Abstract

This literature review seeks to ascertain if there is a future for Optimal Currency Theory within the EU (or any financial bloc or nation) There is no accepted definition of OCA (Optimal Currency Area) theory, yet it encourages migrating workers in millions. Analysing the literature, you can discover what an OCA is supposed to be, and what it is not or what it should not be. Looking at the thoughts of many authors who have contradicted their own theories in this area and who seek to look for contradictions with the overall literature, it becomes apparent that every accepted view formulated by the authors themselves has changed or been modified. Asymmetric shocks and financial crisis in the USA and Europe mean that it is difficult to attribute those shocks to any single economic theory. Ultimately many authors seek to answer if any or all OCA theories are viable, as a positive means of finding solutions, and for the EU. Currency control and price stabilisation are central to OCA theory.

Inflation and its many causes are first rooted in the Central banking system before created issued currency is deposited or spent or (for example) energy such as oil is purchased. It is an ingenious system and there are ingenious methods to solve the money problem which has existed for thousands of years in many civilisations, yet today massive world debt is creating an impasse in the global economy. The Sumerian clay tablet seals are largely debt IOU's and therefore the impetus to solve or mitigate the 'money problem' has been a problem since then (circa 2100bc) Most non 'crypto currency' is also now issued digitally but is not decentralised. Crypto currency is powerful on the 'dark web' which is becoming more and more mainstream. Control of the internet however is occurring whether the (any) currency is centralised or not, especially in Communist countries like China. After World War 2 the Marshall plan (USA) was introduced by the West as a means of boosting EU recovery, yet the Marshall plan is no longer in operation. Many after the financial crash of 2007/2008 placed hopes of a western recovery on the 'Dodd Franks' act of 2010, whilst others have suggested that it has failed 99% of the world's population and have expressed preferences for the Glass Steagall Act of 1933 or the credit system of President Alexander Hamilton (which turned debt into working credit) without adopting outdated or restrictive economics (in the USA the first amendment is considered vital to allow for the US constitution to function and liberty to follow with all following amendments and pre-amble)

Today the Chinese bank AIIB (Asian Infrastructure Investment Bank) is trying to takeover World banking from the IMF / World Bank but is also adopting 'localism' as an alternative to the harsh feudal state communism. It is the largest borrower for energy consumption (from the World bank) and its heavily indebted economy could crash the World's economy, but it has a state-owned central bank, but an unelected and authoritarian vanguard, with no individual freedoms economically or politically. China's central bank can cancel its own debts, (which is its advantage) yet its solution in 2007/2008 was to jail or execute bankers who were involved in corruption around this period. The USA is aiming for 100% employment and low taxation across all wage groups, and has had high stock-market earnings also in 2017 to the present, but it is also (as China also employed to boost its economy) looking to re-industrialise its 'rust belt' mid region and boost its economic decline as the IMF issues warnings that indebted countries must reduce their debts, which globally stand at around $230 Trillion dollars and debt repayment is reducing every nations tax intake by as much as 50% and even 65% of everything it gains in taxation. The USA has debt of $22 Trillion dollars. This essay also introduces crypto currency into the debate (as it is also inflationary as they carry exchange, fixed trading and 'maker – taker' model fees. Currency issued at zero interest can carry similar fees. Hypothetical but attempted and proposed 'crypto currency' central banks will or could carry interest rates on issue) Many prefer to keep and maintain a traditional cash circulating system and control inflation by price stabilisation (low prices to higher wages)

What is the Euro system ?

In seeking to ascertain if the Eurosystem (or similar central banking systems) is sustainable we should ask what is the ‘Eurosystem’ ?

The European Central Bank (ECB) explains that it is an independent body which must not take or seek instructions, ‘from Community institutions or bodies, from any government of an EU country or from any other body (this essay can apply to non EU blocs or nations) Likewise, the Community institutions and bodies and the governments of the Member States must not seek to influence the members of the decision making bodies of the ECB or of the NCBs in the performance of their tasks’[1]

The Eurosystem is functionally independent from the European System of Central banks (ESCB) and National Central Banks (NCB) and price stability is central to its aims. It has four functions; 1 To carry out Monetary Policy, 2 to conduct foreign exchange operations, 3 to hold and manage the official reserves of the Eurozone, 4 to ensure the smooth operations of payments.[2] Price stability being the primary objective of the Eurosystem[3]

The definition of Sustainable has many opinions but Hermann Daly the steady state economist proposed one definition as ‘the rate of harvest should not exceed the rate of regeneration’ [4] yet today a slow growing steady state does not ensure 100 % (or even 80%) employment in any economy. Sustainable development seeks to ensure scarce resources are maintained into the future. Philosophically opposing views do not regard socialism as sustainable, whilst others do not regard capitalism as sustainable. The unemployed do not regard unemployment as sustainable. Malthus (circa 1810 ad) believed the world could not sustain 3 Billion people, whereas European countries once regarded a high birth rate as prosperity and valued people (as sustainable) Today there are over 7 billion people on earth.

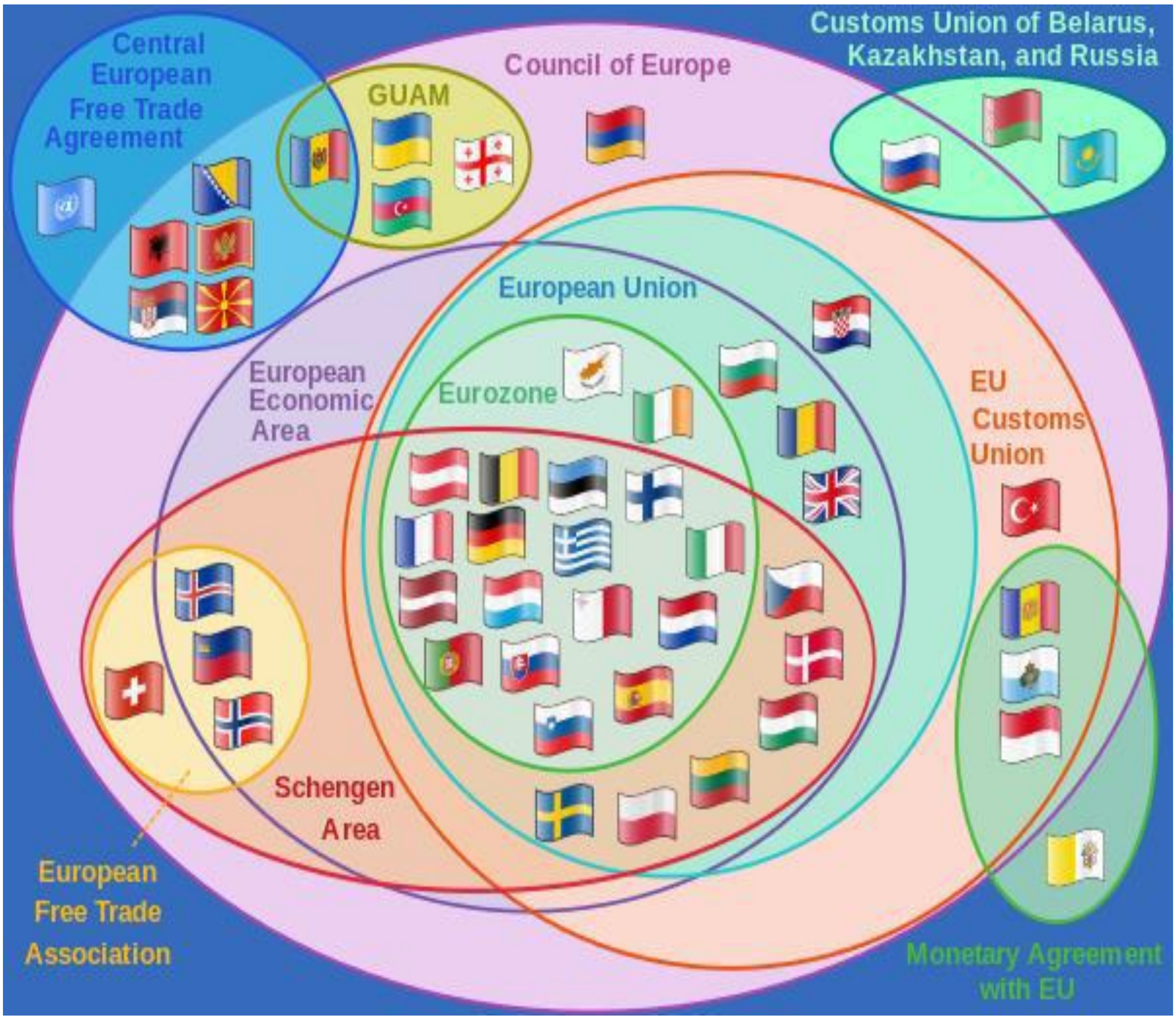
Herbie and Dumiter (2009) explain that the ECB and the NCB constitute the Eurosystem and add; ‘The scope of the European Central Bank monetary policy is in the first place the long neutrality of money, this underlines all standard macroeconomic thinking’[5] Money is neutral, within the independence of the Eurosystem which must not seek or take instruction from the bodies. Although member states are a part of one currency known as the Euro, the member states issue all coins and notes themselves. [6]

The Eurosystem exists within the Monetarist and/or Keynesian (to broach the divide over many polices worldwide) system which prefers Optimal Currency Theory as a model to integrate the nations within or external to the European Union such as the European Free Trade Association (Efta) and EMEA (or EMEIA if India is included) which stands for Europe, the Middle East and Africa which were a part of the Roman Empire as its height (EMEA = all African nations) Iran and Russia. (A currency in ERM II is allowed to float within a range of + or - 15% with respect to a central rate against the euro)

Since the economic financial crash of 2008 the Bank for International Settlements and its (Basel) committee on banking supervision have brought together 3 accords to affect regulation on the banking system. The Eurosystem is framed with a monetarist theory most notably put forward by Milton Freidman[7] which opposed John Maynard Keynes view[8] on fiscal policy. Friedman believed the macroeconomic supply of money[9] with small government and limited or no intervention by government was preferred to government intervening by taxation and government departmental spending. Cancelling nation’s debts with low taxation would boost an economy substantially as the tax take could not supply a debt repayment demand. Friedman and many libertarian thinkers hold that bureaucracies are reduced accordingly and necessity by Monetary free trade approaches.

The following 3 diagrams (notes 11,12 & 13) map the EU regions for a clearer picture. (see also CEFTA, CEFTA CISFTA, NAFTA as multi-lateral free trade areas in the wider Europe) They are relevant as in the future some of the countries could in theory become a part of the larger integrated EU and will be an integral part of monetary union and optimal currency theory. This would affect the existing EU member states. Population management is also overseen by the United Nations and advises the EU also. (United Nations[10] departments and the population division and migration, NGO's including Pathfinder Fund, the International Planned Parenthood Foundation (IPPF) and the Population Council)

Whist global population is a wider debate than this essay it does bear on labour mobility and new regions in formation within Optimal Currency Theory and Globalisation and potential OCA areas.



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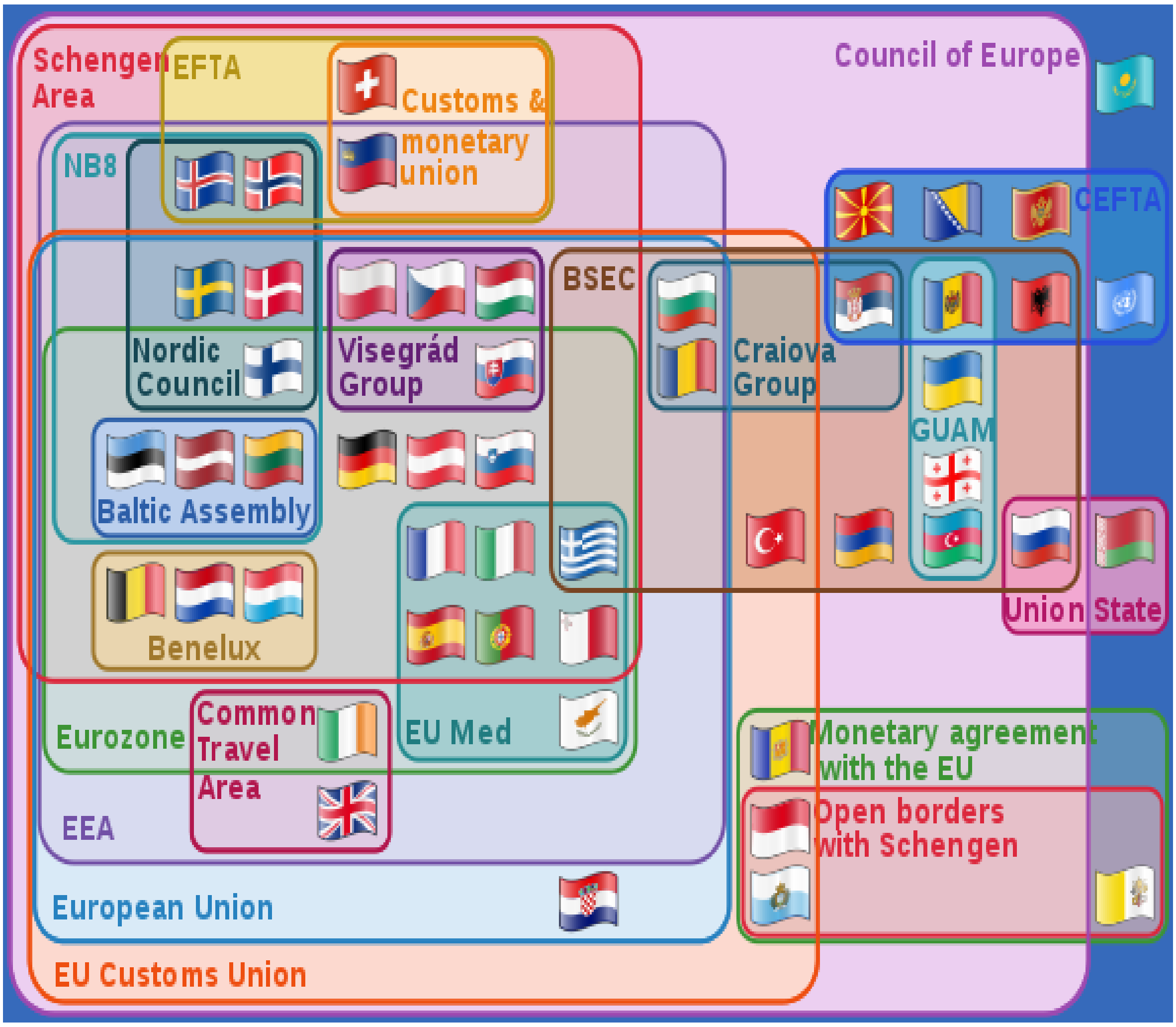

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Optimal Currency Theory origins

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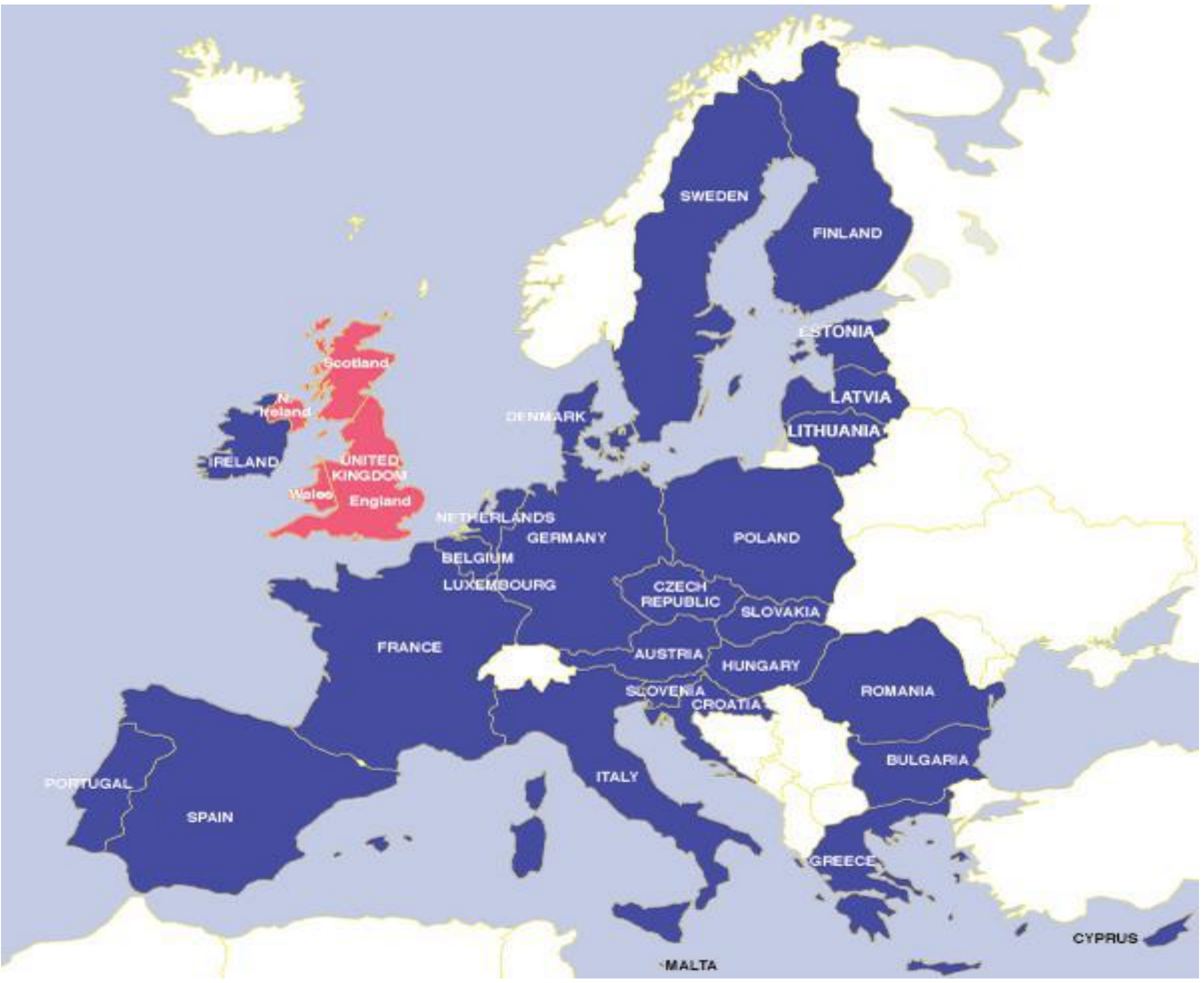
EMEA OR EEMEA and its ties to the EU.

An important part of Optimal currency theory (OCA) is labour mobility and this also has political ramifications along with other aspects of EU integration and enlargement and political economic theory. The Euro-system currently includes the current 19 countries; (Britain in red in the next image below, indicates Brexit who are destined to leave the EU but not the Council of Europe in March / April 2019)

Target 2 Payment system (also known as RTGS or SSP / SEPA)

Today the 19 countries of the EU operate the Target 2 payment system or Trans-European Automated Real-time Gross Settlement Express Transfer System (RTGS) which initially began with 3 countries (France, Germany and Italy, known as the single shared system or SSP and which can be extended to other countries) which can aid integration or can be cross border in separate sovereign states. It can also work alongside blockchain which as a distributed ledger or contract can confirm a payment without a middle institution being involved but between buyer and seller alone. Target 2 works alongside SEPA or the Single Euro Payments Area for all non-cash payments.

It is therefore possible to run an independent money exchange without integration, although joining the RTSG is pre-requisite to joining the Euro- system as reducing systemic risk, protecting bank assets and increasing low cost liquidity are reasons for its existence. Non Eurozone countries can avail of the system and are potential OCA regions. Since its introduction in 2002, it was extended to eastern European countries in 2007 for Malta, and the last country to join was Romania in 2011 with others partly integrated since then. As these migrations were all successful operationally, the system is waiting to migrate to more countries, yet they can avail of the system outside the Eurozone be cannot be without it inside the Eurozone.



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Optimal currency theory was first formulated and by Robert A Mundell[16] who envisioned the following criteria for optimal currency areas;
1.Increased labour mobility as supply and demand **2.** Capital mobility, price and wage flexibility, also called factor mobility = land, labour & capital **3.** A currency risk sharing system. **4** Comparative business cycles.

They can be summarised as follows; ‘These criteria can be divided into two groups. The first group consists of criteria that reduce the exposure of member countries to asymmetric shocks, similarity of economic structure, openness/intraregional trade and a low degree of specialisation. The second contains criteria that facilitate the adjustment to asymmetric shocks: homogeneity of preferences, factor mobility and transfer payments’ (Jager, & Haffner 2015 p 317)

Mundell defined the optimal currency area as a region between two or more regions and which can be larger than the national countries they overlap “since it hardly appears in the realm of political feasibility that national currencies would be abandoned in favour of other arrangements” (Mundell, 1961, p. 657) Mundell feels that national sovereignty is a barrier to integration and cross border supply and demand. (A ‘region’ is not defined by its size and could be only a small part of a national state) Separately from national interests politically the domain of the regions cannot prevent all economic problems; “the optimum currency area is not the world” (Mundell, 1961, p 659)

Flexible exchange rates transcending borders is a ‘device whereby depreciation can take the place of unemployment when the external balance is in deficit, and appreciation can replace inflation when it is surplus’ (Mundell, 1961, p 657)

Regions of low employment could migrate to areas of steady employment or higher growth and the burden of adjustment could fall on the surplus or thriving country. Cheap waged workers are one attraction for the theory. The surplus region with higher employment would inflate its currency until the poorer (deficit region) country is experiencing growth also attracting employment and balancing employment and inflation across the new region, transcending national borders in the process. This is aided by ***fluctuating flexible exchange rates***. ‘The OCA solution suggested was to draw the borders according to the criterion of labour mobility, thus preventing the emergence of unemployment in the deficit region and inflation in the surplus region’ (Cesarano, Filippo 2006)

If (according to Mundell) however the exchange rate in one region gives rise to unemployment in another part of the region and is then the cause of another part of that region to experience higher inflation, then these regions cannot hold as Optimum currency areas. Therefore, each nation state may not be an ‘OCA’ but integrated the whole EU may be considered an OCA. The USA has more evidence for labour mobility than Europe which enhances its viability as an OCA region. Mundell explained that areas of potential high labour mobility would suit flexible exchange rates but low or non – existent labour mobility would better suit fixed rates. Therefore, a single stand-alone nation state with high land ownership and traditional towns would most likely suit a ***fixed exchange rate***, although it does not matter some suggest (but perhaps to mitigate their philosophy of migration only and not for sound economics) and depends on its choice of exchange conditions and trading partners. North Korea as one example however with high inflation is pegged to the dollar but is fixed in its exchange rate, whilst South Korea had a floating exchange rate before its crisis in 1997 [17] and has now moved to ***a managed floating exchange rate***. There is no labour mobility between the countries, although North Koreans provide very cheap labour for China and North Korea is under sanctions.

Mundell discusses solutions which would require the central bank of the unifying new currency (or adopted currency) to agree that it would act to each other's benefit accordingly, and this could be aided by a new World Central Bank created to manage the economy. This new World Bank would operate initially in much the same way as the Swizz bank of international settlements (BIS) which was created in Basel Switzerland following World War 1. It operates as a clearing bank, and was favoured at the end of World War 2, by Keynes and London, and opposed by Dexter White[18] and the USA. They differed on the ownership but not on creating a new international means of payment.

Cesarani (2006) explains ' The Bretton Woods accord has always been described as a compromise in which the American position prevailed over the rather different British one. Yet this view disregards the impact of John Maynard Keynes's General Theory on the paradigm of economic analysis. Keynes's work was considered to have set off a Kuhnian revolution. In fact, notwithstanding the differences between the Keynes and the Dexter White plans, both advocated fixed exchange rates and full employment policies, reflecting the influence of Keynes's contributions to international finance and economic theory. However, reconciling the two objectives became a most controversial issue' [19]

Keynes was persuasive in the Bretton Woods conference in 1944 in New Hampshire in establishing the continuation (as opposed to liquidation) of the BIS, although monetarism (preferred by Dexter White) is the preferred theory in the USA and in the EU today. Keynasism is often accused of impoverishing the Middle Class whilst its deficit spending eventually (as continued debt) erodes tax intake making tax reduction for the working and middle class difficult. (Taxation pays the interest of any debt and /or the principle amount of a loan)

As examples (available on any Government central statistics and or World Bank website) Employing GNI (Gross National Income) The UK pays 27% of its tax take on servicing its debts. Italy 21.5% The USA 25%. Germany 5%, Greece 27%, Spain 17% & Ireland 48.8% These payments reduced would pay for schools, roads and infrastructure to aid industrialisation and job growth. In a small government scenario they would still provide renewed growth. Chinas debts amount to 300 % of GDP whilst Russia's are 14%, yet PPP…. (Purchasing power parity measures how many items can be purchased in one currency and then if exchanged into another currency, how many items can be purchased in that currency. Items of goods may be inferior in quality from one country to the next. Non – imported goods in an economy with low inflation and reasonable wages means personal PPP can also vary accordingly) …. in China is higher than the USA.

The USA is also trying to narrow and eliminate the trade deficit (an 8-year plan) between China and others and has first embarked on boosting its own economy and creating jobs and cutting taxes. To achieve this would be a first step and an achievement in itself. The trade deficit has widened over decades due to previous administrations reluctance to solve the issue and they have even placated China and allowed it to gain a trade advantage. Boosting jobs and consumption runs the risk of capital flight (as prosperity increases) and a strong dollar which can negate exports profits and cause imports to raise, yet this problem was occurring anyway for decades without a renewed 'rust belt' or new SME growth counterbalancing the drain on the economy. Previous administrations simply created large deficits but without renewed manufacturing. Now it so large it costs 25% of the US taxes just repaying debt. The USA (as China did with the Yen and bought US debt gaining the interest payments manipulating currency flows and if it defaults on its debts it is a closed society and can close its doors and ignore international complaints, yet it wants to run the new SDR currency itself. It could do both in a totalitarian world) needs to continue to become strong and aim towards 100% employment and then also weaken the dollar to increase exports or reduce its internal prices further (and the 'MO' central bank question is very pertinent in this scenario as in any nation) to boost its exports and cause patriotic but USA goods at home as an ethos. Since 2017 (a very short time) it has embarked in this direction, whilst other administrations have ignored or made the likely hood of these recovery issues less likely or impossible.

The Bretton Woods meetings of 1944 adopted a ***fixed exchange rate system***, pegged to the Gold price …. (which also follows the oil price in fluctuations annually and in parallel over decades, and raising interest rates is preferred to lowering prices in a central bank system. This raises prices and wages, but exports in a low-priced economy with low taxation can boost GDP, GNI and PPP) ….. in a unit called the Bancor, which was scrapped due to US pressure and the Dollar was adopted in its place. Gold as a measure of value was scrapped by the Dollar in 1971/ 1973 following the dollar crisis of 1971. ***Flexible exchange rates*** were favoured by Milton Freidman.[20] and Mundell later in the 1950's and in 1961, expressed preference for 'a system of national currencies connected by flexible exchange rates' (Mundell, 1961, p 657) The new SDR (Special Drawing Rights) as five major currencies, the US Dollar, the Chinese renminbi, the Japanese yen, the British pound sterling. Launched in September 2016 via the IMF[21], is similar to the Bancor. The 'Bancor' or whatever name is adopted (such as the Yen) could become a new global currency shared by all the superpowers together either as traditional but centralised digital (non cash) currency or as a crypto currency backed by Blockchain (see Bitcoin or Ethereum crypto currencies)

Out of the BIS came the International Monetary Fund (IMF) and the International bank for Reconstruction and Development (IBRD) the International Development Association (IDA) which is an integral part of the World Bank (WGB) and subsequent agencies. To become a member of the World Bank you must first join the IMF[22] and both are based in Washington DC in the USA. The Chinese AIIB is looking to overtake them globally. Basel today is responsible for the Basel (1,2 & 3) regulation reforms which was overseen by the Basel committee which also oversees the International Organization of Securities Commissions (IOSCO) & the International Association of Insurance Supervisors (IAIS) Sustainable development globally is managed by the United Nations who influence policy for the EU. The EU hopes to dampen and regulate the City of London by producing a soft Brexit (with also the Basel 3 reforms)

These bodies and their duties and the policies they enact affect the Eurosystem in the Eurozone in day to day price stability options which are also affected by the Basel 3 regulation reforms, development and reconstruction, securities regulation and insurance markets.
They therefore effect whether in today's economic climate in 2017 – 2019 (2020) the Eurosystem is an Optimum currency area going forward and on past failures and successes.

Optimal Currency Theory and Mundell, McKinnon and Kenen

Mundell's four main criteria (and today there can be numerous criteria) of an OCA were widened and deepened by Peter Kenen and Ronald McKinnon. McKinnon argued against Mundell but added that a degree of openness in an economy was essential to Optimal currency theory but with a ***fixed exchange rate*** (McKinnon 1963 p720) as opposed to flexible or floating exchange rates McKinnon states also 'More than 40 years after Mundell put forward the theory of optimum currency areas (OCAs), the analytical consensus based on his celebrated 1961 paper has disintegrated. Part of the problem stems from a seeming contradiction in Mundell's own work. For offsetting asymmetrical macroeconomic shocks, his 1961 article leans towards making currency areas smaller and more homogeneous – rather than larger and more heterogeneous – while emphasizing the advantages of ***exchange rate flexibility***' (McKinnon 2004 p 689)

Kenen (1969) added criteria for an OCA and suggested that product diversification was key to offsetting asymmetric shocks. **Economies or regions with narrower specialisation can be**

more prone to such shocks.(Kenen 1969 p 49) Kenen adds over 40 years later ‘ The widening of the European Monetary System’s bands resulting from the exchange-rate crisis of 1992 served as a stark warning that “fixed *but adjustable*” exchange rates were inherently fragile, a lesson that most economists had already learned from the dollar crisis of 1971, and if a reversion to ***floating exchange rates*** was seen to be a blow to European integration, there was nevertheless no clear alternative to tighter monetary integration’ (Kenen 2010 p 74)

Three of the main proponents or contributors of the theory or shortcomings of Optimal currency theory have therefore either taken contradictory stances or have seen asymmetric shocks lessen the ability of the EU to function as a supranational state with regions and peripheries. Others have brought forward critical alternatives extending the earliest views or have suggested that the idea of an optimal currency area is flawed entirely and degrees of opinion surround these debates over the past 48 years and since the end of World War 2.

The ‘Europarl Europa’ [23] economy working papers contribute to the analysis which criticises Keynes and follows Mundell’s thinking, but which ultimately criticises the theory of OCA’s in total ‘The result had been to *overestimate* the stabilising effect of *floating exchange rates*, and to *underestimate* the advantages of *fixed rates* or currency union. Subsequent theoretical developments (to which one might add subsequent experience) had ‘demolished the belief that there is any trade-off between inflation and unemployment in the long run’ &
‘Taking up Cesarano's[24] terminology, therefore, the central question which concerns this study is not so much whether the EU is an *optimum* currency area, as whether it (or any bloc or nation) is a *viable* one’ [25]

Of course, a nation can have a fixed exchange rate without integrating with the EU or being in the EU. Denmark maintains a fixed exchange-rate policy and participates in the European Exchange Rate Mechanism but has paid down its international debts. Norway is largely a digital electronic national currency area since 2012 (removing notes and coins, although it could still issue ‘MO’ as zero interest for use only in Norway. MO is not ‘free money’) “In December 1992, the **Central Bank of Norway** dropped the fixed exchange rate over a floating exchange rate due to the aggressive speculation against the Norwegian currency in the early 90s, which caused the Central Bank to lose in a short period of time over 2 billion kroner in order to defend the purchase of Norwegian kroner by using reserves of foreign currency” (see the following link for the previous quote) In 1992 it dropped its fixed exchange rate (and lost money) and hoped in adopting a flexible exchange rate it would widen its interest rate scope, but it (the theory) did not automatically follow. (see Speech by Ida Wolden Bache at the Foreign Exchange Seminar of the Association of Norwegian Economists on 31 January 2018) Norway like many resurgent economies is strongly independent and can control asymmetric shocks in the gold/oil markets itself.

‘Since the breakdown of the Bretton Woods fixed exchange-rate system in the early 1970s, Finland, like Sweden and Norway and some other small countries, has pursued a policy of pegging the exchange rate by means of a currency index. Lately, however, adherence to this policy has clearly diminished the scope for conducting monetary policies independently from the rest of the world because of the increased mobility and **sensitivity of foreign-capital flows**. As financial integration increases, a fixed exchange-rate regime in which the exchange rate is pegged to the currency index or to the EMS currencies is an obvious choice for exchange-rate policy as part of the integration process’ (Aurikko, Esko 1992 p64)

Switzerland abandoned its floating exchange rate in 2011, and its currency peg to the Euro in 2015, but in 2017 once again reverted to a floating exchange rate. It is not an OCA and has a rigorous immigration system. Inflation in the second instance is also linked to energy production, yet economies with little natural resources or even huge resources can manage their economies wisely without pegging to the Euro.

Even the commonwealth countries produce oil and gas and of course trade deals with them are lucrative also (if free to make those deals outside of a customs union and EFTA and single market) New oil fields are coming online worldwide every year. Norway of course mentioned many times on here has produced a 1 Trillion windfall fund for itself (worth 8 trillion in Norway's internal economy in Norwegian crowns) which Britain or any nation should copy, whilst Denmark along with green energy systems has paid down its international debts whilst Britain owes 1.7 Trillion in its national debt (Denmark and Norway have full fiscal controls)

Mundell believed nation states with flexible exchange rates were optimal, Keynes and White in Bretton Woods chose fixed exchange rates, (from different viewpoints) yet if a nation state wanted to remain sovereign, they are still free to choose any exchange method which suits them. Keynes advocated 100 % employment and preferred Gold over commodity money.

This tends towards an optimal currency sovereign nation as opposed to an OCA. The great depression of 1929 and into the 1930's however and two world wars brought the question of one currency and one bank into focus regardless of any eventual decision taken on capital, labour, exchange rates, macro or micro economic policy and currency flows.

As a general opinion of the author, the United States of America as one nation state and under a pro libertarian Friedmanite administration (Friedman preferred flexible exchange rates) is still a sovereign nation state if it achieves 100% employment which is not just a theory of Keynes but any government (and despite the trade off in inflation and unemployment) **OCA theory believes[26] that you must forgo flexible exchange rates or national sovereignty (one or the other)** and accept the nation state border hinders factor mobility and leads to tariffs, quotas, and other trade barriers. Also mass illegal immigration is seen as an asymmetric shock to man EU countries.

Some nations which are independent or wanting to become independent may decide to liberalize their economy (even temporarily) by cutting tariffs to zero allowing imports to flood in reducing prices whilst the economy recovers (and many regions have been decimated in the EU with little industry or long term job creation plans, only constant decline in the race to the bottom or imported cheap labour year in, year out for decades). The effect of this folly will see national business's decimated and which may never recover. Rising unemployment as a result will only mean more imported labour. Instead protecting the industries already growing (and growth is not a subsidy from the former economy in which business is maintained artificially) and encourage more to begin as fast as possible, then lower prices for the population by currency stabilisation (and new thinking on 'MO' issuance) providing needs for all, in that independent area and export the excess, varying the exchange rate annually if required but fixed rates or pegged or whatever exchange rate mechanism provides the greatest fiscal independence in a growing strong economy.

Britain is facing a choice of this type in March 2019. (Britain's Oil and Gas, Denmark and Norway) Oil and Gas Britain on land and sea in England, and oil and gas Worldwide. Another issue is Britain's oil and gas fields, which are mooted to be closed from 2018 or 2022 for 148 fields ? or 2023 to 2027 for 84 fields when they should be kept going. (North Sea oil rigs and oil and gas off the North Wales coast.) New technology and new discoveries with high recoverable yield are being made all the time, including in the internal land based oil rigs, which are estimated to be worth over 100 Billion barrels of oil also in the South of England but is in fact much much, higher and worth £Trillions. The current Brexit negotiations do not mention these pertinent facts. *(this is separate from the artic fields which all nations are eying)* China to own British Gas ? In early 2018 Teresa May signs a preliminary deal with China, a free trade deal (the EU still controls that area) Recently announced but surveyed for some time is the new and extremely large discovery of Gas in the North Sea One of a few in the making. The company who has the rights to the gas is China's state-owned gas company. 'Chinese state-owned company CNOOC said it made the gas discovery - equivalent to 250 million barrels of oil - in its Glengorm project, east of Aberdeen' (CNOOC = Chinese national offshore oil corporation) They bought out US oil company Unocal Corporation in 2005 under protest and suspicion. Although they own the gas, they pay royalties as tax to Britain, yet it is highly suspicious that the older UK rigs in the North Sea and off the North Wales coast are due to be decommissioned? (see the above post-dated 3.12.2018 & previously posted & dated 11.06.2018 above) which also includes the internal land-based oil and gas discoveries worth £Trillions a vast amount of wealth. All of this vast wealth is moving eastward (see last post above) and is also controlled by the EU who are (with Russia) co-operating with China (on the 29.01.2019 the USA filed criminal charges against China's Huawei tech corporation in the tech telecom 5G or eventual 6G area which use's huge amounts of energy) Since 1992 with its independent Sterling currency (but brought about by the ERM crisis under John Major) Britain has adopted a floating exchange rate.

In or out of any bloc exchange rates are a huge factor in maintaining a viable economy. These traditional problems however are considered less burdensome under the target 2 currency system the EU employs (Trans-European Automated Real-time Gross Settlement Express Transfer System aka RTGS) and technology is improving the speed of customs and is reducing the unpredictability of the barriers. Yet a nation or global set of independent nations could adopt a cross border trade system without integration. Real time global internet transactions in theory in AI (Artificial Intelligence) transcend all borders but could force large unemployment zones and wandering populations on a scale never seen in world history, and which never produce permanent job producing, long term stable economies. (in a world where Trillions are traded every day but never produce companies or small business SME's to sustain a local work force. Conversely the nation state with borders could produce 100% employment and high wages and a dynamic stock market) Stock markets and international finance trading has long usurped traditional borders but could operate advantageously with national sovereign nation states beneath them as Switzerland clearly demonstrates, and it practises free trade and is not as regulated as other markets around it.

OCA theory simply redraws a sovereign state's borders to accomplish labour mobility [27]

Post Mundell, Optimal Currency theory and their problems

Krugman argues that the advantages of a one size fits all currency in the Eurozone and within OCA theory are; reduced transactions costs, the elimination of currency risk, greater transparency, and possibly greater competition because prices are then easier to compare. Disadvantages include loss of flexibility. 'It seemed to the creators of optimum currency area's (OCA), and continues to seem now, that changes in relative prices and wages are much more easily made via currency depreciation than by renegotiating individual contracts. Iceland achieved a 25 percent fall in wages relative to the European core in one fell swoop, via a fall in the Krona. Spain probably needs a comparable adjustment, but that adjustment, if it can happen at all, will require years of grinding wage deflation in the face of high unemployment' (Krugman 2013 page 440) **Why would any nation want this ?** (as seen a few paragraphs above; Norway has a 16 Trillion 'rainy day' fund for its 4 million + population, whilst Denmark has paid off its international creditors. It could now reduce taxes accordingly or simply have never taken on so much debt)

Krugman points out that the USA has a centralised fiscal policy and federal guarantees of default bail outs, whereas the Maastricht treaty forbade bailouts until unofficially the rules were changed and bailouts were enacted. Ireland was burdened with an additional 40 points to GDP debt and its debt to GDP ratio climbed to 120.1 % in 2012 from 23.9 % in 2007.[28] to the point the its fiscal national sovereignty is under threat. Denmark by contrast Krugman describes as follows; ' Denmark, Austria, and Finland are all, by common agreement, in pretty good fiscal shape. But where Austria and Finland are euro nations, Denmark is merely pegged to the euro. You might have thought that this lack of full commitment on Denmark's part would exact a price in the form of higher interest rates—after all, someday Denmark might choose to devalue. In fact, however, Danish borrowing costs are significantly lower than those in Finland and Austria' (Krugman 2013 page 446) he adds that Iceland suffered a 25 % fall in wages suddenly by the depreciation of the Krona (Ibid page 440)

Krugman explains in the 'asymmetric shock' of the 2008 financial collapse, that those on the periphery could be concerned about falling into a recession amidst large bank loans between central banks, but; 'Denmark is seen as a safer bet because it could, in a liquidity squeeze, turn to its own central bank for financing, ruling out the self-fulfilling crises that pose risks even to relatively strong euro area governments' (Krugman 2013 page 446)

Krugman suggests finding an alternative to just supplying bank loans to national central banks in the EU in two areas; separating banks from sovereign solvency questions, raising inflation but lag inflation in the smaller regions or states.

Krugman agrees with OCA theory but says the problems and the criteria for joining were vastly underestimated and insufficient. (Krugman is speaking in the context of the theory into practice, but if OCA theory had never had existed then the problems would be far less accordingly) Both the USA and the EU had to intervene in the economy following the 2008 crisis, yet the USA perhaps in its federal state system (where its states control its own budgets) is recovering faster or could recover faster if its original system of governance aka it's constitution was enacted and followed. This is being analysed and watched as time progresses, and the USA had a system prior to its federal system even from the date of the writing of the constitution.

Merging banking supervision and monetary policy is a doubtful policy with its critics and since the European Central Bank took management control of large national banks in 2012. Yet the European commission regard this as a success allowing the IMF to step in and fund Greece's economy. (Jager, & Heffner 2015 pp 321/322)

The EU under article 123 of the TFEU had as its purpose 'Article 123 TFEU (Treaty on the functioning of the European Union or the Lisbon Treaty 13.7.2007) which, at German instigation, was designed to safeguard against the financing of government deficits by the printing press, has been consistently violated by the last two ECB presidents since at least 2010'[29] Article123 (1) TFEU[30] stipulates a no bail out clause. In terms of OCA theory a caveat is suggested by (Ratner and Rona 2012) who point out the Maastricht treaty (7.2.1992) diverged from original OCA theory. Yet they both stipulate that this divergence was caused by Mundell himself in 1973 who advised that pooled securities should invest their savings in each other's securities to compensate for Asymmetric shocks within the price movement of securities. (Ratner and Rona 2012 p82)

They both find; 'We examine whether the euro crisis can be entirely attributed to factors such as regulatory failure or fiscal indiscipline, as opposed to the mechanisms built into the euro itself. Although we do not dispute the deleterious effects of mistaken national policies, we conclude that the euro contains a built-in bias that would result in the divergence of the path taken by the developed members on the one hand and the less developed ones on the other' (Ratner and Rona 2012 p 79)

They add that common currency success is the fruit of 'successful integration' not the driver of it, or a tool of it. (Artner and Rona 2012 page 82 and see fig 32 as the next image for an accepted explanation i.e. the Phillips curve on low inflation but higher unemployment)

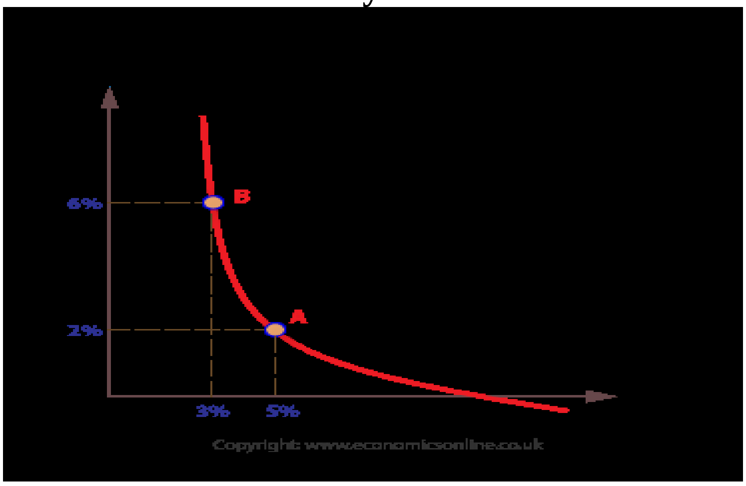
Rapid integration instead of full criteria adoption swept OCA theory out of the way and pegging a currency struggling with inflation with a low inflation currency (the Euro) has not produced the desired convergence of prices and wages. It was theoretically hoped the success had been achieved in part due to a ' noble simplicity that compliance with the fiscal indicators stipulated in the treaty can keep the inflation in the determined range' (Artner and Rona 2012 page 83)

Artner and Rona discuss the natural rate of unemployment and inflation from the classical perspective and then with insights provided by AW Phillips (Artner and Rona 2012 p 82) introduced the Phillips curve ideal for unemployment and inflation, which was expanded upon by Milton Friedman and the Monetarists which basically follows the following idea**; ' It quickly became accepted that policy-makers could exploit the *trade-off* between unemployment and inflation - a little more unemployment meant a little less inflation'**[31]

Therefore, this arranged unemployment could increase as inflation ratio's increased (not always but consistently) and costs to businesses or corporations could be reduced by importing labour from abroad. This 'little more unemployment' means the gap between it and 100% employment is filled by cheap outside labour (and from outside the EU or here) in the Optimal currency theory, and the gap could be 20% or even 25% unemployed. The EU with its 512 million people has unemployment at 10% officially but unemployment is estimated to be 50 - 70 million people.

Jobs and community, villages and towns which existed for centuries took a secondary consideration to worries on inflation, yet the Global debt is now $230 Trillion. This large fact warned about by the IMF is not mentioned by financial experts and celebrity economic pundits, who offer continued expertise to a world unaware it is not a neutral debt but has to be paid down. One way to pay it down is to sell everything in your country (called neo liberal privatisation as opposed to working, middle class or family owned business 'localism' private ventures)

International Monetary Fund and Mundell / Fleming



32 (The Phillips curve in picture form, checking inflation by higher unemployment)

This trade between lower inflation but higher unemployment off would balance national inflationary problems. By the mid 1970's the Philips curve was not as predictive as once thought leading Milton Freidman to suggest that there is not one long Phillips curve but a series of short run and then long run Phillips curves or cycles. Artner and Rona suggest these factors helped to negate Mundell's original theory (noting Mundell also contributed to the divergence) and the late 1990's with contribution from Giavazzi and Giovanni in 1989 and Goodhart and Rogoff in 1996, and De Grauwe. Maastricht (the treaty) was on course to adopt integration using insufficient criteria and at too fast a pace. Successive treaties then built upon Maastricht.

Markets in the accelerated process of integration which have led to bailouts in the USA and EU, which have led to large debts, which we have discovered threatened the national sovereignty of nations. (a risk and asymmetric shock) With such large debt to GDP ratios borrowing becomes almost impossible.

'The adoption of a single currency, however, eliminates exchange-rate risk. This risk is equivalent to a cost to a risk-averse trader, and the trader will sometimes bear an explicit cost to avoid it. Although this cost may be small, particularly for short-term transactions (because transactions costs are low for foreign exchange), the bid-ask spread widens with volatility; also, forward markets exist for only about a year or so into the future' (Tavlas 2016 p 668)

He adds that countries on the periphery in a single currency with pegged flexible exchange and the government budgets and central banks remain separate it would result in unlimited borrowing rights in practice unless checked or stopped (Tavlas 2016 p 676) Countries under flexible exchange rates however can do little more than choose its desired rate of inflation along its preferred point of entry on the Phillips curve, which ultimately prior to Mundell's new theory and the IMF Mundell Fleming model was in error (Tavlas 2016 p 681)

Both in the USA and the EU however there was almost unlimited borrowing as the sub-prime crisis and the debt crisis respectively highlighted. The profligate spending and resultant debt became a crisis, yet once the bailouts had taken effect the bond borrowing could begin again once the bid – ask spread decreases in the reduced volatility which becomes apparent to traders or central banks. The asset model of exchange rate determination is then again on its way to possibly becoming unstable once more (as trading then affects the currency value which may not be its real value) Higher interest rates are a penalty of the debt restructuring process.

Tavlas adds 'Since the centre country does not change its monetary-policy stance, it sterilises the capital inflow, keeping its interest rates unchanged. Hence, the capital outflow in the peripheral country effects a contraction of its money supply. The country loses not only its ability to conduct an independent monetary policy, but experiences money-supply effects that exacerbate the business cycle' (Tavlas 2012 p 672)

There is a mixture of Keynesian and Friedman economics which merge both theories. 'The Bundesbank saw controlling inflation not just as a science but as an art (Marsh 1993 pp 192/193)[33] The gold standard was abolished in 1973, and it is place, a similar arrangement to the 3% deficit was undertaken. Making 6% and 3% either side of 0 allowed the Dollar to fluctuate and became known as the Snake within the tunnel (Marsh, David 1993 pp 193/194) The Bundesbank officials sat with a dollar note hanging down from the ceiling in the main floor ' (Marsh, David 1993 pp 193/194)[34]

Since reconstruction funds from the Marshall plan rebuilt the EU, the reality of monetary and fiscal policy seems united and from World War 2.

George Tavlas worked as the alternate governor for the bank of Greece since 2008 and he experienced the theory and the practice. Greece first experienced higher prices as it moved from the Drachma in 2001.A two tier economy emerged. Today Greece is experiencing austerity amidst the quantitative easing (QE which is being phased out into QT or quantitative tightening from 2017 - 2018) in the Eurozone which began in January 2015 (and which had begun in the USA and UK from 2008) which buys bonds which is essentially buying debt. It replaces a restructuring of national economies, (criticisms from Germany and Italy) but it also means wealthier or stronger countries do not suffer higher (or considerably higher) taxation to pay the down the debts. **Austerity balances QE** and in OCA theory the weaker (austere) nation can avail of the more stable low inflation nation. The unemployed in Italy, Spain, Portugal, Ireland and Greece (PIIGS) were not left much choice but to move elsewhere reluctantly, but rioted against it before returning. Adoption of a 'basic income' is mooted for pensioners. Social credit is also mooted or a low fixed income society. Yet trials of this…. (Communist idea which require a big government to decide for you and in China has led to a social credit (the 'basic income' proposal) points system in which the communist vanguard control your life day in a day out with 600 Million close circuit cameras and which has seen 23 million being banned from travelling due to their low credit score. Jaywalking and criticising the Communist party are social credit crimes See The Guardian newspaper Friday 1.3.2019 'China bans 23m from buying travel tickets as part of 'social credit' system') ….. did not lead to a higher quality of life or lasting employment (Finland experiments 2017 – 2018)

Criticisms of a two speed Europe preceded the 2007/2008 crisis and continue after it [35] negating the 'endogeneity hypothesis' (Jager, & Haffner 2015 p 317) which states that political integration follows the mutual benefit OCA theory provides. The United Nations 'migration compact' envisages a further 240 million migrants but only into the West, USA and Europe and not China or Russia. An opposing view termed the 'heterogeneity hypothesis' (Jager, & Haffner 2015 p 317) suggests that economic currency convergence should have occurred after political integration as OCA theory criteria suggests agreeing with Artner and Rona (Artner and Rona 2012 page 83)

Jager, & Haffner 2015 p 321 suggest for those countries who meet the open criteria 'In the face of an asymmetric shock, a transfer payments system is a valuable feature in a currency union that helps to re-establish economic equilibrium. While the US can look back on a long tradition of fiscal federalism, a comparable system does not yet exist in the EMU' a transfer union is an alternative to a 'United Sates of Europe' (a transfer system however is a part of the Target 2, Trans-European Automated Real-time Gross Settlement Express Transfer System, RTGS)

Jager and Haffner 2015 p 18, also suggest improving target 2 by employing REER as a criteria. REER or 'real effective exchange rate' which uses the nominal exchange rate (as opposed to the real exchange rate) to price and cost and as indicators. Blockchain will improve both, (The Economist Intelligence Unit 2015[36])

Yet, and as there is no accepted theory of OCA the difficulty of the nominal anchor which pins down the money stock still remains, separately to effective transport costs in symmetric (co-operative) monetary systems which do not own a safety valve when pressure builds due to asymmetric shocks (Tavlas 2012 p 671) [17]

The rapid growth of population and integration seems to be accompanied by immigration also at a very fast pace. This for many communities can be considered an asymmetric shock to their economy and culture. Under sustainable development, regions may or will merge into mega regions and add to the mega cities of the world which comprise ten million people or more. These regions it is envisaged will not be a sprawl of outlying urban areas, but linked also by green areas of high diversity[37]

Open borders are encouraging mass immigration and the UN estimates that 70% of the world's population will live in cities by 2050[38], it is currently at 48% according to the United Nations. This population growth phenomenon which is cited as only 3 – 4 % living in cities in 1800[39] has also continued and increased since the 2008 financial crash. Over population is not a land shortage problem but an overcrowded cities problem. The financial crash and mass movement have continued but not toward any balanced view of Optimal currency theory.
Growth areas since the financial crash of 2008 are shadow banking and alternative currencies such as Cryptocurrencies which are competing with high street banks. Shadow banking is also affecting currency flows and bringing inflationary pressures[40] (including asset inflation) especially if a currency is married with forgery. Crypto currency exchanges and bit coin mining require excessively large amounts of energy to run sometimes as much as a small city. Despite this the cashless society is still not trusted in society[41]

Pre-condition Criteria for Optimum currency theory.

Tavlas lists important criteria for entry into an Optimal Currency Area as follows on the monetary side or real side (i.e. the customs union versus common market) although acknowledging there is no real accepted definition of monetary integration and in their possible stages;
The 'inconsistent quartet';

1 Exchange rate unions; (fixed) 2. Pseudo Exchange Rate Unions; (fixed but revocable, but no formal integration) 3. Monetary integration; non-revocable fixed exchange rates, full liberalisation as defined in the Maastricht treaty as the third stage of monetary integration before full financial integration 4. Monetary unification; single currency and a common central bank with no independence for member states. (Tavlas 2015, p 665/666)

He continues with 8 precondition criteria for OCA's;
1.Similarity of inflation rates, 2.the degree of factor mobility, 3.the openness and size of the economy, 4. the degree of commodity diversification, price and wage flexibility, 5.the degree of goods market 18 integration, 6. fiscal integration, 7. the need for real exchange rate variability, 8. political factors, the latter suggesting that members need the political will to want to join but not have that will (Tavlas 2015, p 666/667)

The following criteria are also suggested to avoid confusion by Tanja Bros. (next page)

Cont'd on next page……

Table 1 The most important attributes regarding optimum currency areas	
Variables	**Effect**
Labour mobility	The greater the labour mobility (when wages and prices are not flexible) the easier it is to join/form a common currency area.[26]
Wage and price flexibility	If there is wage and price flexibility in a common currency area, it will be easier to overcome asymmetric shocks and the common currency area will be more stable.
Openness	The more open the economy is, the stronger is the case for joining/forming a common currency area.[27]
Diversification of production/exports	The more diversified the economy, the more attractive is a common currency area.
Size of economy	The larger the economy, the more attractive is the flexible exchange rate.
Inflation differential	If there is inflation differential between countries, it will be harder to maintain the fixed exchange rate.
Capital mobility	The higher the capital mobility, the harder it is to maintain a fixed exchange rate (except, of course, if the country joins a common currency area).
International risk sharing	If a country is able to share risk with its partners in a common currency area, this regime could ameliorate other rigidities in the area.
Usefulness of money	Joining the common currency area enhances the usefulness of money, but the effect is that much greater the smaller and more open the economy is.
Effectiveness of monetary policy	If a monetary policy is not effective, the loss of monetary independence is not a high cost.
Credibility of monetary authorities	If monetary authorities do not have credibility to curb inflation, having a fixed exchange rate as a nominal anchor will be beneficial.
Endogeneity	A country is more likely to satisfy the criteria for entering a common currency area ex post than ex ante due to increased business cycle correlation.
Specialisation	A country is more likely to satisfy the criteria for entering a common currency area ex ante than ex post due to increased specialisation of the countries forming the area.
Similarity of shocks	Costs of loosing independent monetary policy are lower the higher the association of shocks between the client (potential member of a common currency area) and the anchor is.
Monetary shocks	If a country is facing monetary shocks, having a fixed exchange rate will be attractive.
Real shocks	If what a country is facing are real shocks (domestic or foreign), a flexible exchange rate will be more feasible.
External nominal shocks	If what a country is facing are external nominal shocks, a flexible exchange rate will be even more attractive.
Effectiveness of exchange rate adjustments	If exchange rate adjustments are not effective, the cost of loosing the exchange rate as adjustment mechanism is not significant.
Labour market institutions	If countries have different labour market institutions, it will be hard to adjust to the same kind of shock in the same way in a common currency area.
Business cycle synchronisation	If countries forming a common currency area have synchronised business cycles, they will not need flexible exchange rates as an adjustment mechanism.
Dominant trading partner	If a country has a dominant trading partner, it is beneficial to form a common currency area.

Source: Author's compilation.
(Bros, Tanja 2005 p 72)

Many sustainability index list over one hundred items to define criteria for sustainability including, metrics, accounting, benchmarking and Auditing. The Eurosystem will be subject to these criteria also and they are listed in their own promotions as follows; 1.a high degree of price stability, 2.sound public finances, 3.a stable exchange rate, 4.low and stable long-term interest rates[42]

Price stability being the primary objective of the eurosystem[43] and the issuance of coins is the responsibility of each nation state. There are approximately 120 Billion coins in circulation in 2016 valued at around €30 billion in the EU.[44]

This aspect of the economy in monetarism is termed the MO – M4 money stock. It is the MO (sometimes M1) designation or type of money. In Britain it is currently around 3 or 4 % of the total money supply 46 but this small amount is issued as debt free non-borrowed money which circulates constantly but is owned by the 'people' (as in the Parliament of the People) In Britain, it was 21% in 1963, 47 and it could extend to 100% in theory. 4 % of the money supply in Britain is comparable with the EU, who at 4% of the money supply MO – M4 and its value of €30 billion could also increase its MO (notes and coins in circulation) to 21 % or even 100%. Inflation arises at the source of a currencies issue as when charged at interest in issuance, the only way to pay the extra cost (above 100% of the money supply) is to print more money to pay the interest. A crypto currency has the same problem (fee's or interest)

This would at 21% increase the value of coins circulating (which could be extended to notes in the EU) to a value of around €150 Billion in value in circulation. The amount could be 21% or 15 % or whatever is required for price stability. The 'no interest bearing' coins (and/or notes) reduce inflation (prices and wages being secondary inflation causes from source of issuance i.e. the interest charged on issued currency, the principle sum of 100% and the interest are two separate items and the only way to pay the interest is to print off more money to pay it = inflation) and therefore prices and wages. MO – M4 however can be separated and MO can circulate at zero interest (i.e. notes and coins) leaving the other designations open to the market for loans etc. Reduced to 4 % over decades, society loses spending power in the economy, and in the price of goods for consumption and export.

This notion of properly managed MO – M4, effect's the criteria for an Optimal Currency Area also and the need to join a OCA area and the viability of the theory. It may be that many national countries choose to leave the eurozone as Britain has, or reconsider by not joining or reconsider its point of entry on the Phillips curve if they had adopted low inflation currency spent into the economy over decades.

Should it be in the criteria for OCA theory ? it is preferred to over regulation by Rowbotham. Nations when they join the EU lose seigniorage income (Tavlas 2015 p 773) yet this issuance of currency should be 100% of the issuing bank, and not a secondary private corporation in a ratio of 96 % interest bearing currency to 4 % non-interest bearing currency by the central bank issued as non-interest bearing money (whether the central bank is private or public it should own and issue this money stock)

As it is, inflation worldwide cannot be kept stable, even increasing the amount under new central bank measures as non-debt to 21% would ease many (not all) wage / price problems (cost inflation) worldwide (Rowbotham 1998 p 236)

The low or non-existent interest money supply is an independent supply of money to that of bonds or loans. The Eurosystem stipulates it is independent of the ECB and ESCB. Its detrimental reduction to 4% affects inflation and therefore wages, small business, the supply chain, large companies and corporations in day to day operations. Ultimately an unstable base to the economy can cause asymmetric shocks such as the sub – prime mortgage problem when repayment costs began to exceed wages. Raising this money supply aspect would not affect markets adversely and would reduce risk. The IMF have issued warnings to reduce debts (to all countries Globally)

There is also evidence that exchange rate volatility may not hamper trade (Tavlas 2015, p 680) especially as new payment systems are coming into reality for different EU integration arrangements. It (MO adjustment) could become a part of the Eurosystem benefiting OCA theory. Or OCA theory could be scrapped as many of the original theorists hinted at as they moved to that conclusion over decades. It could benefit all independent nations. It could assist in achieving 100% employment.

Britain moved from high manufacturing (even post the industrial revolution decline at its height) with national supply chains and high employment resultant from this activity. To then remove these high employment areas and move the workers into service industries, in which large regions have become slums or rustbelts with medium to high unemployment has been disastrous for those economies effected, especially when joining the EU which does not promote competition within its closed shop philosophy [48] The resultant benefit or compensating attraction of buying cheaper Chinese imports but having lost your factory or industry is not sustainable or desired by those regions[49]. China could buy imports from the West. Britain having now left the EU as the only solution, now wants to reverse the process, whilst the USA has cut taxes and wants continued job growth to 100% employment from January 2017 into 2020.

Agriculture producers and many trading commodities are also working to become the producer and trader in one, cutting out the mercantile middle man creating new markets and profits combining both traditions in one. Some former traders or merchants have moved to become producers and their own traders increasing the opportunities for small traders and farmers.

Conclusion

Many of the authors (across the economics of left and right) in this literature review state that the Eurosystem or Eurozone is not an Optimal Currency Area or they suggest there has been too great a divergence from the original proposition, or that it was not a viable system. A few moot if collapse from Asymmetric shocks in some areas, was better than intervention (and then to begin again) The hard peg, intermediate and floating exchange rate 'bi-polar issue' discovered that many countries declared a stated exchange rate and were using another for many years despite surveillance ! (Fischer 2008 p 373) Both monetary policy and fiscal policy need adjustment when a currency is under pressure. (Fischer 2008 p 374)

The IMF state the Worlds debt was in October 2016, $152 Trillion[50]. (today with adjustments on total debt in 2019 it stands at around £230 Trillion) Will this be absorbed or forgiven or paid down with the adaption of the SDR new five superpower nation global currency fund whilst retaining liberty and freedom. This is not just a problem for OCA sustainability within the EU, but a western security issue. It exacerbates security issues concerning people, property and information, assets and securities.

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