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“Imperial Folly”: Metrication, Euroscepticism and Popular Politics in Britain (1965-80)*

Aashish Velkar

School of Arts, Languages and Cultures

University of Manchester

Manchester M13 9PL

Email: aashish.velkar@manchester.ac.uk

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Introduction

European integration policies, such as harmonisation and standardisation, inflamed anti-Europe sentiments in Britain during the 1970s and exposed the fragility of democratic institutions in the face of populist campaigning. This article demonstrates how Europe became the focus of anxiety about globalisation and activated concerns for national sovereignty. It does so by using the example of metrication in the 1960s and 1970s to situate the abstract notions of globalisation and sovereignty in material and everyday terms. The narrative excavates the enduring cultural costs of closer integration with Europe, especially when estimates of economic costs of European harmonisation proved disputatious. The history of British metrication serves as an example of the profound significance of discursive framing on shaping policy (standardisation) as well as outcomes (globalisation). The messiness in which metrication was handled by successive governments during the long 1970s shows how dangerously and easily the knowledge-gap between experts and popular opinion could be exploited, particularly on complex techno-scientific and economic matters. Populist framing distorted the complex realities of globalisation, rendered the consequences of European standardisation more real in everyday terms, and vocalised sceptical views that seeking closer ties with Europe was a threat to Britain's parliamentary sovereignty. Ultimately, European harmonisation policies heightened debates about British identity and compelled the country to seek ways to coexist between two extreme visions, that of "Deep England" steeped in tradition and custom as opposed to a modern "efficient" Britain based on technocratic values.

Measurement standards, and the conflicts they spark, expose the tensions between social technologies, state governance and mundane everyday activities. Yet, they are rarely used to study popular politics, economic integration or globalization. Historians are generally agreed on the significance of metrology (systems of weights and measures) for state formation, technocratic governance, and economic coordination.¹ The hostility towards metrication in

Britain and the United States during the 1970s is only a recent example of popular protests in the history of metrication.² The public debate over metrication in Britain between 1965 and 1980 typifies the popular politics of global economic integration and Euroscepticism. The case demonstrates how conflicting framing of the pro- and anti-metrication arguments in government, industry, and popular politics led to the cessation of compulsory standardisation in 1979. This in turn exacerbated the relative uncompetitiveness of British industry, whilst simultaneously crystallising the notion that Brussels was imposing European laws that the British parliament had no choice but to implement.³

Gazing inside the black box of standardisation and examining something as quotidian as attempts to sell milk and beer in metric quantities reveals how closer integration with Europe made the effects of globalisation seem very real, close to home, and highly undesirable to British consumers. This version of reality, framed in nationalist tropes such as “break with British tradition,” helped to mobilise popular Eurosepticism and gave substance to concerns about losing sovereign control. Political campaigns and speeches, especially those by Tony Benn and Enoch Powell around the time of the 1975 national referendum to decide whether to remain in the European community, made sovereignty a key subject, as Robert Saunders has cogently shown. However, this article substantially departs from his conclusion that sovereignty was a “low salience issue” for most voters.⁴ On the contrary, as shown here, British voters framed their concerns about sovereignty in material, consumerist terms, such as the apparent inability of the government to control price inflation and a conviction that Europeanisation, harmonisation and metrication contributed to high prices of everyday items. Regardless of whether British policy-makers took the prospect of ever closer union with Europe seriously or not – Saunders reckons they disregarded this commitment – successive governments tried to assert Britain’s sovereign authority by negotiating with the Brussels bureaucracy on harmonisation directives. The “British consumer” was recruited as a key

constituent in the politics of Euroscepticism and presented as being distressed by the loss of familiar objects. Shoppers were shown to be confused when confronted with unfamiliar measurement units while purchasing everyday items. Politicians and the media conjured images of a beleaguered housewife coping with the disruption of metrication, even as women's institutes gave advice on how to prepare for the inevitable change of metrication. Gardeners complained about metrication, questioning the need to abandon imperial units when "we do not export our gardens."⁵

The manner in which metrication was used to crystallise concerns of national sovereignty, and the accompanying ambivalence by the British government to go along with European harmonisation, illustrates how nation states have been confronted with the trilemma of globalisation. The trilemma makes it impossible for nations to simultaneously achieve international economic integration, maintain sovereign control over policymaking, and encourage highly mobilised domestic mass politics: only two amongst these three objectives are possible.⁶ The menu of choices basically involves restricting national democratic politics to reduce trade barriers and encourage integration, or limiting globalisation in order to preserve national sovereignty and democratic institutions, or giving up sovereignty and hoping domestic politics is aligned with supranational decision-making to reduce the costs and friction of economic integration.⁷ Britain has confronted this "damned-if-you-do-damned-if-you-don't" scenario in its difficult relationship with Europe in the second half of the twentieth century.

This article argues that the very processes that sought to reconcile the impossible trinity of globalisation, national sovereignty and popular politics resulted in institutionalising and legitimising the deep ambivalence of inching closer to Europe. Negotiating with Europe to water down harmonisation actually stoked and kept alive the fundamental issues rather than resolving them. European harmonisation policies challenged the British parliament's sovereign role as a regulatory standard-setting body and threw up contradictory pressures within domestic

politics. Although such reaction to harmonisation - and the resulting Euroscepticism - was not exclusive to Britain, populist framing of successive EEC directives exposed the tenuous balance between parliamentary sovereignty and international economic integration.

The confused, muddled and ineffective handling of metrication policies between 1965 and 1980 indicates that no one really appeared to have taken charge of either seeing the harmonisation project through or effectively scuppering the entire thing altogether. The actions of those motivated to initiate technological change in anticipation of joining the Common Market, collided with those who plotted and conspired to keep this change to a minimum. The resulting stalemate meant that metrication - as a material form of European integration - became a worst-of-both-worlds scenario for the British government, industry and consumers alike. Industrial leaders, such as Sir Peter Runge (chairman, Federation of British Industries) in the 1960s and Sir John Methven (director-general, Confederation of British Industries) in the 1970s, lobbied the government and politicians for complete - and ideally compulsory - metrication in Britain. In opposition, politicians championing the consumerists cause, such as Sally Oppenheim (backbench MP and later Thatcher's cabinet minister) campaigned hard against compulsory change, placing trust instead - however misguided - in the voluntarist tradition of individual free choice. Added to this mix were a plethora of other opinions, some supportive, others in opposition, each motivated by their specific sectional interests, attempting to frame their rhetoric according to particular ideology, each conspiring to further or deter closer economic ties with Europe. The resulting machinations placed government ministers in a quandary. During the late 1960s, Harold Wilson, Tony Benn and James Callaghan may have tacitly supported metrication and currency decimalisation. But, after 1975, senior ministers were reluctant to make unequivocal pledges in support or opposition to the issue. Technocrats, such as Lord Orr-Ewing and Max Wood, leading the Metrication Board in the late 1960s and 1970s respectively, found their policies watered down. Oppenheim vocally opposed the

existence of such an organisation and many in industry also thought it had become redundant by 1978. There was in effect no grand strategy, no choreographed actions to see this European harmonisation project through. Decisions were made by individuals who were reacting to a fluid environment, which in turn were undone by their successors who reacted differently. Like most contested policy issues concerning Europe, Britain in the 1970s stumbled towards a temporary solution to the furore caused by European harmonisation.

The first section of this article sets out how European harmonisation directives challenged Britain's sovereign authority and the material terms in which the globalisation trilemma presented itself. The following section examines the populist and consumerist framing of harmonisation and sovereignty during the 1970s. The machinations and shenanigans of the various factions and how the politics of Euroscepticism institutionalised British responses to harmonisation are explored in the third section. The fourth section excavates industry's attitude to metrication, reviews the challenges to expert opinions and demonstrates why British industry floundered with haphazard metrication by c1979. The conclusion offers some remarks about how discursive framing can create a fecund environment in which cultures and countercultures of globalisation crystallize.

I. Harmonisation and Metrication

European harmonisation policies during the 1960s and 1970s challenged the British parliament's role as a regulatory standard setting body and threw up contradictory pressures within domestic politics.⁸ Harmonisation was one of the key principles of European economic integration established by the Treaty of Rome in 1957 and aimed at eliminating trade restrictions within the European communities.⁹ Negative reactions against harmonisation between member states were not exclusive to Britain after its accession to EEC in 1975. The French and German governments had feared runaway harmonisation during the original treaty negotiations.¹⁰ Harmonisation in respect of technical obstacles to trade was one of the first

areas to be tackled by the EEC, starting with agricultural goods but eventually extending to industrial products such as pharmaceuticals, motor vehicles, measuring instruments, household goods, etc.¹¹ Feeling the pressure from member states during the 1960s, the Commission choose to achieve total harmonisation where national laws were already quite similar. Metrication was one of the areas where the Commission was confident of achieving harmonisation with relative ease. With the European nations within the Common Market – then the original six - already operating to the metric measurement standards, this directive sought to merely reaffirm the already existing state of legal metrological standards. Nonetheless, harmonisation directives had limited success before the 1980s. They actually hurt the image of the Community, going well beyond what many member states considered acceptable.

Harmonisation sowed the seeds of Euroscepticism within several European countries, who then negotiated with Brussels to secure exceptions against total harmonisation of national regulatory standards. For example, political pressure within Germany compelled its government to criticise the “Euro-beer” brewing standards claiming such harmonisation directives did not honour the cultural differences amongst the member states.¹² Other countries evaluating entry into the EEC also faced vocal campaigns against harmonisation such as in Denmark and Norway. The European Communities sought to mitigate the “negative integration” of harmonisation by promoting “positive integration” through mutual recognition of national regulatory standards.¹³ However, throughout the period examined here, harmonisation – not mutual recognition – was one of the key principles of economic integration. London constantly negotiated with Brussels to have its commercial traditions and customs recognised as lawful national standards within the framework of European laws. European harmonisation and the British reaction to it gave material form to the globalisation trilemma of the impossibility of achieving economic integration, sovereign control, and highly mobilised domestic mass politics.

In this context, metrication was, and remains, a “symbolic issue that aroused an astonishing degree of nationalist sentiment” in Britain, quite disproportionate to the topic’s political and economic significance.¹⁴ The succession of European Directives on metrication crystallised and maintained the nationalist view that European harmonisation was forcing even the British monarch to “obey Europe.”¹⁵ Euroscepticism, when rallied around specific issues that affected everyday life, helped to maintain the view that closer association with Europe had resulted in the imposition of compulsory laws on Britain. The apparent loss of national sovereignty was exacerbated when it was combined with the apparent loss of British identity if *pounds* and *inches* were to be compulsorily replaced by *kilos* and *meters*.

However, metrication was not imposed on Britain after joining the EEC in 1975, but rather was the result of reactions of particular individuals within Britain to international economic trends. Pressure put by industrialists on politicians to commit to a programme on metrication in the 1960s was a prominent reason. The story of British metrication and currency decimalisation during this period reflects the broader trends in post-war British policy which resulted from the “delicate interlacing of geopolitics and the half-chance arrivals and departures [of particular individuals].”¹⁶ The commitment to metrication and decimalisation anticipate, rather than were a consequence of, Britain’s entry into the Common Market. They were characterised by a “mixture of doubt and enthusiasm.”¹⁷ Both were part of a slew of responses by industrialists, technocrats and politicians to secure Britain’s place in the post-war global economic landscape, and both left enduring marks on the cultural responses to globalisation in general and Europe in particular. In fact, in the mid-1960s, Leo Pliatzky, a senior Treasury official had argued that metrication was “easier” than currency decimalisation as it involved adopting “a standard system which is common to all of Europe and same wherever it is in use.”¹⁸ In contrast, there was no common standard for a decimal currency, and thus currency decimalisation was considered a more complex change. As a result, James Callaghan, as

chancellor of the exchequer, claimed currency decimalisation was the logical first step towards a “single, comprehensive and coherent measurement system for all domestic and commercial transactions with all benefits to the export trade.”¹⁹

Total harmonisation through regulation required by successive EEC directives in the 1970s was inherently contradictory to the British government’s 1965 policy of “voluntary adoption” of metrication. It was this contradiction that transformed the technical issue of harmonisation into a highly politicised one, giving credence to fears about surrendering sovereign control to the bureaucracy in Brussels. Before 1971, the government showed cautious willingness to harmonise its economic institutions with the rest of Europe. But as a member of the EEC after 1975, Britain had to commit to implementing Directive No. 71/354/EEC and harmonising its legal metrology with the rest of Europe.

Metrication in Britain has a long history and is characterised by international pressure for standardisation, private initiatives by non-governmental actors, political ambivalence, popular opposition, and technocratic support by scientists and engineers. During the nineteenth century, successive legislative reforms of Britain’s weights and measures consistently rejected the decimal metric system that had been devised in France during the 1790s, favouring the traditional British “imperial” measurement units.²⁰ By the late twentieth century, in contrast to Britain (and USA), almost all countries in the world had legally adopted the metric measurement standards, or the *Système International d’Unités* (SI) as it became known since 1960.²¹ Learned societies, such as the British Academy for the Advancement of Science (BAAS), promoted the use of metric standards in the 1850s and 1860s.²² Parliament voted on bills to make metric standards compulsory to use. Each bill was defeated, or if passed in one house, failed to pass in the other.²³

A century later, between 1950 and 1965, British industrialists resurrected the prospect of metrication in Britain, wherein arguments for the standardisation’s positive effects on British

exports and overall industrial competitiveness featured prominently. This resurrection followed decades of relative disquiet amongst the most vocal supporters of metrication in Britain, such as the Decimal Association based in London and Manchester.²⁴ In the early twentieth century, the Lancashire textile industry had vehemently opposed metrication on grounds that metrication “adversely affected cotton manufacturers.”²⁵ Later, the Hodgson Committee, set-up in 1948 to deal with the extensive wartime profiteering through measurement frauds, strongly recommended converting to the metric system to improve British exports in the post-war period.²⁶ The government, pressured to implement the Hodgson Committee recommendations in early 1953, resisted any change to abandon imperial standards for metric units.²⁷ The barrister-politician, Hartley Shawcross, who was the president of the Board of Trade at the time, had dismissed the committee as being “too cranky”.²⁸ Trade with Commonwealth and USA (where the imperial measurement standards dominated industry) was then the priority and industrial standardisation on the basis of the metric system did not have much salience in Britain.²⁹

British industry only gradually came to support metrication. The joint survey in 1960 by the British Association for Advancement of Science (BA), and the Association of British Chambers of Commerce (ACC) had actually suggested that most engineering sectors were not hampered by the absence of metrication. The question of units of weights and measures was to industry of “minor importance compared with many other factors influencing the flow of international trade”, such as the decimalisation of currency.³⁰ Consequently, the BA and ACC recommended against compulsory adoption of metric system in the UK.³¹ Currency decimalisation had greater support within British industry at the time considering “international trends” in currency decimalisation (especially in the Commonwealth countries), mechanisation of accounting, and European economic integration.³² Nonetheless, a survey by the British Standards Institute (BSI) in 1963, showed that despite “divided views from British industry, a

substantial majority view was that a shift to the metric standards was inevitable.”³³ Thus, in 1965, Sir Peter Runge, chairman of Tate & Lyle and president of the Federation of British Industry, lobbied the new Labour government for a clear statement on its policy regarding metrication.³⁴ Pressure from the business press on the government to act had also built up. “There is a strong case for a gradual transition to the metric system,” *The Economist* had reported of the 1951 Hodgson Committee report.³⁵ The newspaper emphasised that international standardisation was important for post-war reconstruction as it eliminated the need for “special manufacture for export and the resulting increase in production costs.”³⁶ In 1965, *The Economist* asked of the government “Why are we waiting?”³⁷ Domestic pressure from the industrial sectors thus added to the international pressure for metrication in Britain, which ratcheted up following European harmonisation policies in the 1960s.

Nevertheless, the decision by the Labour government to commit to an official policy for metrication in 1965 broke with the historical position that British parliament had adopted since the nineteenth century: that the use of metric units was to be purely voluntary and that politically there would be no pressure for domestic economic sectors to use these measurement units. Committing to metrication implied several things simultaneously. The British state, like any other modern sovereign state, had increasingly “monopolised” the setting of legal measurement standards.³⁸ However, an official metrication policy meant that the state was now seeking to interfere in civic society by directing economic sectors – and people – to use unfamiliar measurement units to make the multitudinous, routine measurements that were necessary to maintain the rhythm of everyday economic activity.

Complete metrication of the British economy, whether driven by harmonisation with Europe or due to domestic pressure, appeased many in the industrial sectors but confronted other political interests. Harold Wilson’s announcement at the Vienna meeting of EFTA prime

ministers on May 24-25, 1965 outlined the government's intention and its vision of a metric future for the UK:

“The British government have decided that the time has come when British industry should be changing over to wider use of metric units, both for its domestic transactions and for exports. We intend the United Kingdom should advance progressively towards adoption of the metric system as its primary system of weights and measures.”³⁹

Quite why Wilson, chose to announce this at an EFTA meeting is unclear, especially since Douglas Jay, president of Board of Trade, outlined an identical metrication policy in the British parliament, in London, on the same day. Parliament was informed that the British government would “encourage” sector-by-sector conversion to metric standards in British industry, and promote educational work to help school and technical students to work in metric units, envisioning that in ten years majority of industry would have effected this change, and the metric system would become the primary legal standard for the entire country.⁴⁰ The thinking behind these coordinated announcements cannot be established with any degree of certainty based on the archival record. It is very likely that the EFTA announcement was part “bridge-building” with Europe, although Wilson, like other political leaders, remained ambivalent about Britain joining the EEC at this stage.⁴¹ The policy was certainly intended to appease British industry, particularly the Confederation of British Industry (CBI), about Labour's credentials in providing the political leadership to improve Britain's technological capabilities. Wilson's vision to reinvigorate British industry involved making far-reaching changes in economic and social attitudes: “the Britain that is going to be forged in the white heat of this revolution will be no place for restrictive practices or for outmoded methods.”⁴² Following the policy announcements, the *Economist* wrote, “This is precisely the sort of prod that was needed...[the government has] delivered the goods.”⁴³ British metrication, in the 1960s, was

thus spurred on by the highly influential industrial lobby in anticipation of economic integration with Europe, not as a result of it. Politically, the Labour government of the 1960s had decided to go along with this pressure from industrial leaders for progressive, but “voluntary” metrication.

The 1965 metrication policy stirred latent Eurosceptic, and nationalistic, attitudes as parliament became increasingly suspicious of the government’s “stealthy metrication”, which spilled over from the industrial sectors to other areas of British society. Pressure from politically influential industry associations, such as the CBI, had resulted in the formation of quasi-governmental bodies, such as the Standing Joint Committee on Metrication (SJCM, 1965-68) and the Metrication Board (MB, 1969-1980). The Treasury was in fact concerned about SJCM’s position of metrication extending beyond the industrial sectors into “other walks of life.” Their views “being written from an industrial standpoint” were not entirely objective, wrote Callaghan in a confidential note to Wilson.⁴⁴ Meanwhile, Tony Benn, then minister for technology, was pushing Wilson to make an unequivocal statement regarding government’s commitment to metrication: “I am faced with a problem as we have not published SJCM’s [1968] report”, he wrote.⁴⁵ The government thus found itself in an intractable position. Industry was calling for clear commitment from the government for metrication of the whole country, not just the industrial sectors.⁴⁶ On the contrary, Wilson was rightly concerned about committing to complete metrication beyond industry: he voiced his concerns about “public opinion” to Benn.⁴⁷

The MB’s inaugural report in 1970, *Going Metric: the first five years 1965-69*, led to what *The Economist* termed as a political “squabble.”⁴⁸ The report made some definitive statements about complete metrication, which displeased the anti-metrication members of parliament. “Britain will be a metric country before 1975,” began the report.⁴⁹ “The Ministry of Technology is currently preparing a general metrication bill for removal of barriers to

metrication,” the report further claimed.⁵⁰ Opponents of metrication would have been alarmed to read in the report that “children now going to primary schools will from the start be learning to think metric” and that those in higher education will be “breaking the habits of thinking imperial.” The report in fact proudly announced that the Scottish Examination Board had plans to have “all relevant [exam] questions on the ordinary grade set exclusively in SI units by 1972 and for higher grade by 1973.”⁵¹ The report’s foreword claimed that “we, in Britain, have made our decision” to convert to the metric system, just as other Commonwealth countries and the US had. The whole world will be metric by the end of the 1970s, predicted the report.⁵²

To those in the British parliament who had expected metric changes to be limited only to industrial sectors and on a voluntary basis, as per the 1965 announcement, the complete and apparently compulsory metrication envisaged by the MB just five years later in 1970 seemed like an alarming prospect. When had the British government decided on complete metrication? Why had there been no debate on this issue in Parliament? Why was the government intent on stealthily introducing compulsory metrication? Such questions were raised in the British parliament, especially by Conservative backbenchers.⁵³

Britain’s inching closer to the metric system during the 1960s exposed the trilemma of international integration through harmonisation, severely tested the political appetite for compulsory metrication in the consumer and retail sectors in the 1970s, and debunked the government’s expectations of a relatively straightforward process (compared to currency decimalisation) of completely overhauling the country’s legal metrological framework. The inevitability of metrication, as required by EEC directives in the 1970s, went against the assurance of voluntary choice for consumers. Once the language of “choice” was used to frame the initial policy between 1965 and 1968, resistance to metrication hardened when it appeared that metrication was being made compulsory after all as a result of closer integration with Europe after 1975. Politicians and the media were able to frame metrication both in terms of

“lack of free choice” as well as “loss of sovereignty” throughout the 1970s. With price inflation and its impact on consumers becoming some of the key political issues, the combination of such populist framing eventually led Thatcher’s government to put a stop to compulsory metrication in 1979, until it re-surfaced during John Major’s government in 1995.⁵⁴

II. Consumerism and Popular Politics

The popular and political debates on European harmonisation and national sovereignty occurred within the shifting environment for policy-making in the 1970s, during periods of global economic shocks and high inflation, and when many in the country feared Britain was becoming ungovernable.⁵⁵ Anthony King was convinced that Britain had become harder to govern due to the increase in the range of problems that the government was expected to deal with, whilst simultaneously discovering that its capacity to deal with these problems had diminished.⁵⁶ His contemporary, James Douglas from the Conservative Research Department, thought that membership of the European Community could help minimize this “overload” of the government.⁵⁷ While concerns about the crisis of governance may ultimately have been unfounded or exaggerated, high inflation and a series of other crises (e.g. currency devaluation, IMF bailout, labour activism) added to the general feeling amongst many ordinary people that decline of British values, influence and living standards was “all too apparent and experienced at home.”⁵⁸ Peter Hall described the long decade of the 1970s as a period of collective puzzlement where even policy experts metaphorically scratched their heads over the best way to deal with the deteriorating economic climate, especially high inflation.⁵⁹ Political commentators, such as Samuel Brittan, despaired that democracy was under threat from excessive expectations and group self-interest. “Two endemic threats to liberal representative democracy are the generation of excessive expectations and disruptive effects of the pursuit of group self-interest in the marketplace,” he argued.⁶⁰ This observation followed the tumultuous events of 1974 that saw two general elections in Britain in February and October. Political

parties campaigned on inflation, the cost of living and prices, as well as on strikes and trade unions; broad issues which concerned most voters.⁶¹ On inflation and Europe there was a knowledge-gap between “policy makers and the perceptions of ordinary British citizens.”⁶² National Opinion Polls around 1973 consistently reported that about half the people surveyed blamed metrication, currency decimalisation and Britain’s entry into Europe to be the cause for high inflation (see table 1).⁶³

By framing big ideas in an easily digestible manner, popular media became echo chambers and amplified the rhetoric of decline, loss of control and the threat to Britain’s sovereignty as a result of European harmonisation.⁶⁴ Populist politicians, such as Sally Oppenheim, the backbench Conservative MP in the 1970s, later minister for consumer affairs in Thatcher’s government, used the language of “choice” and liberal values to give form to the concerns of “Deep England” and claimed that metrication threatened English tradition and history.⁶⁵ Such declinist rhetoric by Oppenheim is an example of populist framing that set an idealised, mundane, and familiar everyday British way of life in opposition to the disjuncture of technocratic harmonisation of metrication and decimalisation. The appeal of such nationalistic rhetoric is further understood in terms of the social and cultural significance that people attach to national currencies and systems of measurements. Currencies tend to foster national identities by presenting nationalist imageries and a sense of collective tradition, act as a medium of social communication and collective monetary experience, and create a sense of “popular sovereignty.”⁶⁶ Similarly, national systems of weights and measures mediate social relationships in addition to being technologies of governance and economic coordination.⁶⁷ With currency decimalisation at an irreversible stage by the early 1970s, those who claimed to speak for the British consumers reacted to the prospect of compulsory metrication with alarm, suspicion and antagonism.

The knowledge-gap between policy experts and ordinary citizens, egregiously exploited by politicians, such as Oppenheim, stoked the simmering Euroscepticism and damaged the implementation of metrication programs during the 1970s. The scepticism of closer economic integration with Europe crystallised as the framing of international standardisation became oversimplified in terms of compulsory metrication imposed upon British consumers by the EEC: popular literature prior to 1975 had actually conveyed a sense of inevitability concerning metrication in daily economic life. The straightforward populist framing – that compulsory metrication was not in the interests of the British consumers - distorted the complex economic realities of international integration. In some instances, the framing was simply untrue, not merely inaccurate. However, by presenting this particular European harmonisation policy as one of the root causes of price inflation, opponents of metrication presented a compelling argument for rejecting compulsory standardisation. The anti-Europe framing was grounded in mundane, everyday terms, such as the price of pre-packed foods in consumer stores. The discursive framing made the consequences of integration seem real to most people and added to the collective feeling that successive British governments were no longer in control of integration with Europe. The popular sentiments were regularly vocalised in the language of “loss of sovereignty” by political actors who were most in a position to exploit the knowledge gap.

The British consumer was co-opted as a key constituent in the political economy of metrication and standardisation. Far from being an “atomistic purchaser” of products manufactured in an industrial system beyond their control, ordinary people actively framed the issues confronting them as a result of metrication.⁶⁸ In this regard, the consumer – or those who claimed to speak on their behalf – acted not just as a “customer consumer”, but spoke as a “citizen consumer” by framing the issues using the language of “individual choice.” Consumer groups, both party and non-party pressure groups, which had become important features of the

political landscape in post-war Britain, had an influential and critical voice in restraining the government's metrication policy.⁶⁹ They were able to effectively bridge the gap between the private concerns over price inflation and the public policy aim of fostering choice. The political economy of metrication had become entangled in the language of "freedom" within a market economy, as opposed to the language of "efficiency" used by industrialists and technocrats during the 1960s. The British consumer groups were prepared to resist statist attempts to intervene, centralise, and trample upon liberal and voluntarist traditions, signified by the creeping metrication and harmonisation with the rest of EEC members.⁷⁰ Consequently, consumer politics of the period framed compulsory metrication in the retail sectors as an undemocratic imposition by Europe, a major cause of price inflation, and manifestly failing to protect consumer interests during uncertain economic times.

Such framing is abundantly clear in the case of the popular reactions to the EEC directives regarding the standardisation of packaged food products, such as the 1976 Directive No. 76/211/EEC on "Labelling of Prepackaged Products." The directive required compulsory labelling of pre-packaged contents using metric units of volume or weight. In the minds of the consumers, introduction of these new "Metric Packs" translated into the conviction that products such as breakfast cereals were to be sold in packets "that were only about three-quarters full" because of metrication. Consumers showed a general distrust of metrication, widespread confusion about the effects of metrication on packaged consumer products, fear of inflationary effects, and general regret of "break with tradition" (by discarding the Imperial units). People voiced concerns that "metrication would lead to even less foods being available (*sic*)," suggesting a widespread confusion between the standardisation of sizes of packaged products and introduction of the new measurement units.⁷¹ A report by the Consumer Safeguards Group found that persistence of "inflation had created a mistrust of traders prices. Consumers are apprehensive that the metric changes as they occur could be used to introduce

price increases [by retailers] which they will not readily be able to detect.”⁷² These survey findings were similar to those reported by other opinion polls (see figure 1).

INSERT Figure 1 (consumer attitudes) HERE

Official government reports reached very different conclusions compared to popular opinion. The Department of Prices and Consumer Protection claimed that consumer fears regarding unjustified price increases due to metrication were unfounded. “When cornflakes went metric, customers received 10 per cent more in each pack but manufacturers prices went up by only 5 per cent,” the Department’s report on metrication claimed.⁷³ The Price Commission echoed this assessment and argued that metrication was not leading to higher prices. Nevertheless, many people considered it a “fact” that metrication was causing price inflation.⁷⁴

Whilst metrication was popularly blamed for price inflation, there was a clear gulf between such perceptions and the “expert” understanding of inflation. Between 1973 and 1975, the National Opinion Polls showed that a considerable proportion of people considered “decimalisation” to be one of the top four causes of high inflation. (Table 1). Currency decimalisation closely followed “Britain joining the Common Market” in the list of causes leading to high inflation, and at times ranked higher than “Trade Union wage demands.” In contrast to popular opinion, nearly all economists considered currency decimalisation to have had a negligible effect on inflation, and that the effect of Britain joining the EEC was minor compared to other inflationary forces.⁷⁵ “The persistence with which decimalisation attracted blame for causing inflation suggest how people, when given something they dislike, blame *it* for some other unpleasant social phenomenon,” wrote James Alt.⁷⁶

INSERT Table 1 (Causes of Inflation) HERE

Most ordinary people at the time thus conflated the consequences of metrication of weights and measures with the decimalisation of British currency.⁷⁷ The reactions of people surveyed ranged from metrication “was just another excuse to put up prices” to “there will be a rounding

up of prices like there was with decimalisation.”⁷⁸ Decimalisation became strongly associated with high inflation in popular opinion, and was in turn used to frame the opposition to metrication beyond the industrial sectors. “Yet another aspect of metrication is being pushed through effectively unnoticed, which will have far-reaching highly inflationary results on our economy,” complained a correspondent in *The Times*.⁷⁹ “No one can deny that changing to metric measures will speed the rate of inflation and will cost the consumer dear,” stressed the Scottish Housewives Association.⁸⁰

Equally damaging to the retail standardisation programs was the framing that compulsory metrication of the consumer sectors was an “undemocratic” and insidious move by a weak British government and a highly technocratic European bureaucracy. This framing, which included arguments such as metrication was against the interests of the British citizens *per se*, invoked the principle that use of metric units should be a matter of “free choice” and not compulsion. One “radical” pamphlet accused the government of being undemocratic by claiming how “the compulsory introduction of the metric system rejected by the great majority is clearly defined as an act of tyranny.”⁸¹ Others accused the government of “metrication by stealth” and that parliament was being offered a *fait accompli* without proper debate. To Oppenheim, metrication, although “inevitable”, was not “in the interests of the consumers [because] it was impossible to guarantee that [metrication] could take place without further inflation and confusion.”⁸² She framed Wilson’s 1965 metrication policy as “undemocratic” because “the elected representatives of the people in this House have never voted on the principle of metrication[, an] opportunity [that] should have been provided in 1965 when the commitment was first made.”⁸³ On another occasion, Oppenheim suggested metrication was a system the country would not have chosen “if the decision had been our alone.”⁸⁴ A misguided interpretation of “free choice” is evident in Oppenheim’s interview with LBC Radio on 19 April 1978.

“We should not have compulsory metrication rammed down the throats of every consumer, manufacturer and shopkeeper. This would allow some shopkeepers who don’t want to go metric to cater for their customers by supplying them with imperial quantities as long as this is wanted. When it is no longer wanted, they would then give it up. This is what freedom of choice and free enterprise is all about – that people should be able to choose.”⁸⁵

The prevalent political rhetoric, distilled in Oppenheim’s remarks above, echoed Auberon Herbert’s voluntarist appeal for individual freedom, whilst simultaneously demonstrating how international economic integration was antithetical to liberal democratic values.⁸⁶ Voluntarist and liberal ideas about restraining state action had gained prominence in Victorian Britain, just as the Victorian state was grappling with various technologies of governance that made liberalism a performative political objective. In other words, the freedom to be left alone in order to do what one wants to do paradoxically required an unequivocal adherence to a techno-legal framework that guaranteed such freedoms.⁸⁷ Legal metrology, whether based on the international metric standards or on the British imperial units, is one example of a techno-legal framework that allowed a market-based political economy to function effectively: standardised metrology is a key technology of economic coordination. Metrology is also a key technology of governance, finely balancing individual (economic) freedoms with a legal framework guaranteeing such freedoms. International standardisation of the 1970s, as part of globalisation, tested the limits of the tenuous balance between coordination and governance; and between the individual economic freedoms, as a moral system, and democratic freedoms, as a political system, both seeking to restrain excessive state action.⁸⁸ For metrication to be effective, state action was required to make it compulsory, which in turn was fiercely resisted by domestic political actors, operating in Britain’s liberal political culture. They viewed “compulsion” as a state device that impinged on their moral right to be “free”. Consequently, as the issue was

framed, international standards may have been necessary for Britain to participate without friction in an international economy, but compulsory standardisation policies were antithetical to Britain's liberal political traditions. Such framing limited Britain's ability to participate in a frictionless manner within a relatively free global market economy, further demonstrating how the globalisation trilemma played out in material everyday terms.

Metrication thus became a political hot potato because of the mishmash of rhetoric, cast on the one hand as being too liberal (rejecting British values of preserving tradition) whilst simultaneously framed as not being liberal enough (threatening British values of freedom of choice). The resulting ambivalence gave further legitimacy to the increasingly vocal Eurosceptic views. Political actors on all sides of the metrication debate invoked the rights of the individual consumer and the principle of free choice. The government's own White Paper in 1972 had emphasised voluntary change citing the "tradition of free choice"⁸⁹ However, the bone of contention between the different groups was the degree to which consumers had any voice in the extent and speed of metrication. The White Paper claimed how "the housewife will increasingly find goods being sold in metric units."⁹⁰ This may have been reassuring to those industrial sectors supporting metrication. But it alarmed groups such as the Scottish Housewives' Association who accused the government of "setting up Consumer Agencies throughout the country so that metrication may be more speedily foisted on an unwilling public."⁹¹ Contemporary historians too lent their voice to the debate by stressing how the British were not the first to resist metrication: "even in France where the system originated, successive governments required nearly 50 years to make its use compulsory," stressed one historian of science.⁹² A. J. P. Taylor, the radical British historian, writing in his regular column, informed readers "now is the time to protest and to ensure that [the parliament] throws out metrication...write to your MP and tell him to vote against metrication."⁹³

Such tussles between the government and consumers also reflect the gendered framing of the issues, foregrounding the place of women within the broader consumerist debates. The British consumer was usually presented as a female in the official setting, and government reports often referred to the “housewife” dealing with the inevitability of – and disjuncture caused by – metrication.⁹⁴ Thus, British women were recruited as representatives of the consumer by, and within, various state bodies involved with metrication.⁹⁵ Women were also visible in the political process of consumerism, both in attempting to restrain excessive government action as well as in informing and educating the masses about the trials and tribulations of metrication. Women’s groups such as the Greater London Conservative Women’s Advisory Committee (CWAC) publicly questioned the “cost to the consumer” of industry’s continuing drive for metrication.⁹⁶ Concomitantly, other groups, such as the Women’s Advisory Committee of the BSI, representing nearly 30 women’s organisations across Britain, claimed “too much fuss was being made about the problems of metrication for the housewife.”⁹⁷ Nonetheless, opinion polls in 1974 show that a greater proportion of women were “against” Britain using the metric system of weights and measures (46%) compared to men (33%).⁹⁸

Not all women’s groups and associations actively opposed metrication though. The correspondence between the Metrication Board (MB) and the National Federation of Women’s Institute (NFWI) is illustrative of the tacit, but not explicit, support that women’s organisations gave to the government’s metrication programme during these years. In September 1972, the MB sought to recruit NFWI to spread information about the metric change as the institute, had “close contact with local groups of people.”⁹⁹ By 1972, MB felt that the effects of continuing metrication in industry were evident in the distributive trades and to the consumers, and becoming steadily more widespread. Accordingly, in January 1973, NFWI hosted a “metrication meeting” of various women’s institutes (WI) stressing the overall advantages of

metrication and the “non party-political nature of change.”¹⁰⁰ NFWI also advised all producers who sold through the WI markets that, in practical terms, use of imperial units would continue in daily activities such as cooking for the markets (“no reason why old recipes should not be used”) or for goods sold loose (not pre-packaged). Regarding recipe books, NFWI’s advice was to print both imperial and metric units and to ideally re-test all recipes using the new units.¹⁰¹

The squabbles around retail metrication, however, were not exclusively about women consumers: several popular books initially encouraged a fairly gender-neutral retail consumer to embrace metrication. Appealing to the British sense of stoic resignation, a popular guide announced, “like it or not, Britain has decided to change over to a metric system of measurements.” This meant that “willy-nilly, we shall need to adapt to the new ways”, the book informed its readers.¹⁰² *We’re going metric* announced the title of another handy guide to the metric system. It appealed to readers to “think in metric” and contained a metric “quiz” to help readers familiarise with the intricacies of decimal metric calculations in mundane everyday situations.¹⁰³ *Nuttall’s Metrication in the Home*, another popular guide, had useful tips for how personal measurements, clothes sizes, home dressmaking, bed sizes and the myriad measurements used in cooking (oven times, frying temperatures, proportions), tins of paint, and wood and board sizes would all be changing once the conversion to metric measurements took effect.¹⁰⁴

The original timetable for voluntary conversion, set by the Labour government in 1965, was in disarray by 1975. Still, many in industry demanded compulsory metrication of retail products. Such government action would be congruent with the EEC directives on retail packaging (e.g. No. 76/211/EEC), the supporters claimed. But compulsory metrication orders after 1976 played into the hands of the Eurosceptics and further solidified the view that European laws were being forced on an unwilling British public. Brittain’s “marketplace” for

votes was also turning out to be a “marketplace for ideas,” like the one described by Peter Hall.¹⁰⁵ Only, this marketplace was grounded by incomplete information, disputed facts, and contorted understanding of economic realities. Some in government, such as Geoffrey Howe, blamed the metrication mess on the general national apathy such that “people [were] willing to settle for an economically stagnant society and yet demand the social fruits that can only be generated by economic growth.”¹⁰⁶

III. Machinations and Shenanigans

Metrication added to the burgeoning British Euroscepticism during the 1970s, just as Euroscepticism contributed to the cessation of government push for metrication after 1979. Although the media first used the term Euroscepticism only in the 1980s, the metrication debate in the 1970s had already morphed into one about sovereignty and preservation of British tradition.¹⁰⁷ Populist framing of metrication laced the public debate with emotion, anger and consternation, transforming it from a technical issue of harmonisation into a cultural issue of “Britishness.” The framing of the anti-metrication campaigns indicate the crystallisation of “hard” Euroscepticism with reference to the defence of UK’s sovereignty in the face of EEC integration directives.¹⁰⁸ Political resistance to European integration legitimised the defence of parliamentary sovereignty by invoking the popular notion that greater Europeanisation was the ultimate expression of British (to mean English) decline.¹⁰⁹ As argued here, the framing of the debate in terms of British otherness to the rest of Europe underscores the importance of populist discourse in transforming the latency of Euroscepticism into a more active form in the 1970s. Under the guise of retaining control, the politics of Euroscepticism also legitimised and institutionalised British responses to European harmonisation. Negotiating an exception for Britain from EEC directives became a way for the government to exhibit that it was attempting to retain sovereign control.

Concerns over sovereignty were articulated by British voters in the shops, kitchens and workplaces in the context of the government's inability to control the price inflation seemingly caused through decimalisation and metrication. This argument contrasts with Saunders' claims that, during the 1975 referendum on Europe, there were sophisticated political debates about the "meaning of sovereignty in a globalised world", but that this issue "barely registered with voters": it was a problem for all political parties as the different views about sovereignty failed to engage the public at the time.¹¹⁰ As shown here, the mundane everyday concerns of high price inflation greatly contributed to burgeoning anti-Europe feelings and to the sense that the government had lost control over key policy areas. The voters' concerns over sovereignty, expressed in ways described in this article, may or may not have been used effectively by the "No (to Europe)" campaigners during the 1975 referendum. But the government's ambivalent attitude towards metrication and harmonisation certainly exacerbated popular concerns over loss of sovereignty.

The intermeshing of material economic concerns with the political shenanigans became central to the reproduction of Eurosceptic Britain, especially as the economic environment continued to deteriorate just when the country "joined" Europe in 1975.¹¹¹ Within this context, EEC's metrication directives added to the divisions amongst the Eurosceptics, inasmuch as it furthered the divisions within the major political parties. Both parties gave the impression of implementing EEC integration directives, whilst appearing not to surrender sovereign powers to Brussels. The powerful industry lobby meant that the government needed to be seen to encourage metrication, whilst the equally strong consumerist interests compelled elected officials to negotiate exceptions to EEC harmonisation directives. The retention of the imperial *pint* for the sale of milk and beer, even as compulsory metrication orders for the sale of other retail products were issued, reveal the contradictory forces of international integration and highly mobilised domestic politics at play. These examples help to embed the populist

processes of Euroscepticism in material, everyday concerns rather than more nebulous or diffuse notions of British national identity. The metrication debates of the 1970s help to historicize why the case of the greengrocer Steven Thoburn, the “metric martyr”, captured the popular imagination in 2002, when he was prosecuted for displaying his goods marked only by imperial, and not metric, measurement units. Thoburn’s case continues to be featured in popular media, especially since the June 2016 referendum on Europe.¹¹² Discursive anti-metrication framing in the media, periodically since the 1970s, during the 1990s, and well into the twenty-first century, is an expression of populist, firmly grounded British Euroscepticism.¹¹³

There is no doubt that the British media was complicit in constructing a narrative of crises surrounding the issue of metrication. The “crises” in the narratives constructed by the popular press (such as the *Daily Express*, *Daily Telegraph* or *The Times*) was supposed to have resulted from the compulsory metrication that signalled the loss of sovereign control to Europe. On the other hand, and at the same time, quite contrary narratives were constructed by the financial press (such as *Financial Times* or *The Economist*) where the metrication “crises” was due to the government’s reticence in making metrication compulsory and giving in to populist demands.¹¹⁴ The manner in which the media constructed these narratives ensured that the issue of metrication was embedded in the collective British political imagination *as* a narrative of crises: it has remained so ever since.¹¹⁵ In some extreme accounts, metrication was represented as a moral crises, a threat to some fundamental part of society exacerbating the general feeling that British politics had been reduced to that of anxiety, risk and crises.¹¹⁶

The 1971 EEC Directive No. 71/354/EEC: “Harmonisation of Units of Measurement” added pressure points on the British government prior to accession. While the directive gave legal form to the stated aims of the British government, there was little clarity about what this directive meant for Britain were it to enter the Common Market. When government officials,

including Sir Charles Sopwith, who led the legal team drafting the European Communities Act 1972, first saw the draft in March 1971 of what eventually became 71/354/EEC, it led to considerable discussion about Britain's legal obligations as members of the Common Market. Was Britain required to introduce enabling legislation making metric usage compulsory before it joined? Could Britain stick to its original timetable of completing metrication by 1975 as promised by Wilson in 1965? Or did it have until 1978 as required by the 71/354/EEC directive?¹¹⁷ Such questions did not have clear answers and added to the general confusion and debate about the processes of harmonisation that accession to Europe implied.

The heavy-handed attitude of Brussels regarding Britain's obligations to implement the EEC Directive further strained relations. For example, in February 1975, the Commission sent a letter to James Callaghan, in the Foreign Office at the time, stating that as UK had not implemented the 1971 directive "the Commission considers that the United Kingdom has not fulfilled the obligations incumbent upon it."¹¹⁸ The government initially viewed such missives as part of Brussels' overall effort to put pressure on all member states rather than singling Britain out. However, officials felt that EEC raised the issue of metrication "in a politically insensitive way at a difficult time."¹¹⁹ David Smith, UK's diplomatic representative in Brussels, suggested that the government call the Commission's bluff: "it seems hardly possible that [EEC] can in practice be contemplating taking us to the Court of Justice, in view of the publicity this would necessarily entail and the adverse public reaction that would be bound to follow."¹²⁰ London reminded Brussels of problems that would be created for the Community and its reputation in the UK if the Commission insisted on the absolute letter rather than the spirit of the law on what was turning to be a politically sensitive issue.

The government tried to exert its sovereignty by determining the timing and extent of metrication in response to EEC directives. They claimed to have negotiated with the EEC to retain the use of certain imperial units "where special considerations justify it."¹²¹ In 1976 the

EEC issued a fresh directive on the harmonisation of measurement units, No. 76/770/EEC, specifically identifying many of the Imperial units in “common usage” that could be used even after the deadline for metric conversion in 1978.¹²² This was a major departure from the 1971 directive, which had allowed no room for exceptions to harmonisation of measurement standards.¹²³ The change in EEC’s stance gave some breathing space for the government in London, but not by much. Brussels had shared an early draft of the 1976 directive with London. The Labour government was concerned that the “anti-metricators” on the opposition front bench would reject the amending directive, that is, those who held to the fallacy that “the whole thing can be done on a voluntary basis.”¹²⁴ The Treasury view was that if parliament failed to approve the draft directive, and thereby acknowledge Brussels’ willingness to compromise on total harmonisation for the time being, the more stringent terms of the earlier 1971 directive would automatically apply.

Such squabbles exposed the tenuous balance between parliamentary sovereignty and the British government’s obligation to implement directives issued by a supranational institution such as the EEC. The implementation of the 1971 metrication directive appeared to expose the very real possibility that the will of the British parliament had to be subjugated to the Eurocratic harmonisation objectives. Pressure from the Eurosceptics compelled governments of both political parties to negotiate with Brussels for concessions and exceptions, which were eventually secured in the form of the 1976 directive. The government was nonetheless keen to force home the realities of the EEC integration amongst the anti-metricators and the opposition front bench and for the British parliament to choose between the “frying pan” (metrication) and the “fire” (transgressing Britain’s legal obligations).¹²⁵ Parliament eventually accepted the EEC amendments and Brussels issued the 76/770/EEC directive a few weeks later.¹²⁶ EEC’s compromise, and Britain’s ability to get Brussels to change its directives, was presented as a victory by the anti-metrication and anti-marketeers

lobby. The *Sunday Telegraph* “revealed” how government’s claims that Britain had no choice other than metrication were “simply untrue” and offered the text of the amended EEC directive as “evidence.”¹²⁷ The *Financial Times*, reported that the amended EEC directive retained the “more politically sensitive” measurement units such as *pints* and *miles*, but questioned whether consumers really preferred the confusion of both metric and imperial measures to the “loss of such familiar tombstones as *pounds* and *ounces*.”¹²⁸

The manner in which interest groups used the language of populism, nationalism and Euroscepticism to frame the metrication problem is reflected in the case of the “save the pint” campaigns of this period.¹²⁹ Defenders of consumerist interests and promoters of industrial competitiveness found a rare common ground, particularly in the context of the retail marketing of consumer products such as milk and beer. For example, the Conservatives, although advising voters in 1973 that metrication in industry had gone too far to halt the change “whatever our emotional attachment to [imperial units]”, promised public discussions concerning the “future of the *pint* of milk and beer.”¹³⁰ After 1975, the media quickly latched on to the story about the likely demise of the *pint* due to the EEC directives on metrication.¹³¹ The *Daily Telegraph* compared “the pint’s passing” to an Orwellian future for Britain, referring to the heavy-handed policies of the government and EEC regarding compulsory metrication.¹³² Politicians, such as John Page (Conservative MP), who described himself as the “leader of the anti-market lobby in the House of Commons,” took on the task to “save the pint and save the mile” threatening

“If the government starts mucking about with our miles and our pints, the country will rise up against them. They can do what they like with the minimum lending rate, but they must leave our pints and miles alone or they will have a real revolt on their hands.”¹³³

Arguments from the industrial sectors echoed such populist sentiments. The Brewers’ Society was especially anxious to continue retailing draught beer in quantities measured by the *pint*, as

otherwise the industry would have been compelled to spend about £11 million just to replace all the pint glasses used to sell beer in pubs and other outlets.¹³⁴ Even so, the Society considered the “real obstacle to change is not so much technical or financial as a belief in the beer drinking public’s emotional attachment to the *pint*.”¹³⁵ “Saving” the *pint* was apparently John Page’s proudest boasts of his parliamentary career.¹³⁶

If securing exceptions to EEC harmonisation directives had become a measure of asserting sovereign control, the retention of the pint and the mile in the 1976 directive became a major source of “victory” for the Eurosceptics. “We have won for the country the preservation of the foot, the inch, the mile, the pint and the gallon. This is a significant achievement,” declared Oppenheim.¹³⁷ The confirmation of the 1976 directive by the British parliament, and the resultant amendments made to the British weights and measures legislation in late 1976 involved political compromises all around. The pro-metricationists had to accept the principle that the “wholesale abolition” of the mile, the inch, the foot, and the pint would not occur.¹³⁸ The anti-metricationists had to accept, however grudgingly, that metrication could not be halted, much less reversed.

Despite all the exceptions made to the EEC directives on metrication within the Common Market, what eventually helped to transform the scepticism of the integration project into an active form of resistance to harmonisation was the series of “compulsory metrication orders” enacted by the Labour government between 1976 and 1978. While, the party had little intention of abolishing the *pint* or the *mile*, the metrication orders caused a greater number of pre-packed foodstuffs to be sold at the retail level in metric-only quantities after 1978. These included products consumed daily such as tea, bread, flour, oats, dried fruits, biscuits, coal, sugar, salt, cereals, etc.¹³⁹ Commodities sold loose at the retail level in weighed-out manner were not covered by these orders. As a result, Eurosceptics and anti-metricators such as Oppenheim were not only determined to stop further compulsory orders, they were also keen

to quell any further publicity by the government encouraging metrication even on a voluntary basis. It was in this context that the Conservative government put a stop to any further such orders promoting metrication in 1979. “There will be no more orders compelling metrication. Unfortunately, we can’t revoke the [compulsory metrication order for] tea. It went too far,” complained Oppenheim on becoming the minister for consumer affairs.¹⁴⁰ Oppenheim’s position was nonetheless contrary to the National Consumer Council’s view, which had somewhat softened by this time. Jeremy Mitchell, its director, stated “metrication has gone so far that further delays [would lead to] confusion and disadvantage of consumers.”¹⁴¹

Despite the lack of consensus about metrication’s impact and future within Britain, it was amongst the first harmonisation directives to be successfully stalled by Eurosceptics in the government. In 1979, Thatcher had handed over the metrication issue to Oppenheim considering its impact on consumers, although CBI had made several unsuccessful attempts to involve Keith Joseph (the industries minister) in the issue. The government had generally viewed CBI’s motives with scepticism and was never entirely comfortable with industry’s heavy representation on metrication committees such as the SJCM: Callaghan had said so to Wilson in the late 1960s.¹⁴² Subsequent governments tried to limit metrication to the industrial sectors, a policy that became increasingly untenable as Britain inched closer to Europe during the 1970s. Anti-metricators and Eurosceptics had never stopped trying to reverse, or at least prevent further, metrication. When the Conservatives came to power under Thatcher, and when sceptics such as Oppenheim found themselves in a position to act, they did just that.

Consequently, one of the first acts of Oppenheim was to abolish the Metrication Board (MB). It was common knowledge that there was no love lost between Oppenheim and Max Wood, MB’s chairman. The Board’s publicity film, *The Move to Metric*, made in October 1979 led to a “blazing row” between the two: “there was lava flowing in the ministry,” according to some reports.¹⁴³ The MB ceased functioning after April 1980, the government stopped

compulsory metrication orders, and any further metrication by industry was expected to occur in a voluntary manner over an undefined period of time. Officially, the demise of the MB was part of the overall drive to reduce the number of “Qangos” during the early period of Thatcher’s government. Almost 450 such quasi-public bodies were abolished between 1979 and 1981.¹⁴⁴ The decision to terminate the MB’s activities was thus presented as the result of “reviewing the functions” of such public bodies.¹⁴⁵ The MB followed quangos such as the Price Commission “into oblivion.”¹⁴⁶ It is rather symbolic that the official announcement to abolish the Board was publicly made by Oppenheim while opening a pickle factory in Bury St. Edmunds.¹⁴⁷

IV Stumbling and Floundering

Suspicion about metrication and the associated Euroscepticism crystallised at a time when deference to authority and expertise of the professional was disappearing, especially in the media but also in politics. Experts and professionals had come into their own in Britain during the early part of twentieth century with the maturation of the modern technocratic state. Being part of the technically, scientifically and commercially minded “new” middle class, the cultural influence of “the expert” went far beyond economic and social policy matters.¹⁴⁸ Indeed, A. H. Hughes, a senior executive from Guinness breweries who was involved in the BA/ACC decimalisation survey in 1960, attributed the resurgent interest in metrication to “the increasing number of men and women scientists, trained in the metric system, coming into positions of influence in industry and commerce.”¹⁴⁹ Supporters of metrication and decimalisation were usually associated with these new middle class identities who emphasised “technocratic and scientific capacities” as a way to transform Britain into an “efficient” and “modern” nation vis-à-vis its new European partners.¹⁵⁰

Popular media, consumers and politicians were circumspect of these technocratic, efficiency-promoting, managerial policies that tended to disrupt how people from other social

groups shopped, worked and generally went about their daily business. Although people across the social strata had come to accept domestic technologies (such as televisions and washing machines), there was a general suspicion – almost disillusionment – with an increasingly high-tech society and the people who supported this vision.¹⁵¹ “What is it all for?”, asked Captain Henry Kerby (Conservative MP) in one of the many parliamentary debates on metrication: “it is merely to prove that we are more trendy (*sic*), more European. [This] metric madness, this alien academic nonsense, [is] introduced secretly through the back door by a bunch of cranks and the big business tycoons.”¹⁵² When metrication continued to be “imposed” throughout the 1970s despite mobilisation of popular opinion against it, politicians were deeply suspicious of civil servants who continued to implement the unpopular regulations.¹⁵³ The row between Oppenheim and the MBs’ Max Wood mentioned earlier is an indication of this attitude. The politics of expertise during the 1970s thus gave space for expert opinion to be questioned in popular media just when shifting currents within the policy-making environment had led to the rise of the outside “expert” and the dissipation of the Civil Service’s monopoly control over an increasing number of key policy areas.¹⁵⁴ In this expanded marketplace for ideas contesting notions jostled with each other and amplified what many in politics dreaded to be the surrendering of law-making powers to Brussels as a result of European harmonisation. The narrative regarding loss of sovereign control, triggered by successive European directives on standardisation, became an *idée force*. But contrary to Stuart Holland’s assertion, such Eurosceptic ideas were not always based on serious analysis, grounded in realities or addressed real problems.¹⁵⁵

Ultimately, Eurosceptic ideas about metrication proved to be subversive and influential, being framed, as they were, by a distorted understanding of economic realities, incomplete information or cherry-picked conclusions. In the absence of reliable facts and costs of metrication, the media and politicians could dispute “expert” opinions about the long-term

benefits of joining the Common Market despite the immediate cultural dislocation of harmonisation. Gradually, many in industry also began to question whether the substantial initial costs of metrication were really going to bring in any long-term economic benefits. The realities of metric conversion in the industrial sectors whilst grappling with the uncertain economic environment of the 1970s meant that industry's enthusiasm for metrication was gradually dissipating, especially given the government's ambivalence. Although no single dominant industry view can be said to have prevailed, many industrial sectors reported a fairly disappointing degree of metric conversion contrary to proclaimed support in the 1960s.

The haphazard, piecemeal and incomplete nature of the standardisation, and the failure to implement the EEC harmonisation directives, stemmed from the general attitudes within British industry, which ranged from indifference or scepticism to outright hostility. Whereas the industrial leadership (whose voices were aired by associations such as the CBI or TUC) framed the debate in terms of industry's "support" for metrication, the reality was that even in those sectors where standardisation programmes were initiated, metrication "failed to reach the shop floor."¹⁵⁶ Surveys showed a disappointing extent of metrication, with only 15% of the engineering firms having completed metrication by 1979 and a large majority (75%) in various stages of conversion: 10% had not even begun metric conversion. Even though an estimated £530 million had been spent by the engineering sector, the issue of cost was not the most important factor in British industry merely inching towards metrication. Negative attitudes towards metrication existed at all levels, from the management to the shop-floor employees (see figure 2).

INSERT Figure 2 (attitudes within industry) HERE

These negative attitudes mirrored the concerns that the TUC had raised earlier with the government in the mid 1960s. At the time they had argued that mere encouragement and avoiding compulsory changeover to metric standards in industry was likely to throw up "rigid

attitudes towards the need for change:" they preferred a more hard-line approach to metric conversion.¹⁵⁷ In contrast, individual unions were much more sceptical and cautious, only agreeing to metrication because they abhorred the possibility of Britain being stuck with two measurement systems as a result of voluntary standardisation.¹⁵⁸ Many unions were greatly concerned about the extent of training that individual firms would provide to workers on the use of the new metric units. Their demands for workers, especially those who used their own tools, to be reimbursed for the replacement cost of new measuring instruments was not accepted by the government. Instead, the Treasury assured workmen they would be allowed to claim tax allowances for tool replacements even if they continued to use older tools with imperial measurement units.¹⁵⁹ In the end, many firms had rather sloppy training programs and employees in firms were often reluctant to undergo any training in using the new metric standards. Thus, the disappointing extent of metrication also resulted from a hostile environment within industry, with industrial workers mirroring the attitudes of the British consumers (figure 1), not only the high financial costs of harmonising with European standards.

With the government committed to the principle that the economic costs of this massive socio-technical change "must lie where they fall," the financial burden of compulsory metrication was to be directly borne by individuals and organisations who were required to make the changes.¹⁶⁰ Financial costs were often disproportional to the size of economic activity and virtually impossible to anticipate in advance. The British Equipment Trade Association had reported in 1968 that the "cost to the nation" would be in the region of £5 billion.¹⁶¹ This number was frequently quoted in parliamentary debates as an authoritative estimate, which it was anything but. The CBI countered that the number was a gross overestimate, "the kind of round figure that frequently crops up" and put the likely national cost as £441-838 million, or "£1.3 billion at the highest."¹⁶² The plethora of widely varying numbers reported meant that cost estimates became unreliable, especially if they contradicted each other, and in turn this

unreliability became a compelling discursive device for those suspicious of metrication to try and halt it altogether. Much of the “evidence” reported was anecdotal, based on guesstimates, very roughly calculated and extremely difficult to prove.

The “cost of cultural dislocation” due to metrication (and European harmonisation through standardisation more generally) divided opinions between (and amongst) industry associations and politicians.¹⁶³ Oppenheim, as the champion of consumers, wanted proof that industry was having to incur “extra costs” due to government ambivalence over metrication.¹⁶⁴ CBI, not happy about having to deal with Oppenheim, struggled to provide “hard facts.”¹⁶⁵ CBI estimates, based on a hastily commissioned survey, claimed the additional costs incurred by engineering firms due to delays to be about 3% of annual domestic sales or about 14% of net profits (table 2). Future costs of completing metrication were estimated to be about £2.04 billion with about £1.24 billion incurred due to non-completion of conversion programmes (table 3). By 1980, Sir John Methven, director-general of CBI, considered by the government, trade union leaders, and Whitehall officials as a tough opponent and a persistent advocate for industry, was unwilling to oppose the government any further on compulsory metrication.¹⁶⁶ Working through Lord Trenchard (Department of Industries) and Lord Orr-Ewing (the chairman of MB in the early 1970s), Methven struck a deal with Oppenheim on not pushing further for compulsory metrication. Many in industry were deeply unsatisfied with this outcome: Leonard Moon of Cadbury Schweppes despaired how “half-truths are perpetuated,” and reflected on the “absence of leadership” afflicting Britain.¹⁶⁷

INSERT Table 2 (Extra costs) and Table 3 (Cost Estimates) HERE

Contrary to the impression given by the CBI, not all industrial sectors were unified in their preference for complete standardisation and harmonisation with the rest of Europe. Some consumer industries with primarily a domestic focus preferred a hybridisation strategy that actually involved the use of dual measurement systems. Such a strategy would allow some

businesses to balance the social cost of metrication (selling in metric units to an unwilling British public) with the economic efficiencies promised by metrication (through greater precision in manufacturing). For instance, the system of milk marketing in Britain at the time was geared towards home delivery of the commodity in glass bottles of exact quantity whose price was subject to government control. These bottles of one-third, one-half and one *pint* were distributed to millions of households on a returnable basis. Metric switchover meant a considerable capital outlay in replacing all these glass bottles and the bottling equipment in the processing centres, a move that was staunchly resisted by the industry. Other associations, such as the Brewer's Society, were concerned about the substantial conversion costs of the changeover as well as the effect that it would have on the retail sales of bottled and draught beer.¹⁶⁸ The Brewer's Society had independently estimated, in 1972, that the industry likely faced a conversion cost of between £34 and £45 million due to UK adopting the metric "Evian units" of selling beer in bottles, kegs or cases.¹⁶⁹ The industry reacted to successive EEC directives partly with concern about how they affected the cost and timing of the changeover and partly with confusion about how compulsory the metric changeover was likely to be. The Brewer's Society asked the Department of Trade and Industry to clarify the legal obligations stemming from EEC Directives. They also submitted evidence to the government about the vast differences in "continental practices of serving draught beer" within Germany, France, Austria, Holland, Italy, Denmark, Norway, and so on. Both these industries were saved from making costly changes to their retail operations when the EEC allowed the UK to retain the *pint* as a legal unit of measure. Metrication was gradually introduced in the non-retail operations in the dairy and brewing industries.

The chasm between the political promises of restricting metrication only to industrial sectors and the economic realities of globalisation was shaped by a distorted understanding of the complex interdependencies between the hundreds of intermediate manufacturing,

distributive and retail sectors. Limiting metrication primarily to the engineering and export-oriented industries was myopic and unrealistic, as some in government realised. Geoffrey Howe had stressed that “metrication cannot stop at the factory gate. It is not practicable to confine metrication to some aspects of life while others remain entirely imperial.”¹⁷⁰ Ignoring the linkages between the engineering and export-oriented industries, and the domestic sectors, especially in the retail trade and consumer goods industries, was economically disastrous, as the British Paper and Board Makers Association had explained to Tony Benn in 1968:

“Paper affects every single other industrial and non-industrial sector. Until other sectors also decide to adopt the metric system there will be no pressure on paper and board makers to supply [metric sizes. We view] with grave concern the absence of official plans for [the metrication of the] retail sector. The industrial programmes for metrication may be jeopardised or indeed brought to a standstill if the planning for non-industrial sectors is not rapidly put in place [to] coincide with the industrial timetable.”¹⁷¹

The consequence of this chasm between political objectives and economic realities was the lukewarm, vacillating support by the British government to European directives regarding harmonisation. Being politically committed to voluntary metrication (to mean an absence of state-sponsored compulsion), in several instances the government was unable – or unwilling – to even support those businesses that had voluntarily implemented costly metrication programmes. The CBI noted that in many retail sectors, the voluntary conversion agreements broke down because several major traders did not implement them. Many retailers were unwilling to voluntarily make the conversion, as they feared not all traders “could be trusted to adhere to the voluntary agreements.”¹⁷² There was a “disastrous collapse” of voluntary agreements amongst carpet retailers when those who had changed voluntarily to metric units found themselves out-competed by retailers using imperial units, complained of lost sales, and

reverted to imperial units. *The Times* cautioned consumers when buying carpets as metric conversion was adding to the existing problems in “making price comparisons.”¹⁷³ In the absence of a coordinated change, no business wanted to be the only one converting to metric units and risk surrendering their competitive advantage.¹⁷⁴ Metrication exhibits what economists describe as network effects: the economic benefits from standardisation to an individual person or business will increase if all or most other people or businesses switch to that standard. Consequently, individual businesses waited for their competitors to convert to metric, there being no great incentive to be the first to make costly changes. Such actions rendered the government’s entire voluntary metrication strategy practically meaningless. *The Economist* warned that industry was losing its enthusiasm for metrication with a “grisly prospect of the country floundering along using two forms of measurement” as some industries had switched to metric, whereas others had not.¹⁷⁵ The *Financial Times* accused Britain of lagging behind in metrication and claimed the country was “going metric - inch by inch.”¹⁷⁶

V. Conclusion

Popular attitudes towards metrication reflect the festering anti-European feelings amongst many British people, and the perception that joining the EEC in 1975 had led to the loss of British sovereignty. On June 23, 2016, the day of the so-called Brexit referendum, *The Guardian* newspaper listed ten “Euro myths,” including the myth of the “criminalisation” of the Imperial *inch* as Britain was forced to adopt the metric system.¹⁷⁷ Following the 2016 referendum, some argued that Britain should henceforth abandon the European metric system, reassert its sovereign powers, and return to its traditional imperial measurement system.¹⁷⁸ The case of metrication demonstrates how European integration policies, such as harmonisation and standardisation, challenged the British state’s sovereign authority to regulate and govern domestic economic spaces. The fissures exposed by the politics of consumerism and Euroscepticism exacerbated the enduring cultural and economic costs of

Britain's attempted integration with the rest of Europe. Distorted understanding of complex realities (technological and economic) had a profound impact on shaping both policies (to implement European harmonisation directives) as well as outcomes (closer European integration).

Harmonisation was intended to eliminate national differences that had historically acted as barriers to international trade and economic integration. In popular terms, achieving this objective meant giving up law making powers to an international (non-democratic) institution. Resolving the stalemate between removing friction in international trade and suppressing democratic politics meant watering down harmonisation policies and securing acceptance of some British customs and economic practices, even though they differed from other European countries. Britain found itself stuck in some kind of middle ground, which was collectively considered as the worst-case scenario rather than a compromise. Successive British governments muddled through standardisation and metrication like on so many issues involving implementation of European policies, trying to appeal to all political groups, but ultimately pleasing no one.

The public debates were susceptible to posturing and discursive framing by the various factions. Discursive framing helped to make big, complex ideas easily digestible, especially in popular media. Public opinion is often shaped with scant factual information or oversimplification, especially of complex scientific or technical issues.¹⁷⁹ Once a particular framing gains salience, it becomes virtually impossible to dislodge it in the popular imagination, even if subsequent evidence is unearthed that questions the veracity of that framing. As shown here, the framing that metric change led to price inflation was hard to overcome once it became accepted as "fact." Consequently, such framing became a political rallying point to present Europeanisation, harmonisation and standardisation as "anti-

consumer”. This in turn made the apparent loss of sovereignty seem very real to many people.

The resilience or otherwise of democratic institutions should be understood in terms of how competing framing of national issues is allowed to take place. The social space is a marketplace where frames - as schemata for interpretation - compete for popular attention. The metrication debate exposes this and shows how competing framing evolved during the 1960s and 1970s. Organised campaigning helped to secure the salience of particular frames, such as loss of sovereignty, against consumer interests, or abandoning tradition for the sake of modernisation. The same democratic institutions that ensured “free choice” also ensured that particular ways of framing led to a counterculture against standardisation, globalisation and European integration.

There was never any overwhelming opposition to or support for metrication, even within industry. This ambivalence meant that parliamentary and media discourse could claim to speak for the British consumer. The media and the parliament were not merely echo chambers. They were an arena wherein discursive framing occurred and could be promoted to a mass audience. How policy issues are framed in the popular imagination can have profound long-term implications, as the toxic campaigning for Brexit has demonstrated since 2016.

Tables

Table 1

Public Opinion on the Causes of Inflation

(% of respondents)	October 1973^a	June 1974^b	February 1975^c
Price of Oil	*	*	71
World prices rises for food and raw materials	54	71	68
Decimalisation	52	64	45
Britain joining the Common Market	51	62	41
Trade Union Demands	32	56	56
The floating Pound	16	23	14
Economic policies of other countries	11	22	18
Metrication	*	11	11
The government's economic policy	15	11	15
All of these	4	4	3
Don't Know	4	4	5

* Question not asked in 1973 and/or 1974

Sources: ^a *NOP Bulletin*, October 1973, No. 120; ^b *NOP Bulletin*, June 1974, No. 126; ^c *NOP Bulletin*, February 1975, No. 133.

Table 2

**Extra Costs incurred by industrial firms due to dual marking
in Imperial and Metric Units, c1979**

3% of all Domestic Sales
9% of Gross Profit
14% of Net Profit
Estimated average cost per firm: £52,000 per year

Source: CWE Research, *Metrication in the 1980s* (Chichester, 1980)

Table 3

Estimates of costs to the Engineering Sector c1979

Spent on Metrication to date	£530 million
Cost to Complete Metrication (post 1980)	£2.04 billion
Extra Cost to firms due to non-completion	£1.24 billion

Source: CWE Research, *Metrication in the 1980s* (Chichester, 1980)

Figures

Figure 1
Consumer Attitudes Towards Metrication

Will Metrication indirectly lead to rising prices in the shops?

Source: NOP Bulletin, June 1974, No. 126

Figure 2

Source: CWE Research, *Metrication in the 1980s* (Chishester, 1980)

NOTES

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² Menno Spiering, “The Imperial System of Weights and Measures: Traditional, Superior and Banned by Europe?” *Contemporary British History* 15 (2001): 111-128. For a popular book on US metrication see, J. B. Marciano, *Whatever happened to the metric system? How America Kept its Feet* (New York, 2014); For popular and violent protests against metrication outside the Anglophone world see Roderick Barman, “The Brazilian

peasantry reexamined: the implications of the Quebra-Quilo Revolt, 1874-75” *The Hispanic American Historical Review*, 57 (1977): 401-424. In France, it took over 40 years before metrication could be enforced in the post-Napoleonic period. Witold Kula, *Measures and Men*, tr. Richard Szepter. (Princeton, NJ, 1986)

- ³ In the BBC Television series *Yes Minister*, the central character Jim Hacker MP moans about how ‘little bureaucratic Bonapartes in Brussels have turned our pints into litres and our yards into metres’, *Yes Minister* ep. ‘Party Games’ BBC2, December 17, 1984.
- ⁴ Robert Saunders, *Yes to Europe!: The 1975 Referendum and Seventies Britain* (Cambridge: Cambridge University Press, 2018), 233.
- ⁵ Lawrence D Hills, letter to the editor, *Times* (London), March 29, 1976.
- ⁶ Dani Rodrik, "How Far Will International Economic Integration Go?" *The Journal of Economic Perspectives* 14 (2000): 177-186.
- ⁷ Dani Rodrik, *The Globalization Paradox: Democracy and the Future of the World Economy* (New York, NY, 2011), 200-205.
- ⁸ Michelle Egan, *Constructing a European Market: Standards, Regulation, and Governance* (Oxford, 2001), 62; Fritz W. Scharpf, “The Asymmetry of European Integration, or Why the EU Cannot Be a ‘social Market Economy’.” *Socio-Economic Review* 8 (2009): 211-250.

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- ⁹ Alan Dashwood, "Hastening Slowly: The Communities' Path Towards Harmonisation" in *Policy-Making in the European Communities*. ed. William Wallace, Helen Wallace and Carole Webb (London, 1977), 273-4.
- ¹⁰ Eagan, *Constructing a European Market*, 66.
- ¹¹ Dashwood, "Hastening Slowly," p. 278
- ¹² Eagan, *Constructing a European Market*, 77
- ¹³ Scharpf, "Asymmetry of European Integration", 223; Also, Karen J. Alter and Sophie Meunier-Aitsahalia, "Judicial Politics in the European Community: European Integration and the Pathbreaking Cassis De Dijon Decision," *Comparative Political Studies* 26 (1994): 535-561.
- ¹⁴ Gavin Drewry, "The jurisprudence of British Euroscepticism: A strange banquet of fish and vegetables" *Utrecht Law Review*, 3 (2007): 101-115, 108.
- ¹⁵ Erin Baker, "Queen obeys Europe and adopts metric rule," *Daily Telegraph* (London), August 20, 2001, p5.
- ¹⁶ Hugo Young, as cited in Michael Lee, "The Advent of Decimalisation in Britain: 1971," *Historian* 106 (2010): 20-23, 21.
- ¹⁷ Lee, "The Advent of Decimalisation", 21
- ¹⁸ Pliatzky to Raphael, June 14, 1965, HM Treasury, NA, T 224/1856; Draft minute to Douglas Jay (president of the Board of Trade), undated, HM Treasury, NA, T 224/1856.

¹⁹ Copy of Callaghan's speech on June 14, 1965, HM Treasury, NA, T 224/1856.

²⁰ Report From the Committee, Appointed (Upon the 1st day of December 1758) to Inquire into the Original Standards of Weights and Measures in His Kingdom; to Consider the Laws Relating Thereto, 18th Century House of Commons Sessional Papers, 11 April 1759; Report from the Select Committee on Weights and Measures, 19th Century House of Commons Sessional Papers, 1821 v4.

²¹ By 1980 almost all countries in the world, with the exception of USA, Britain, Burma and Lybia, were using these units as exclusive legal standards.

²² Zupko, *Revolution in measurement*, 232-35. In the 1860s, the British branch of the International Association for Obtaining a Uniform Decimal System of Measures, Weights and Coins (IA) organised a series of public lectures to advertise the advantages of the metric measures.

²³ Zupko, *Revolution in measurement*, 238-46.

²⁴ Harry Allcock, *Industrial reconstruction and the metric system* (London, 1919)

²⁵ Report of Deputation representing Cotton Manufacturers to Board of Trade, Board of Trade Papers, NA BT 101/664.

²⁶ Board of Trade. Report of the Committee on Weights & Measures Legislation, 1950-51, Cmd. 8219.

²⁷ 515 Parl. Deb., H. C. (5th ser.) (1953) cols. 1209-16.

²⁸ Lee, “The Advent of Decimalisation,” 21.

²⁹ 515 Parl. Deb., H. C. (5th ser.) (1953) cols. 1209-16.

³⁰ British Association for Advancement of Science, and Association of British Chambers of Commerce. *Decimal Coinage and the Metric System: Should Britain Change?* (London, 1960). 48-50.

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³² British Association, *Decimal Coinage*, 7; decimalisation was considered primarily a domestic issue (minimal trade gains expected), simplifying money calculations, and having widespread industry approval (26); Adrian E. Tschoegl, “The international diffusion of an innovation: The spread of decimal currency”, *Journal of Socio-Economics* 39 (2010): 100-109

³³ British Standards Institute, “British Industry and the Metric System,” P.D. no. 5069, London, October 1963.

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³⁶ “UNSCC,” *Economist* (London), March 3, 1945; UNSCC was the United Nations Standards Coordinating Committee.

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³⁸ Hector Vera, “The Social Construction of units of measurement: Institutionalization, Legitimation and Maintenance in Metrology,” in *Standardisation in Measurement* ed. Oliver Schlaudt and Lara Huber (London & New York: Routledge 2015), 173-187: 181.

³⁹ Jay to Wilson, May 18, 1965, HM Treasury, NA, T 224/1856. See also, text of the EFTA speech.

⁴⁰ 713 Parl. Deb., H. C. (5th ser.) (1965) 32-33W.

⁴¹ Helen Parr, *Britain's Policy Towards the European Community: Harold Wilson and Britain's World Role, 1964-1967* (Abingdon, UK, 2006), 53-54.

⁴² Harold Wilson, *Labour's Plan for Science*, October 1, 1963, Sixty-Second Labour Party Annual Conference, Scarborough.

⁴³ “Metric and Otherwise,” *Economist* (London), May 29, 1965.

⁴⁴ Callaghan to Wilson, undated, HM Treasury, NA, T 224/1856.

⁴⁵ Benn to Wilson, July 12, 1968, HM Treasury, NA, T 224/856; see also, Crosland to Wilson, June 21, 1968.

⁴⁶ Memo no. SJCM/67/5/9, December 12, 1967, Department of Trade and Industry, NA, FV 40/16.

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⁵¹ Metrication Board, *Going Metric*, 21-22.

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⁵³ 805 Parl. Deb., H. C. (5th ser.) (1970) 76-168; 805 Parl. Deb. H. C. (5th ser.) (1970) 797-810.

⁵⁴ Spiering, “Imperial System of Weights”, 112.

⁵⁵ Colin Hay, “Narrating Crisis: The Discursive Construction of the ‘Winter of Discontent’” *Sociology*, 30 (1996): 253-277; Joe Moran, “‘Stand Up and Be Counted’: Hughie Green, the 1970s and Popular Memory,” *History Workshop Journal* 70 (2010): 172-198; James Douglas, “The Overloaded Crown,” *British Journal of Political Science* 6

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¹¹⁹ Healey to George, March 7, 1975, Department of Trade and Industry, NA, FV 40/117.

¹²⁰ Healey to George, March 7, 1975, Department of Trade and Industry, NA, FV 40/117.

¹²¹ Department of Trade and Industry, *Metrication, 1971-72 Cmnd. 4880*, at 826

¹²² EC, Council Directive, July 27, 1976, 76/770/EEC, Art. 1(4) and Chapter D

¹²³ EC, Council Directive, October 18, 1971, 71/354/EEC, Art 1(1)

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¹²⁶ 914 Parl. Deb., H. C. (5th ser.) (1976) 1515-46.

¹²⁷ “Metrication - take it slowly, says E.E.C.,” *Sunday Telegraph* (London), March 28, 1976.

¹²⁸ “Shoppers fears: the brake on the metrication change,” *Financial Times* (London), March 24, 1976.; “Length measured, again,” *Economist* (London), March 27, 1976.

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¹³⁰ Mary Baker, *Measure for Measure*, 10, 17

¹³¹ “Bill signals the end of the pint and the ounce,” *Times* (London), March 3, 1976.

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¹³⁴ Report titled “Metrication of the brewing industry: The recommendations of the Brewers’ Society”, May 1974, MSS.420/BS/4/77/3. The total estimate of £65 million was inclusive of the £11 million cost of replacing glasses.

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¹³⁷ 918 Parl. Deb., H. C. (5th ser.) (1976) 1249-63 passim, speeches by Sally Oppenheim. Also, "Pint-sized defeat for the government metrics Bill," *Times* (London), October 27, 1976; "Reprieve for gallon, pint, mile, foot and inch", *Times* (London), November 3, 1976; also, Sally Oppenheim, letter to the editor, *Sunday Telegraph* (London), January 15, 1978.

¹³⁸ Speeches by John Fraser and Sally Oppenheim, 918 Parl. Deb., H. C. (5th ser.) (1976) 1267-86 passim.

¹³⁹ Various circulars from Department of Prices and Consumer Protection, TUC collection, MSS.292D/480.4/2

¹⁴⁰ Oppenheim interview printed in *Now!* 5 October 1979, p. 83. *Now!* was a short-lived magazine published by the Eurosceptic James Goldsmith between 1979 and 1981. A copy of this article is preserved in the Confederation of British Industry collection, Modern Records Centre, University of Warwick (hereafter cited as CBI collection), MSS.200/C/3/COM/12/5. Also, 973 Parl. Deb., H. C. (5th ser.) (1979) 642-43W.

¹⁴¹ David Harvey, "It's a question of Litres or Gallons," *Chief Executive*, (New York) December 1979: 18-19.

¹⁴² Callaghan to Wilson, undated, HM Treasury, NA, T 224/1856. Also, Memo no. SJCM/67/5/9, December 12, 1967, Department of Trade and Industry, NA, FV 40/16.

CBI's position was that to exclude any sector of national economy would 'needlessly frustrate the efforts of manufacturers, commerce and education to go metric after 1970'.

See also, memo no. SJCM67/5/8, undated, and Minutes of 9th meeting of SJCM, September 12, 1967.

¹⁴³ *Now!* 5 October 1979, p. 83. Also, Mills to Bury on 'Sally Oppenheim's Outburst', October 2, 1979, CBI collection, MSS.200/C/3/COM/12/6.

¹⁴⁴ Phillip Holland, "The Quango in Britain," *The Trent Law Journal* 5 (1981): 1-9; Michael Cole, "Quangos: The Debate of the 1970s in Britain" *Contemporary British History* 19 (2005): 321-352; Tony Stott, "'Snouts in the Trough': the Politics of Quangos" *Parliamentary Affairs* 48 (1995), 323-340.

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