bahmani-Oskooee, Niroomandb	1998	N	1960-1992
Caporale, Chui 1	1999	N	1960-1992
Caporale, Chui 2	1999	N	1960-1992
Senhadji (2 papers) 2	1999	N	1960-1993
Hooper, Johnson and Marquez	2000	Y	1994-2000
Bahmani-Oskooee, Kara	2006	Y	1973-1998
Crane, Crowley, Quayyum 1	2007	Y	1981-1994
Imbs, Mejean 1	2010	Y	1991-1996
Imbs, Mejean 2	2010	Y	1996-2000

Table Two

Rapid Evidence Assessment: Trade Elasticities

Within this same set, we also identified seventeen separate estimates of either the elasticity of demand for exports (PEX) or the elasticity of demand for imports (PEM), or both. For those studies that estimate both, the sum of the absolute values of the elasticities (i.e. the number which must be more than one for the MLC to hold) ranges from 0.4 (indicating a highly inelastic response of both exports and imports) to 4.7 (indicating a highly elastic response). Overall the average sum was 1.6 – a figure that, if accurate, might give some scope for thinking the MLC might be met in future UK depreciations.

Examining the PEX and PEM separately, we found that overall the PEX is

found to be much more inelastic than the PEM. The average PEX was -0.7, whereas the average PEM was -0.4. If accurate, this indicates that demand for British exports is much less responsive to devaluations than domestic demand for imports. These calculations are summarised in Table Three.

Authors	Date	PEX estimate	PEM estimate	Sum of elasticities (mod)	MLC met?
Senhadji (2 papers) 2	1999	-0.330	-0.070	0.4	N
Mahmud, Ullah, Yucel	2004	0.400	-0.050	0.5	N
Caporale, Chui 1	1999	-0.190	-0.270	0.5	N
Bahmani-Oskooee, Niroomandb	1998	-0.360	-0.280	0.6	N
Houthakker, Magee	1969	-0.440	0.220	0.7	N
Marquez	1990	-0.440	-0.470	0.9	N
Caporale, Chui 2	1999	-0.290	-0.630	0.9	N
Aiello, Bonnano, Via 2	2015	-0.830	0.370	1.2	Y
Crane, Crowley, Quayyum 1	2007	-1.310	-0.380	1.7	Y
Crane, Crowley, Quayyum 2	2007	1.170	-0.600	1.8	N
Hooper, Johnson and Marquez	2000	-1.600	-0.600	2.2	Y
Aiello, Bonnano, Via 1	2015	-0.110	2.610	2.7	Y
Bahmani-Oskooee, Kara	2006	-3.530	-1.170	4.7	Y
Imbs, Mejean 1	2010	-1.505	-1.455	3.0	Y
Imbs, Mejean 2	2010	-1.544	-1.209	2.8	Y
Kwack, Ahn, Lee, Yang	2007	N/A	-0.950	N/A	N/A
Kee, Nicita, Olareega	2008	N/A	-1.420	N/A	N/A
Average	-0.727	-0.374	1.6		
Maximum	1.170	2.610			
Minimum	-3.530	-1.455			
Range	4.700	4.065			

Table Three

Note that, as before, some studies produced positive figures for either the PEM or PEX (e.g. Mahmud, Ullah, Yucel, or Aiello, Bonnano, Via 1) – a result that seems suspicious. Using the smaller sample size again – i.e. eliminating results with positive PEM and PEX readings - the average PEX falls to -1.1 and the average PEM falls to -0.7. In other words, for the more reliable studies, the results are more elastic, and, if accurate, would mean that MLC was met. This should give some cautious optimism to supporters of depreciation.

Authors	Date	PEX estimate	PEM estimate	Sum of elasticities (mod)
Marquez	1990	-0.440	-0.470	0.9
Bahmani-Oskooee, Niroomandb	1998	-0.360	-0.280	0.6
Senhadji (2 papers) 2	1999	-0.330	-0.070	0.4
Caporale, Chui 1	1999	-0.190	-0.270	0.5
Caporale, Chui 2	1999	-0.290	-0.630	0.9
Hooper, Johnson and Marquez	2000	-1.600	-0.600	2.2
Bahmani-Oskooee, Kara	2006	-3.530	-1.170	4.7
Crane, Crowley, Quayyum 1	2007	-1.310	-0.380	1.7
Kwack, Ahn, Lee, Yang	2007	N/A	-0.950	N/A
Kee, Nicita, Olareega	2008	N/A	-1.420	N/A
Imbs, Mejean 1	2010	-1.505	-1.455	3.0
Imbs, Mejean 2	2010	-1.544	-1.209	2.8
Average	-1.110	-0.742		
Maximum	-0.190	-0.070		
Minimum	-3.530	-1.455		
Range	3.340	1.385		

Table Four

Again however, there is an interesting observation to point out regarding the change in elasticity estimates over time. Using this second sub-set of readings, it is quite clear that there is a marked rise in elasticity measurements in the more recent assessments. This is particularly true of export price elasticity (PEX) but the same is also true, albeit less markedly, for import price elasticity (PEM).

Elasticity Pessimism or Devaluation Denial?

Our rapid evidence assessment raises a pertinent question that strikes to the heart of one of the key contemporary debates about trade policy. As Paul Krugman has pointed out, there is a growing “elasticity pessimism” in contemporary economics that tends towards the belief that “trade flows barely respond to price signals and hence that devaluations don’t help alleviate imbalances”.⁹ Whether or not this view is justified has huge implications for how Governments might react to significant structural changes to their economies, such as price and trade relation shocks. It need hardly be pointed out that Brexit is a clear and obvious example of both: this arcane debate about trade elasticities could therefore have massive economic consequences.

In terms of a straightforward hypothesis of why more recent estimates are more

elastic there seem to be two main classes of explanation: either these later studies have different methodologies which are (perhaps) more accurately identifying the true magnitude of the elasticities, or there really have been changes in the underlying economic fundamentals that have caused UK trade to be more responsive to price changes. Arguing the former, Mohsen Bahmani-Oskooee and Orhan Kara claim that:

‘Recent advances in time-series econometrics, especially in unit root literature reveals that since the early studies employed non-stationary data, they suffer from “spurious regression” problem.’¹⁰

In other words, earlier models may have used out-dated methodological and statistical techniques, which now render those estimates unreliable. In contrast, their model uses a cointegration technique that, they claim, improves the research findings. Jean Imbs, one of the authors of a 2010 paper, which also yielded fairly elastic results agreed with this hypothesis:

‘My sense is that the recent estimates are more reliable than older ones - not least because the instrumentation of price changes is more careful, and/or the estimations are more structural. Estimates are increasingly obtained from microeconomic data, and then aggregated at the macro level. That’s what we did, and I think a few people have followed suit.’¹¹

However, this strikes to the heart of the debate: the general trend of recent academic literature on trade has tended to suggest that trade elasticities should be becoming less elastic, not more. One important development in the theory of world trade has been the recognition of vertical trade specialisation: that countries are increasingly specialising in one stage of production, rather than the entire process of production. This means that many of the goods being imported and exported are intermediate goods rather than final ones – car batteries, not cars. Indeed, according to some estimates, up to 50 per cent of the growth of world trade might be due to this “global value chain participation” phenomenon. Indeed, according to some research the UK’s export profile is particularly dependent on this form of trade and production relative to non-European developed countries (e.g. the US and Japan), with some 21.9 per cent of our gross exports connected in some way (it is however, slightly lower than most other large European economies such as Germany, France and Italy).¹² Either way, if an increasing proportion of trade is in intermediate goods and connected to global value chain participation, then we might expect this to make exports and imports less elastic to price changes. A country like the UK - which imports car components and exports cars – might, following depreciation, experience a fall in its export prices for the car, but simultaneously experience

a rise in the cost of the imported components. In terms of the demand this would have a balancing effect: any rise in demand for the cars would have to be met by increase demand for the components, suggesting demand for imported intermediate goods might not fall as much as expected. If this is a substantial phenomenon, then in general we might expect lower elasticities of demand.

Perhaps acknowledging this trend, some CERS advocates have suggested that trade elasticities in developed countries like the UK are lower because the process of deindustrialisation has driven away price sensitive manufacturing exports.¹³ In other words, that the UK's economic mix does not allow for the sort of exports that compete on price and, therefore, are more likely to take advantage of a price change. There is an undeniable logic to this contention – the sectoral mix of its economy is clearly something that affects a nation's trade elasticities. Yet as a counterfactual it is difficult to assess from the literature on observed devaluations. Moreover, even if the UK cost base could reach the point where price competitive manufacturing was 're-shored' – and it is not at all clear, given how wages make up a significant proportion of cost bases, that this would be to the overall benefit of living standards – then this does not necessarily affect the elasticities in and of itself. It certainly could - but a price change would still have to affect the overseas (and domestic) demand for British made goods – a change in the productive capacity to manufacture certain products does not make that a given.

Yet in truth it is not at all clear whether the link between the trade balance and the exchange rate has diminished in this manner. As the think-tank Bruegel points out, “the literature examining whether falling pass-through to imports and rising GVC [global value chain participation] have fractured the link between exchange rates and the trade balance is recent and has failed to yield consistent and conclusive findings.” Some evidence – for example a recent paper by Swarnali Ahmed, Maximiliano Appendino and Michele Ruta – has suggested the elasticity of manufacturing volumes specifically had decreased substantially.¹⁴ On the other hand, a large scale IMF study across sixty countries - which followed broadly the same 'pooled results' methodology as our rapid evidence assessment - found no weakening relationship between the trade balance and the exchange rate: a depreciation of 10 per cent in the currency boosted net exports, on average, by 1.5 per cent.¹⁵ Our assessment cannot make firm conclusions on that – but it does tend to suggest that, at least in more recent assessments, trade elasticities remain significant.

Conclusion

In conclusion, there is no clear consensus in the academic literature on whether the MLC is usually met for the UK. On one hand, more studies found that it is not, than the opposite. On the other, the more recent studies tend to find that it is met, often comfortably so. It seems possible that recent statistical advances might mean we are now getting a more accurate view of the magnitude of elasticities and therefore the probability that the MLC is met. And if these more recent studies are indeed more accurate, then that is a fillip for advocates of theories such as CERS which place currency depreciations and their ability to boost the trade position at the heart of their strategy to boost living standards, growth and competitiveness. Of course, as ever, it's important to note that models based on past economic conditions are not an infallible guide to future policymakers. Even if the UK has benefited in the past from currency depreciation, it does not follow that it will continue to do so in the future. Indeed, it is a maxim of many economists to 'never reason from a price change' but instead ask what caused the price change – in other words, the pre-existing macro-economic conditions are absolutely pivotal in establishing the merits of depreciation and its ultimate impact on the terms of trade. Given the uniqueness of the Brexit moment this would seem to be a particularly important lesson in drawing up the conclusions that should shape our immediate future economic strategy.

Furthermore, as previously noted, the theoretical assumptions of the MLC are based on an understanding that the original trade position is one of balance. This, clearly, is not the case for the real-world example of the UK, where the trade position starts in substantial deficit. A further caveat is that even if depreciation did improve the trade balance, it would not necessarily lead to a significant improvement in the current account position because of a continuing deficit upon net investment income and transfers.

All that said, whilst there continues to be both theoretical and empirical puzzles about recent changes in the estimates of elasticities, we conclude that the literature provides mild optimism about the prospects of depreciation improving the UK trade balance and thus forming a component of an export-led growth strategy. On this charge at least, any objections to CERS would seem to be extremely contestable. Whether or not that optimism stands up to scrutiny in the very real-world case of the post-Brexit depreciation, we will discuss in our concluding chapter.

Chapter Two:

Depreciation and inflation

Perhaps the most significant challenge to advocates of currency depreciation is that it inevitably raises inflation as, when the price change increases import costs and reduces export profits, firms inevitably pass these expenses on to consumers. In a nutshell, this shows the fundamental importance of inflation to living standards, so it is no surprise that inflation should emerge as one of the most persistent objections to CERS and other such approaches. Equally, the effects of inflation crises do seem to cut deep into a nation's political memory. Indeed, it has quite often seemed as if the spectre of inter-war hyperinflation has directed the German response to the Euro sovereign debt crises, whilst here in the UK neo-Keynesian approaches have for decades struggled to shake off a political association with 1970s stagflation. Certainly, it is a brave politician who takes the path of an inflationary devaluation, as Harold Wilson would no doubt confirm.¹⁶

Ultimately, CERS advocates do not directly contest the theoretical assumption that a depreciation or devaluation will raise inflation. That depreciation will lower the nominal value of the currency in terms of others is not up for debate – in fact, for CERS advocates, this is the whole point. Thus, a fall in sterling like we saw after the EU referendum will inevitably lower the price of exports (which in Britain are typically invoiced in sterling), whilst simultaneously increasing the cost of imports to UK firms (usually invoiced in the overseas currency). The key question is what happens next – inflation will go up, but for how long and how much? Economists call this process the “pass-through” effect and CERS advocates argue it is likely to be small and short-lived. Thus, in theory the hit to living standards can be contained by other macro-economic or monetary tools.

It is important to distinguish between the two related avenues by which depreciation can raise costs for firms. One, is the impact of depreciation on import costs; two, is the impact of raised import costs on consumer prices. In both cases, the pass-through may not be, and in practice is highly unlikely to be, complete (i.e. a one-to-one relationship) as competitive forces will ensure firms absorb some of the costs. And in theory, the pass-through to import prices is expected to be the more significant - overseas firms would generally not want to receive less for the goods they sell in the UK than they receive for the same goods in other markets. This impulse is called ‘Producer Currency Pricing’

(PCP). However, it is possible that firms exporting to UK markets might seek to insulate UK buyers from some of the increase in costs, at least in the short-term. They might do this because competition from UK based firms creates downward pressure by potentially providing an alternative good. Or, alternatively, they may implement a form of price discrimination between the UK and their other markets, accepting a lower price for UK goods as a response to more elastic demand in that market. If these dynamics are dominant then economists say that ‘Local Currency Pricing’ (LCP) is evident.

Two other caveats to note is that pass-through effects, however significant, are not immediate – as with trade elasticities, it takes time for importers and domestic firms to respond to the price change and the overall impact is generally expected to take between 12 and 24 months to be fully felt. It is also reasonable to expect that the extent of pass-through will depend widely on other macroeconomic conditions. In particular, the current inflation rate, the volatility of the exchange rate, and the monetary policy framework are all expected to determine the magnitude of the impact on inflation (with a whole host of macroeconomic conditions then further determining the impact of the pass-through upon living standards more broadly). This is primarily because while exchange rate moves change the relative prices of imports versus domestically produced goods, monetary authorities can significantly affect the overall impact on inflation and consumer prices.

Rapid Evidence Assessment

As with trade elasticities, we conducted a rapid evidence assessment to collect the findings from the academic literature on the likely impact of a depreciation of sterling on import prices and consumer prices. We focussed particularly on papers that have attempted to quantify the magnitude of these effects for the UK.

Overall, we identified thirty-two recent academic papers that bear directly on these questions, and which we summarise here. Amongst this, we identified nineteen papers that provided an estimate of the pass-through effects of a depreciation, either to import prices, consumer prices, or both. All of these papers were either specific to the UK or included the UK in a broader analysis. Some of the papers provided estimates for more than one dataset – so in total we identified fourteen estimates for import price pass-through and fourteen for consumer price pass-through. The results are summarised, in full, in Table Five.

Authors	Publication date	Import price pass-through (peak effects)	Consumer price-pass through (peak effects)
Borensztein, Gregorio	1999	N/A	0.50
Goldfajn, Werlang	2000	N/A	0.19
Devereux, Yetman	2002	N/A	0.11
Campa, Goldberg	2002	0.47	N/A
Bailliu, Fujii	2004	0.91	0.16
Gagnon, Ihrig	2004	N/A	0.15
Campa, Goldberg	2006	0.46	N/A
Ihrig, Marazzi, Rothenberg	2006	0.76	0.20
Ihrig, Marazzi, Rothenberg	2006	0.59	0.04
Sekine	2006	0.50	N/A
Sekine	2006	0.40	N/A
Bussiere	2006	0.48	N/A
Faruqee	2006	0.60	N/A
McCarthy	2007	0.50	0.00
Campa, Goldberg	2008	0.46	0.39
An, Wang	2011	0.60	0.04
Choudhri, Hakura	2012	0.35	N/A
Delatte, Lopez-Villavicencio	2012	N/A	0.14
Bussière, Chiaie, Peltonen	2014	0.47	N/A
Forbes, Hjortsoe, Nenova (Bank of England)	2015	N/A	0.08
Forbes, Hjortsoe, Nenova (Bank of England)	2015	N/A	0.16
Gopinath	2015	N/A	0.19
	Number of estimates	14	14
	Mean	0.54	0.17
	Max	0.91	0.50
	Min	0.35	0.00
	Range	0.56	0.50

Table Five

What becomes clear from this analysis is, as expected, that the estimated pass-through is incomplete – the impact of sterling depreciation is not passed on entirely to UK firms or consumers in the form of higher prices.

The second observation is that pass-through to consumer prices is, equally unsurprisingly, lower than the pass-through to import prices. The mean import price pass-through is 0.54, but the estimates range from 0.35 to 0.91. This means a nominal depreciation of 10 per cent would lead to a roughly 5.4 per cent rise in import prices facing UK firms – with a probable range of 3.5 per cent to 9.1 per

cent. In contrast, the mean pass-through rate is 0.17, ranging from a maximum of 0.5 to a minimum of 0. So, this suggests that a 10 per cent depreciation of sterling would lead to a 1.7 per cent rise in consumer prices (although it might range from 0 per cent to 5 per cent). Interestingly, this number is exactly the rise in CPI indexed inflation that the LSE's Centre for Economic Performance has estimated for the post-Brexit depreciation, which was also roughly 10 per cent.

The implication is that whilst a nominal depreciation would very likely lead to a real fall in the value of sterling on the world markets, the fall in the exchange rate is not likely to cause a rise in inflation of the same magnitude. As such, the literature supports the idea that it is possible in theory to lower the real value of sterling and gain a price advantage for firms on world markets, via a deliberate policy of devaluation, should the Marshall Lerner condition hold (see Chapter one). There is, however, unsurprisingly a price to pay in inflation.

Can depreciation inflation be managed?

The other – yet again unsurprising – conclusion to draw from the broader literature is that the magnitude of pass-through depends to a large extent on monetary policy, the level of inflation already in the economy, the extent of price discrimination, and invoicing patterns – in other words, a wide variety of exogenous economic circumstances. The crucial question becomes whether or not the inflation rise is manageable to the point of the (putative) trade-off being worth it – and ultimately, the contention of all depreciation advocates, include CERS, is that it can. Again it is important to point out here that any given real-world depreciation is highly context-specific: we should always reason from what caused the price change, not from the price change itself. Nevertheless, a discussion of the wider literature can help illuminate some of the policy considerations that might form an assessment as to CERS viability as a potential post-Brexit economic strategy.

Examining the effect of sudden, large devaluations (including that which followed the UK's exit from the European Exchange Rate Mechanism on 'Black Wednesday' in 1992), Borensztein and Gregorio find that the biggest determinant of the size of pass-through is the initial level of inflation in the economy.¹⁷ Goldfajn and Werlang uphold that conclusion yet they also found that pass-through strongly depends on the cyclical component of output and the extent to which the currency was initially overvalued.¹⁸ This connection between the inflation rate and pass-through rates was also echoed by a study over 122 countries carried out by Devereux and Yaltman.¹⁹ However, it should be pointed out: none of these studies sufficiently explained why the 1992 devaluation had almost no impact on UK inflation.

John B. Taylor was one of the first to argue that pass-through rates were falling due to the general falls in inflation across many countries experienced in the 1990s (and subsequently). He argued that firms' willingness to raise prices in response to devaluation was partly dependent on whether they viewed general price rises in the economy as a temporary or permanent phenomenon.²⁰ Lower and more stable inflation in the long-run would encourage firms to view short-run price shocks as only temporary. They would therefore, be less likely to raise consumer prices in response to depreciation. This finding that pass-through is generally falling has largely been upheld by the wider subsequent literature, which identifies two likely causes. First, that more effective inflation targeting from central banks is influencing behaviour. Second – and related – that local currency pricing (LCP) is on the rise.

Bailliu and Fuji sought to confirm Taylor's idea that pass-through had fallen due to changes in monetary policy and inflation.²¹ In a study of eleven industrialised nations, they found support for the hypothesis that pass-through falls as countries transition to inflation targeting and a low inflation environment. This was also the conclusion of Gagnon and Ihrig,²² Edwards²³ and Reyes.²⁴ In contrast, Goldberg and Knetter lean towards the LCP explanation, arguing that variations in pass-through can be explained by firms employing destination-specific mark-ups on cost - in other words price discrimination.²⁵ Evidence of price discrimination and LCP was also found by Herzberg, Katanios and Price in a UK-specific study.²⁶

Furthermore, Campa and Goldberg point to shifts in the kinds of goods countries are importing as the key to explaining differences in pass-through.²⁷ Oil and energy, being homogenous and usually priced in dollars, are subject to very high pass-through. So, as countries are importing more manufactured goods and less oil and energy, pass-through has fallen. Finally, Gopinath contends that much of the observed differences in pass-through rates are simply an artefact of the proportion of trade that is priced in dollars.²⁸ She observes that international good prices are very stable in their currency of invoicing. It follows that we would expect pass-through to be low for countries that invoice primarily in dollars, but lower for (non-US) countries that primarily invoice in their own currency – such as the UK.

Finally, over time, the literature seems to indicate a growing understanding of the heterogeneity of different currency depreciations. As J.C Shambaugh puts it, exchange rate changes can be the result of at least: monetary policy, demand shocks, supply shocks, or foreign currency shocks.²⁹ Understandably, each of these events will have different effects on the ability and willingness of

firms to raise (or lower) prices in response to a currency change. For instance, a depreciation caused by a negative demand shock might result in a lower pass-through rate than otherwise expected because firms find it harder to raise prices in the face of weaker domestic demand (which is at least one theory that might explain the insignificant inflation following the 1991/2 depreciation and recession). That said, whilst there are of course context-specific factors to any given depreciation, it does seem a reasonably robust trend to suggest that pass-through has fallen in recent decades – and that the impact on inflation for future depreciations might not be what it has been in the past, particularly for countries like the UK that have strong central banks and their own currency.

Conclusion

But where does this leave advocates of CERS and depreciation enthusiasts more broadly? Well, on the one hand the inflation pass-through to consumers is comparatively low. Therefore, the most direct and obvious threat to living standards from CERS – raising consumer inflation – might also be considered low. True, a 1.7 per cent rise in inflation per 10 per cent depreciation is not to be sniffed at and in the case of the post-Brexit depreciation it seems likely to have tipped the UK towards a small decline in living standards. However, sterling's post-Brexit plunge appears only to have pushed UK inflation towards 2.7 per cent: that this was enough to overtake real wage growth, frankly says far more about the UK's disastrous record on wages than it does about anything else. Of course, if depreciation was used as a deliberate devaluation strategy - as CERS advocates recommend - then you might expect to unwind some of the benign monetary conditions for low consumer pass-through. But it does seem that in a broadly monetarist era, rising *consumer* inflation is not quite the knockdown objection to CERS that it is often perceived to be.

However, on the other hand, that inflation rise does exist – it cannot be wished away and at times some CERS advocates seem inclined to treat the risk a little too blithely. More importantly, the pass-through to importers is significantly higher and whilst the objective of CERS is quite nakedly to shift the UK towards a more export-orientated economy, the reality is that loading on costs to importers is highly unlikely, as the British economy currently stands, to be beneficial to general prosperity and growth. There is the sense too that CERS advocates are to some extent trying to thread the camel through the eye of a needle: the combination of low inflation and a radically improved trade position is quite unlikely. The reason for this is that over time higher inflation also tends to increase the cost of domestic goods relative to foreign ones, thereby mitigating the boost to competitiveness that UK exporters might get from the

price change. Moreover, as domestic inflation erodes away the competitiveness of the UK's exports it may also exert further downward pressure on sterling, perhaps creating the equivalent of an economic feedback loop. The experience of the 1970s show how this is a dynamic that can quickly get out of hand.

Therefore, we

suspect there is a risk-reward element to this that CERS advocates should note. On one hand, the positive aspects of depreciation may be enhanced if this is seen as a long-term policy objective and the scale of the depreciation is larger. However, the ability for central banks to offset this by effective management of inflation becomes more difficult in these conditions too. Therefore, whilst the benefits of depreciation may be more modest as a one-off event, the potential pitfalls, on inflation in particular, are also much more benign.

In summary, it would be wrong to uphold rising inflation as a knockdown to CERS. Nevertheless, rising inflation can create potentially damaging dynamics within an economy and do present a threat to eroding living standards that any advocate of CERS would do well to pay careful attention towards. The risks may not be a knockdown or sufficient argument, but they are still real.

Chapter Three: **A manufacturing renaissance?**

In chapters one and two, we examined two of the more consistent and well-researched objections to CERS and other currency depreciation advocates – that, respectively, they overestimate depreciation’s ability to improve the overall trade position and pose a threat to living standards through encouraging inflation. In each, we found that whilst there is supporting evidence for the objection, neither provides a knockdown argument against CERS, which can also call upon supporting evidence for its respective counter-claims. In this chapter however, we turn to ask questions that are less about depreciation’s efficacy as a policy to achieve broadly desirable outcomes –i.e. boost export growth and higher living standards – and more about whether the vision of the British economy CERS aspires to is realistic or desirable in the first place. We also examine whether specific claims made by the CERS advocate John Mills concerning the possible social rate of return from light industrial manufacturing investment can be sustained.

The first thing to appreciate about CERS as a vision for Britain is the absolute primacy it places upon restoring manufacturing competitiveness as the key to rebalancing our economy. Again, this is neither a novel nor unorthodox policy objective – the need for economic rebalancing is shared widely across the political spectrum, including by Demos. Not only that, it also commands support across a plurality of economic as well as political opinion - rebalancing enthusiasts can include everyone from orthodox neoliberals, such as former Chancellor George Osborne, to self-described Marxists such as the current Shadow Chancellor, John McDonnell. Still, within that broad support base, clearly there are differences of degree as to how important rebalancing towards manufacturing should be as an economic aspiration. And it is perhaps fair to say that CERS represents something of an extremity in this respect, or at least that boosting manufacturing carries enormous importance for its advocates. After all, whilst there are, as ever, dissenting voices, the idea that a weaker currency boosts domestic manufacturing exports is hardly an unorthodox economic argument. Therefore, those rebalancing supporters who, unlike CERS advocates, do not follow through their pro-manufacturing logic all the way to the exchange rate, must either view boosting manufacturing as less of a priority, or see some other deficiency within the broader CERS argument.

For Demos, the need for rebalancing – and manufacturing’s role within that – rests primarily on a political case rather than uncontested economic logic. True, manufacturing growth, as a general rule, has a decent multiplier effect and we also support the 2012 arguments made by Willy Shih and Gary Pisano that a strong “industrial commons” is fundamental to high levels of innovation. We also believe the pursuit of export-led manufacturing growth can make a contribution to reducing the UK’s current account deficit that, though narrowing, remains large enough for our vulnerability to financial shocks to be a concern. Finally, we also suspect that prioritising manufacturing in the UK’s industrial and sectoral mix may help distributional fairness, given that manufactured goods exports making a larger contribution to the economy of poorer areas such as the Midlands, North East and Wales.

CERS advocates would almost certainly endorse all of the above. Indeed, though it is in part a paradoxical concern – the most likely effect of a balance of payments crisis would be precisely the large-scale currency depreciation some CERS advocates cherish – CERS advocates are generally alarmed by the UK’s enduring current account deficit, viewing it as central to all that is wrong with the UK’s current model. However, some CERS advocates go even further and believe that currency depreciation – or more accurately, deliberate devaluation – could herald the start of a high-growth manufacturing renaissance that might substantially change the UK’s entire political economy. For example, John Mills suggests that a deliberate strategy of investing in mechanisation, technology and power could see enormous returns in productivity growth. Mills’s claims are grounded in an analysis that suggests the *social* rate of return (i.e. beyond their private returns) for these types of investments widely outperform other types of investment in terms of their potential ability to produce growth. Expansionary fiscal investment in these areas – which Mills also argues amounts in practice to investing in light industry manufacturing – underpinned by a competitive exchange rate could even, Mills contends, see the UK return to an annualised growth rate of between three and four per cent.³¹ It is an arresting claim, certainly. But can it be sustained?

The ‘equipment hypothesis’

Mills’s calculations rest on the claim that the social rate of return varies greatly for different types of investment activity and, more specifically, that investments “clustered around mechanisation, technology and power” offer by far the greatest total returns to the economy.³² In contrast, he argues that much public sector investment – roads, schools, hospitals, housing – and even

a great deal of commercial activities have very low social rates of return, broader social welfare notwithstanding. The key to growth then is for governments to provide the optimum investment conditions for mechanisation, technology and power – which Mills suggests in practice means prioritising light industrial manufacturing. Finally, to put into perspective what he thinks can be achieved, he highlights examples of huge annual social rates of return on investment: a remarkable 164 per cent for the US in the mid 1930s; 28 per cent for the UK, also in the 1930s; and 35 per cent for Japan between 1950 and 1970. He suggests a rate of 50 per cent could theoretically be possible for the contemporary British economy if it takes his CERS approach.³³

The first thing to say about this argument is that a great deal of it is relatively orthodox. For example, the notion that different types of investment offer different ‘spill over’ returns to society beyond the private rate of return is not at all controversial. Equally, there is evidence to suggest that manufacturing industries do tend, in general, to register a higher Gross Value Added (GVA) contribution per worker than services. Indeed, 2010 government analysis shows that pharmaceuticals and chemical manufacturing recorded (alongside mining and quarrying, and financial services) the largest increases in UK labour productivity from 1997.³⁴

Slightly more controversial is the idea that social rates of return on public infrastructure investment (rail, schools, hospitals, etc) are usually fairly low. Some research – for example, Acemoglu³⁵ – found evidence of increasing social returns to human capital investment, whilst more recently economists such as Marianna Mazzucato and, Jonathan Haskel and Stian Westlake have argued powerfully that the way orthodox economics currently measures value is itself out of tune with the realities of the modern economy. For Mazzucato the error of measurement is grounded in an inability to distinguish sufficiently between value creation and extraction, with the result being that investment in human capital - and indeed public investment more broadly - is grossly underestimated in terms of its social rate.³⁶ Meanwhile, for Haskel and Westlake, in their recent book *Capitalism without Capital*, an inability to capture properly the rise of intangible investment – which now outpaces tangible investment in the UK – leads to the spill over measurements (i.e. social rate of return) of intangible investment being wholly underestimated (as well as many other profound changes in the emerging intangible political economy).³⁷ Demos finds this latter argument in particular persuasive – and means that any analysis of the social rate of return using conventional techniques should carry something of a health warning. Nevertheless, it would still be hard to suggest that Mills’ contentions are wildly outside the mainstream in terms of the traditional ways of measuring spill over effects and the social rate of return. The idea that the social rate

of return for education or infrastructure investment diminishes over time as a country develops economically, for example, is relatively commonplace.³⁸ This too can perhaps be explained by measurement issues – for example, the opportunity cost in terms of measured growth does not account for the clear social welfare benefits – but for the purposes of the debate about Mills’ contentions and CERS wider economic potential this is largely a side issue. After all, nobody is seriously suggesting we should stop investing in education or hospitals.

What Mills is seriously advocating however, is a higher level of optimism about the potential social rates of return a developed economy like the UK could generate. As already noted, he cites examples largely from the inter-war period in America and the post-war reconstruction of Japan as the basis for such optimism, where high levels of investment in machinery and technology correlated with extremely high social rates of return. Yet whilst the obvious objection to these examples is that they are selective, it would be wrong to suggest that Mills’ contention lacks support in the wider literature upon social rates of return. For his argument is in fact merely a rather assertive example of what is sometimes called “the equipment hypothesis”.³⁹

Now, in truth debates about the social rate of return from equipment investment have not particularly exercised economists much in recent years. But back in the 1990s it was a more prominent debate after a series of papers by no less an authority than Larry Summers – alongside his regular co-author James Bradford De Long – argued that there was a strong nexus linking equipment and machinery investment and economic growth.⁴⁰ This debate rumbled on for a good part of the decade, with much critical attention concentrated upon whether Summers and De Long’s argument and methodological approach could be extended over time and place – their initial research focused largely on developing countries and in specific time periods in the middle part of the 20th century (esp. 1960-85). Oulton and Young⁴¹ and, more recently, Alexander J Field⁴² have both argued that the research was not applicable to rich-world developed countries like the UK and the US, whilst Alan J. Auerbach *et al.* suggested that outliers in a small sample size skewed the initial results.⁴³ On the other hand, a 2005 study by Jakob B. Madsen which re-examined the data on OECD (i.e. developed) countries specifically argued that Summers should be vindicated: even in the global North there was a much stronger association between increases in total factor productivity and investment in machinery.⁴⁴ Either way, it is quite clear that Mills’ argument stands in a credible tradition and thus might there yet be hope that his aspirations for growth could be met?

Well, perhaps – but there are still two important caveats to point out. First,

Mills' projections for possible social rates of return are still at the more optimistic end of the spectrum – more optimistic even than those of the two economists - Summers and De Long – most associated with bringing the 'equipment hypothesis' back into the economic mainstream. Indeed, even if we do accept De Long and Summers' findings to be applicable to UK, their estimate for social returns on equipment investment in well-functioning market economies like the UK is, at best, around 30 per cent a year.⁴⁵ That does not deny the main thrust of Mills argument – but it is a fair few notches less than 50 per cent. Second, even amongst its staunchest advocates, the strong connection between the equipment hypothesis and rapid periods of industrialisation is widely acknowledged. That is to say, it might be a little less realistic in more typical economic times than those that Mills and other equipment hypothesis advocates more usually cite. Even those, like Madsen, who extend their analysis over the long-run accept that their results are strongly influenced by high-return periods of rapid industrialisation.

Therefore, it may be that as we look forward to the era of big data, artificial intelligence and robotics, Mills' reemphasis of the equipment hypothesis is a timely and profound contribution to the debate about Britain's future at precisely such a period of potential rapid industrialisation. However, what Demos finds particularly puzzling about Mills's CERS approach is that he uses the equipment hypothesis to suggest that the UK's manufacturing renaissance should focus primarily on *lower tech* investment in light manufacturing.⁴⁶ This, alongside a general neglect of the importance of research and development investment – which also seem to be connected to high social rates of return – seems odd to say the least. After all, the importance of specifically new technology investment is absolutely central to the 'equipment hypothesis', because it is the greater need for adaption and "improvement engineering" new technologies require that ensure the spill over effects are much harder to contain to the private sphere.⁴⁷ In short, it is their technological novelty that helps create those very high social rates of return. To be fair, Mills is very positive about the potential for using technology to improve 'low tech' production lines – robots, for example. And, it is correct, as he points out, that for all the modish projections about automation, it is highly unlikely that the UK's manufacturing base can be sustained purely by high tech investment.

Yet it does seem curious that it would not be the primary strategic focus for a future, pro-manufacturing investment strategy.

Conclusion

Demos supports the broad conclusion that creating the conditions for strong private investment in machinery and equipment should be a crucial component of the UK's growth, productivity and economic rebalancing strategies. However, contra John Mills, we believe this should be focused on private investment in high technology machinery and equipment, and, alongside research and development, high tech sectors more broadly. We do this for two reasons: first, that there is ample evidence to suggest both high tech and R&D investment exhibit strong social returns – this came through strongly in the recent literature (the latter in particular could return between 25 and 30 per cent a year).⁴⁸ Second, there remains a lingering suspicion that the CERS model – or at least the CERS model that focuses upon *price* competition in light industrial manufacturing – is an undesirable economic future for Britain. Not least because attracting price-sensitive manufacturing introduces an element of instability: if it is price-sensitive enough to return to the UK, it is also price-sensitive enough to leave again.

None of this is to underestimate the strength of the argument that Britain has almost wilfully frittered away a manufacturing base, which, if stronger, could undoubtedly provide a more competitive and equitable wealth creation model for the country. Yet equally, you do not have to be a dogmatic Ricardian on comparative advantage to see that domestic policy factors – such as the exchange rate – only account for one side of the equation when it comes to determining a country's competitiveness. The other side comes from global trade and macroeconomic conditions. Government research has repeatedly found that the UK appears to have an edge in financial services, publishing and scientific research and development when it comes to our comparative advantage – and, whilst it is the job of good public policy to correct this if it leads to unbalanced economic model (which it has), then equally it is impossible to ignore how it is also, to some extent, caused by global economic forces that are more difficult to temper than adjusting the exchange rate.

In short, the UK *should* boost manufacturing – and it *should* take the equipment hypothesis seriously as a guide to industrial policy. However, its best bet, surely, is to focus policy support upon creating the conditions for high tech and R&D investment. That would seem the more realistic target for high social rates of return.

Conclusion:

Unravelling the Brexit conundrum

Across the course of the past three chapters we have assessed the theoretical evidence base for CERS as a competitive alternative for Britain's economy. In chapters one and two we focused on the most frequent objections to currency depreciation – or deliberate devaluation - as a legitimate economic toolkit: that it fails to achieve its objectives on trade and exports, and that it threatens living standards through pushing up inflation, respectively. Meanwhile, in chapter three we explored whether CERS advocates, and John Mills in particular, were justified in their optimism that CERS might engender a manufacturing renaissance.

In each of these chapters we found theoretical evidence that supports, at least in principle if not always in degree, the counter-claims CERS advocates make. Respectively that: CERS might improve the trade position by boosting the attractiveness of exports and domestic import-substitutes; that the inflation CERS creates might be containable; and that there are grounds for supporting CERS focus on private equipment and machinery investment in order to boost manufacturing, rebalance the economy and generate high social rates of return. To be clear, in none of our evidence assessments do we find conclusive evidence to support these counter-claims, but then again neither do we find a knockdown argument against CERS contentions either. True, we would caution CERS advocates to be less bullish about the ease of managing inflation than they often are, and would also perhaps be less optimistic about very high social rates of return too. Furthermore, we would also suggest that high tech and R&D investment represent the best chance for these high social rates of return, alongside high tech investment in more mundane, 'low tech' manufacturing capacity. Finally, we would again emphasise our conclusion to chapter two: irrespective of its desirability, we believe currency depreciation is more likely to be effective if it is seen as a modest proposal. A radical depreciation would bring more radical outcomes, yes. But some of these may not be benign and could substantially affect our current optimism that inflation rises can be partially contained by central bank monetary policy.

Nevertheless, we conclude that CERS presents an important and divergent perspective at a crucial juncture for British economy – certainly it should be seen

as a legitimate alternative in the debate about our future. But given its strong and contestable theoretical foundations, the question this begs is: why isn't it?

In part, we believe this might be because of a lingering suspicion that CERS does not present an attractive or desirable wealth creation model for Britain. In short, that even if price-based competition in manufacturing could generate an economic boom for Britain, there is a deeper question about whether we would want it too, given many of the jobs might be low skill and, presumably, low or at least competitively (in global terms) paid. As well as a substantive concern this is also, perhaps even more importantly, a political one. Given how radical a departure CERS represents from Britain's political economy consensus – the political case must be paramount and must go beyond a balance sheet argument. After all, an economy that rests on jobs that require little education – as John Mills often concedes in Britain's Achilles Heel →→ does not make for a particularly aspirational political pitch (obviously this is not the same as saying that people should not be educated well – but the political challenge remains and has perhaps been underappreciated by CERS advocates).

There are other political concerns that might weigh upon CERS persuasiveness too. For example, one of the other consistent objections to currency devaluation as a deliberate economic ploy is that it could result in unwanted geopolitical and diplomatic ramifications. Namely, that it risks the threat of retaliatory measures and even a low-level trade war. There is no real way of weighing this risk – so much of it is conjecture. However, it seems fair to say that the next decade does look more likely to be volatile in terms of trade aggression between countries, particularly between the US and China. Arguably, this might raise the risk of retaliatory measures, or at least increase the geopolitical complexity. Either way, it should be remembered that devaluation has often been seen as a hostile move by trading partners and competitors.

Yet whilst these concerns might explain the political ambivalence towards CERS, they struggle to explain why it is viewed as unorthodox from an economic perspective. After all, as this report hopes to have demonstrated, there is at least a credible case for supporting its major theoretical components. This is somewhat puzzling, but one reason could be an outbreak of what Paul Krugman has called “elasticity pessimism”.⁴⁹ This, as Krugman explains, is a view that trade flows “barely respond to price signals, and hence that devaluations don't help alleviate imbalances”.⁵⁰ Although “elasticity pessimism” in its pure form would be sceptical about internal devaluation too, it seems difficult to avoid the suspicion that its resurgence is not somehow connected to the travails of the Euro and the Eurozone's enforced policy of internal devaluation (i.e. supply side structural reform, deflation and austerity) as a response to the crisis. Either

way, we found little evidence that would support the denial that devaluation and currency depreciation has, for better or worse, a significant impact upon the trade position and indeed broader macroeconomic indicators. Therefore, if, as John Mills suggests in *Britain's Achilles Heel*, that CERS central case is that the exchange rate – and the demand side more broadly – matters, then we thoroughly endorse that conclusion.

A note on the Brexit depreciation

Finally, what about the Brexit depreciation? How do our evidence assessments size-up to the fall-out from that seismic morning in the summer of 2016? Well, on inflation, as we discussed in chapter two, our evidence assessment matched the LSE modelling of the depreciation's real-world impact exactly – both estimated a rise in inflation of 1.7 per cent. However, on the trade balance the evidence is more complex. Figure one plots the trade balance against the sterling versus dollar exchange rate over time. To give a broad overview, the trade deficit expanded rapidly following sterling's flash crash, as one would expect: in a standard j-curve, the affects of the price change (in terms of imports and export costs) are almost instant whereas the demand shifts take much longer to work through. However, its improvement henceforth has been erratic and indeed there seems to be no obvious trend line compared to before the referendum (although it should also be pointed out that sterling has recovered significantly too, albeit nowhere near its 2014 and 2015 levels – it was already on a downward shift before the referendum reaction). There is not a lot to add here – as we discussed in chapter one, it is too early to make a firm judgement on whether or not the sterling crash benefited the economy – and sterling's subsequent recovery has muddied the picture too. We believe the judgement made by Brussels-based think-tank Bruegel (which, in fairness, used the Q1 2017 data that showed the UK's trade deficit increasing once more), that the depreciation might not improve the UK's trade balance, was too hasty: more time is needed to assess whether the j-curve effect has finished.⁵¹ Particularly as often the shift in business activity from a price change comes from exporters becoming competitive for the first time in completely new markets, rather than more competitive in existing ones – which, again, is a slower process.

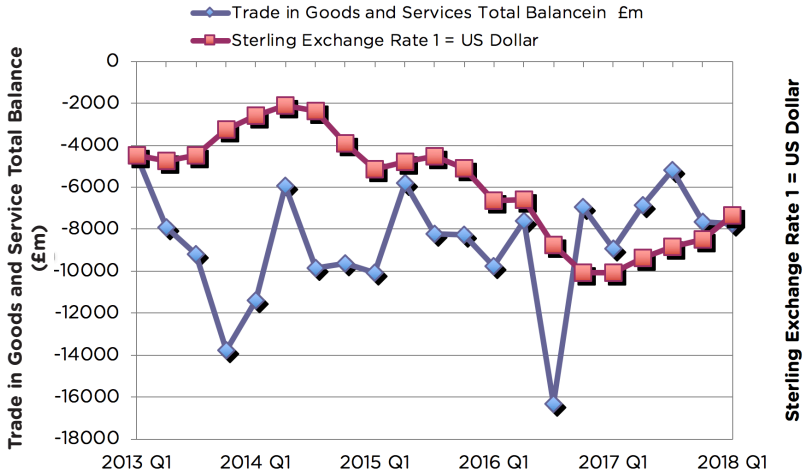


Figure One.

Equally, whilst manufacturing export performance since the referendum has also been erratic, it is fair to say that it currently stands as the most buoyant sector in a disappointingly stagnant UK economy – in late 2017 it recorded a 30-year high in orders.⁵² In a way, that might trouble CERS advocates – manufacturing is putting up good export numbers, yet the trade balance *is not* markedly improving. However, ultimately, remembering that one should reason from what caused the price change rather than the price change itself, it has to be said that this Brexit represents a staggeringly unique and uncharted moment in Britain’s economic history. Certainly, one would not be surprised if the uncertainty from Brexit – the desire for businesses to wait and see what the eventual settlement might look like – would create a number of different effects that might temper the usual course of a depreciation. For example, it is not hard to see how the uncertainty could dampen domestic demand and exporter business confidence. Equally, one might think the nature of two-year negotiations might encourage foreign businesses to absorb some of the price change through local currency pricing, at least until the details of the settlement become clearer. Either way, the point stands that not only is every depreciation unique, the circumstances of this one are especially unusual.

None of which makes providing an overall assessment of sterling’s depreciation any easier. At the moment, it seems difficult to avoid being led by the more tangible impacts of Brexit and the fact that Britain is, as a result of the inflation increase, undoubtedly a little bit poorer. On the other hand, like Krugman, Mody and CERS advocates, we hold out the hope that a shift in the exchange

rate might enable the UK economy to rebalance in a way that may distribute its rewards more fairly even if it ends up net poorer. Indeed, 'poorer but fairer' could almost serve as an epithet for what Britain voted for at the referendum itself.

Either way, it is time to take the case for depreciation seriously. Yes, the evidence is mixed, but it is entirely possible that good may come from a weaker currency. Indeed, even the Bank of England is divided on the issue – with Mark Carney and Andy Haldane, the Bank's Chief Economist, openly rowing about the benefits of devaluation at a recent Treasury Select Committee hearing (Carney emphasised its ability to raise inflation, Haldane its ability to boost trade).⁵³ That remarkable episode shows, not only that depreciation retains its power to divide mainstream economic opinion, but also that it is one of the more urgent debates as we look towards a post-Brexit economic model. It is a debate that Competitive Exchange Rate Strategy must play a full and active role in.

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