



Monetary Policy and Currency Substitution in the Emerging Markets

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by

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Paper prepared for the 8th Dubrovnik Economic Conference
Dubrovnik 27-29 June 2002

I. Introduction*

In recent years, several countries or regions have unilaterally adopted other countries' currencies: Montenegro and Kosovo have adopted the euro, Ecuador, El Salvador and East Timor have adopted the US dollar as their currency. Euroisation or dollarisation¹ has also been considered by several other countries in the past few years. For example, in Argentina the government reviewed the case of official dollarisation in 1999/2000, Guatemala has embarked on a regime similar to dollarisation, and in Europe proposals for unilateral euroisation have been made with regard to some countries in the Balkans and in central and eastern Europe.² Finally, the issue is intensively discussed in international financial institutions³ and in the literature.⁴

Euroisation/dollarisation has become a prominent issue because it is seen as one of the few sustainable exchange rate regimes in a world of increasing capital mobility (Calvo 1999, 2001). The relatively low number of relevant cases so far is often explained by the fact that most of the potential dollarisation or euroisation candidates do not meet the criteria put forward by the Optimum Currency Area (OCA) literature. Recently, however, it has been stressed that these criteria may be endogenous, implying that a euroisation/dollarisation regime itself will lead to these criteria being fulfilled over the medium term. This view is largely based on findings by Rose (2000), according to which a common currency is associated with a large increase in trade among the countries sharing this currency.

This paper highlights some specific features in sustained euroisation/dollarisation regimes that may themselves – in addition to the high degree of openness and the common currency – be conducive to foster integration with the anchor country⁵ and the global economy.⁶ Indeed, the paper underlines the important role of official development assistance (ODA), the financial sector and tourism in providing a steady inflow of foreign capital that is needed to sustain the specific monetary regime. The paper's main finding is that euroised and dollarised countries receive considerable fiscal transfers from their respective anchor countries (either in form of ODA or outright subsidies), specialise in offshore banking or are strongly engaged in tourism. The paper argues that these three elements have been particularly effective in

* The authors are grateful to Gunnar Jonsson and Arnaud Mehl and for helpful comments. The views expressed here are those of the authors and do not involve the European Central Bank.

¹ This paper focuses only on the official adoption of a foreign currency as a country's own and does not consider unofficial or parallel use of a foreign currency.

² See, for example, Gligorov (2001) or Bratkowski and Rostowski (2001).

³ Several papers have been produced by IMF or World Bank staff on this issue, and the World Bank also maintains a separate webpage on this topic ([http://lnweb18.worldbank.org/ External/ lac/ lac.nsf/ Sectors/ Economic+Polic/](http://lnweb18.worldbank.org/External/lac/lac.nsf/Sectors/Economic+Polic/)).

⁴ For example, the *Journal of Policy Modelling* and the *Journal of Money, Credit and Banking* came out with special issues on this subject in 2001.

⁵ The "anchor country" is the country whose currency is officially adopted by a third country.

⁶ By doing this, we follow the suggestion of Alesina and Barro (2000) who argue that despite the special characteristics of the currently dollarised countries or regions they provide "interesting experiments about the effects of alternative monetary systems."

overcoming the “home bias” usually inherent in investment and regional trade relations.⁷

The findings of this paper do not contradict those of Rose (2000) and others on the importance of a common currency in fostering economic and financial relations between countries, but suggest that other specific policy choices may have also importantly contributed to the fostering of such relations and thus to the sustainability and overall benefits of the monetary regime.

The paper sets out by reviewing the main arguments for euroisation/dollarisation, dividing them into two main strands of “stabilisation views” and “integration views” (Sections II and III). It then turns to the findings of the literature on currency and trade that originated from the work of Rose (2000) (Section IV). Based on the criteria derived from the optimum currency area literature, Section V provides some evidence of the magnitude of ODA flows, financial sector development and tourism intensity of sustained cases of unilateral euroisation/dollarisation. Section VI offers some tentative conclusions.

II. The stabilisation view of euroisation/dollarisation

Officially adopting a foreign country’s currency has become a repeated advice for many emerging market economies as a result of the recent crises and the difficulties experienced in the exchange rate management for such economies. These experiences have also led to a new orthodoxy on exchange rate regimes, according to which intermediate regimes between hard pegs (currency boards and euroisation) and floating are considered not to be sustainable over the longer term (Fischer 2001). Countries should make a clear choice in favour of one of the two corner solutions – either flexible exchange rates or hard pegs (International Financial Institution Advisory Commission 2000).

Hard pegs, like currency boards and euroisation/dollarisation are seen as an appropriate exchange rate regimes for countries that are not able to pursue an effective independent monetary policy. This is due to (1) a low degree of credibility of domestic monetary policy, (2) a high degree of financial openness combined with the need for stable exchange rates, and/or (3) a high degree of unofficial euroisation/dollarisation.

In these countries, the use of an independent domestic monetary policy as a stabilisation tool either is very costly in terms of output losses (Barro and Gordon 1983), crisis-prone due to a violation of the “impossible trinity-law” of monetary

⁷ The term “home market bias” refers to the stylised fact that intranational trade is much higher than international trade. Empirical studies show that trade among countries of comparable economic size is higher by a factor of almost twenty intranational than international (Engel and Rose 2000). The most widely used example to present evidence on this “home bias” is the case of intra- and bilateral trade between the U.S. and Canada, which suggests that Canadian provinces trade more than 20 times more among themselves than with U.S. states after correcting for other variables that explain trade across provinces or states (McCallum, 1995).

policy (Fischer 2001), or ineffective (Jeanne and Wyplosz 2001, Hausmann 1999).⁸ By adopting a foreign currency the countries would use a strong “commitment device” (Del Negro et. al. 2001), providing credibility, allowing for lower interest rates, supporting non-inflationary growth and fostering financial development. Accordingly, euroisation/dollarisation is primarily perceived as a stabilisation mechanism. This is why it is useful to summarise these arguments under the heading “stabilisation view” of euroisation/dollarisation.

The predominance of stabilisation implies that the main costs associated with adopting a foreign country’s currency, like loss of an adjustment mechanism and loss of a lender of last resort, can be regarded as small. This is because given a low credibility of domestic monetary policy and/or a high degree of unofficial euroisation/dollarisation, the value of having an autonomous monetary policy and a domestic lender of last resort is low (Frankel 1999, Jeanne and Wyplosz 2001).

Many developing countries and emerging markets have been characterised by some of the three factors that have been highlighted in the “stabilisation view”: limited track record of monetary policy credibility, reflected in episodes of high inflation; high financial openness; and a high share of unofficial use of a foreign currency. For example, several Latin American and East European transition countries experienced in the past longer periods during which the average rate of inflation exceeded 50% per year (Table 1), which can be associated with a severe loss of monetary policy credibility.

Table 1: Countries with a history of persistently high rates of inflation*

Period	Countries
1973 - 1982	Argentina, Brazil, Chile, Ghana, Israel, Laos, Uganda, Uruguay
1983 - 1992	Argentina, Armenia, Azerbaijan, Belarus, Bolivia, Brazil, Cambodia, Congo (Dem. Rep.), Croatia, Estonia, Georgia, Guinea-Bissau, Israel, Kazakhstan, Kyrgyz Republic, Latvia, Lebanon, Lithuania, Macedonia FYR, Mexico, Moldova, Mozambique, Nicaragua, Peru, Poland, Romania, Russia, Sierra Leone, Slovenia, Sudan, Tajikistan, Turkey, Turkmenistan, Uganda, Ukraine, Uruguay, Uzbekistan, Vietnam, Zambia
1993 – 2001	Angola, Armenia, Azerbaijan, Belarus, Brazil, Bulgaria, Congo (Dem. Rep.), Croatia, Georgia, Kazakhstan, Kyrgyz Republic, Lithuania, Macedonia FYR, Moldova, Romania, Russia, Sudan, Suriname, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan

* Arithmetic average rate of inflation > 50% p.a. in given period. It should be noted that transition countries are special cases as part of their inflation history was related to transition factors rather than to weak institutional credibility.

Source: WEO, own calculations

Many of these countries are also highly open and closely integrated financially with the rest of the world that provides a significant share of their investment. Finally, several of the countries display high shares of unofficial euroisation/ dollarisation, expressed by the share of foreign currency deposits (Table 2).

⁸ These criteria are by no means independent from each other. For example, a high degree of unofficial euroisation is often correlated with (past) hyperinflation, currency crisis or financial crisis.

Table 2: Foreign currency deposits in emerging economies

Degree of unofficial euroisation/dollarisation	Share of FX deposits in M2	Share of FX deposits in total deposits
High (> 70%)	Bolivia, Lebanon, Uruguay	Angola, Azerbaijan, Bolivia, Cambodia, Congo D.R., Croatia, Georgia, Lao PDR, Lebanon, Nicaragua, Tajikistan, Uruguay
Intermediate (> 20 %, < 70%)	Angola, Argentina, Armenia, Azerbaijan, Belarus, Bulgaria, Cambodia, Congo, D.R., Costa Rica, Croatia, Ecuador, Egypt, Georgia, Guinea-Bissau, Honduras, Lao PDR, Latvia, Lithuania, Moldova, Mozambique, Nicaragua, Paraguay, Peru, Philippines, Romania, Russia, Sao Tome & Principe, Tajikistan, Turkey, Ukraine, Viet Nam, Yemen, Zambia	Albania, Argentina, Armenia, Belarus, Bulgaria, Costa Rica, Ecuador, Egypt, Guinea, Guinea-Bissau, Honduras, Jamaica, Lithuania, Macedonia, FYR, Malawi, Moldova, Mongolia, Mozambique, Paraguay, Peru, Philippines, Romania, Russia, Sao Tome & Principe, Turkey, Ukraine, Viet Nam, Zambia

Source: Honohan and Shi (2002)

In roughly 40 countries is the share of foreign currency deposits in M2 or in total deposits higher than 20%, i.e. these countries can be qualified, to a high or intermediate degree, as unofficially dollarised.

In sum, several countries – mostly emerging market and developing economies – fulfil the criteria brought forward by the stabilisation view of euroisation/dollarisation. And, indeed, there is some strong advice for emerging market economies to dollarise based on the argument that sticking to a domestic monetary policy is inherently crisis-prone in a world of increasing capital mobility (Mendoza 2002).

III. The integration view on euroisation/dollarisation

Costs and benefits of giving up the domestic currency

In the past, only a few countries opted for euroisation/dollarisation, and most of them were motivated – apart from political considerations – by considerations underlying the stabilisation view rather than the integration view. In particular, Ecuador, the largest economy of the recent cases was clearly motivated by the stabilisation view, and also Kosovo and Montenegro aimed to stabilise their post-war economies by introducing a foreign currency (even though also political motivations may have played an important role). El Salvador is the only case where considerations underlying the integration view appear to have played the dominant role.

The fact that in addition to El Salvador there have been no cases in recent years motivated by the integration view may be interpreted in light of the strong conditions the optimum currency area (OCA) view puts on the optimality of the adoption of another country's currency. This is because domestic monetary policy is regarded as an effective tool in achieving economic stability and growth. Hence, there have to be

very special circumstances making it beneficial for a country to abolish its national currency (McKinnon 2000).

One of these circumstances refers to the need of a country adopting a foreign currency to be highly integrated with the anchor country, both in real and financial terms. The reason is that with a high level of integration a country can more easily forego a domestic monetary policy even if other adjustment mechanisms, like price and wage flexibility or fiscal transfers, are rather weak or non-existent. In most cases, however, such a high level of integration cannot be observed, leading to the conclusion that the costs of euroisation/dollarisation seem to exceed the potential benefits,⁹ identified in the OCA literature as savings on transaction costs and the elimination of exchange rate risk.

Since the OCA literature stresses the role of integration, its view on unilateral euroisation/dollarisation may be called the “integration view”: only countries that are willing and able to integrate on a large scale with their potential anchor countries are suitable candidates for unilateral euroisation/dollarisation.

Effectiveness versus need of an independent domestic monetary policy

Some economists argue that in those cases where the criteria of the stabilisation view apply the considerations put forward by the OCA literature are largely irrelevant. This is because the potential benefits of an independent domestic monetary policy cannot be reaped when domestic monetary policy is ineffective due to either low credibility, high capital mobility and fixed exchange rates, and/or high unofficial euroisation/dollarisation (Calvo 1999, Hausmann 1999). Of course, for countries that cannot use domestic monetary policy effectively, euroisation/dollarisation may not be an inferior exchange rate regime than a traditional peg or managed floating. However, the regime will be associated with the costs emphasised by the OCA literature.¹⁰ Since these costs can be very large, they may lead to a situation where the regime is finally unsustainable.

The current debate: Is integration exogenous or endogenous to currency unions?

Some proponents of euroisation/dollarisation argue that the OCA literature exaggerates the costs of adopting a foreign country’s currency because euroisation/dollarisation itself fosters real and financial integration. Accordingly, the Optimum Currency Area literature criteria shall not be seen as exogenous to the exchange rate arrangement but rather as endogenous (Frankel and Rose 1998; Rose and Engel, 2000; Dallas and Tavlas, 2001). In particular, trade integration is likely to deepen due to lower transaction costs and the elimination of exchange rate uncertainty. Larger foreign direct investment inflows by the issuing country could also strengthen economic integration with the euroised/dollarised country. As a

⁹ Accordingly, De Grauwe (2000) begins his textbook on the “Economics of Monetary Union” by mentioning the costs, and not the benefits of a monetary union.

¹⁰ This argument is also of relevance for the countries issuing the currencies to be adopted. For example, Summers (2000) expressed a concern that the US will be blamed for the economic and social costs dollarised countries might encounter when choosing the US dollar as their legal tender.

consequence of higher economic integration, euroisation/dollarisation might lead to real convergence in terms of GDP levels and harmonisation of business cycles with the issuing country. Finally, shocks might become more symmetric between the euroised/dollarised country and the anchor countries and business cycles might be more synchronised. In the end, euroised/dollarised countries indeed do not need an independent domestic monetary policy anymore.

IV Integration and euroisation/dollarisation: the Rose evidence

The result: Large trade effects of a common currency

Over the last three years, the endogeneity view received some support from the work by Rose and his co-authors. Whereas most previous research efforts had failed to discover large effects of reduced exchange rate volatility on trade (Frankel 1999, 10), Rose (2000) shows that two countries with the same currency trade much more, perhaps over three times as much, than comparable countries with their own currencies.¹¹ Using a gravity model of international trade and large cross-country panel data, this result proves to be statistically significant and robust. Including other variables potentially affecting trade flows, like contiguity, language, free trade area, sharing of land border, same nation, same former colonial relationship, size, landlocked countries, islands does not change the result. In a recent paper (Glick/Rose 2001) it is claimed that joining a currency union (CU) leads bilateral trade to almost double.¹² Finally, Frankel and Rose (2002) suggest that euroisation/dollarisation will indeed be associated with enhanced economic integration and also with higher economic growth.

Members of currency unions (CUs)

In this literature, the sample of euroised/dollarised countries is usually enlarged to cases of currency unions (CUs). This leads to a sample of 76 countries, sharing a common currency with a total of 10 anchor countries (Box 1). The sample can be subdivided as follows. There are 49 dollarised/euroised countries linked to three major anchor countries: France, UK and US, with France and the US providing as well the common currency for the regional currency areas in Africa, the CFA Franc Zone, and the East Caribbean Currency Area (ECCA). In addition there are the three European countries – Italy, Denmark and Switzerland – that serve as anchor countries for a total of 5 currency union members. Similar arrangements can be found for the Australian and the New Zealand dollar, serving as domestic currencies for some of the islands in the Indian Ocean and the South Pacific. Finally, there are the South African

¹¹ In the Rose inspired literature, monetary union, euroisation and “truly fixed pegs” are considered under the term “currency union”. Glick and Rose (2001, 5) define a currency union as a situation in which money is interchangeable between two countries as a 1:1 par for an extended period of time, so that there is no need to convert prices when trading between a pair of countries.

¹² However, as Glick and Rose (2001) point out – based on the available evidence on currency unions that were dissolved in the past -, the trade effect may take some time: Even thirty years after a pair of countries has dissolved a currency union, they seem to share a disproportionate amount of trade, *ceteris paribus*. This suggests that the immediate effects of adopting a foreign currency on trade between the dollarised/euroised country and the anchor country would be rather small.

common currency area based on the South African Rand, and the currency arrangement between Bhutan and India based on the Indian Rupee.

Box 1: Euroisation/dollarisation regimes and currency unions[#]

Australia

Christmas Islands, Cocos Islands, Kiribati, Nauru, Norfolk Island, Tonga, Tuvalu

CFA

Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Republic, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea-Bissau, Mali, Niger, Senegal, Togo

Denmark

FAEROE ISLANDS, Greenland

ECCA

Anguilla, Antigua And Barbuda, Dominica, Grenada, *Montserrat*, St. Kitts-Nevis, St. Lucia, St. Vincent and Grenadines

France

FRENCH POLYNESIA, *Mayotte*, New Caledonia, WALLIS & FUTUNA, *Andorra**, French Guiana, Guadeloupe, Martinique, *Monaco*, Reunion, St. Pierre and Miquelon

India

Bhutan

Italy

San Marino, Vatican City

South Africa

LESOTHO, NAMIBIA, SWAZILAND

Switzerland

Liechtenstein

United States

Belize, Liberia, *Micronesia, Fed.States, Northern Marianas IIs., Palau* Panama, American Samoa, Bahamas, Barbados, Bermuda, Guam, *Marshall Islands, Puerto Rico, TURKS & CAICOS ISLANDS. VIRGIN ISLANDS (US), VIRGIN ISLANDS (U.K.)*

United Kingdom

Falkland Islands, Gibraltar, *Guersney, Isle of Man, Jersey, St. Helena,*

New Zealand

COOK ISLANDS, NIUE, Pitcaim Island, Tokelau.

[#] Countries considered in Rose (2000) and in Glick and Rose (2001) are in regular font, countries only considered in Rose (2000) are in small caps, countries only considered in Glick and Rose (2001) are in small caps and italics, and countries that are neither considered in Rose nor in Glick and Rose are in italics. Due to its short history, European Monetary Union is not included.

* France/Spain

There are remarkable differences between these currency unions with only some of them representing true cases of unilateral euroisation/dollarisation in the way it is currently discussed as a policy device for emerging market economies.¹³ For example, the World Bank – based on the work of Goldfajn and Olivares (2000) – does not include the CFA Franc Zone, the ECCA and the countries of Southern Africa in its list of dollarised countries. Indeed, the two regional currency areas have their own currencies, the CFA Francs and the East Caribbean Dollar. Moreover, the French treasury guarantees the convertibility of the CFA Francs into French franc, now euro. In return, the CFA Central Banks must keep at least 65% of their foreign assets in their operations account with the French Treasury, provide for exchange cover of at least 20% for their sight liabilities and impose a cap on credit extended to each

¹³ A similar view is expressed in Edwards and Magendzo (2002).

member country equivalent to 20% of that country's public revenue in the preceding year. Clearly, this type of arrangement is not a unilateral one.¹⁴

The East Caribbean Currency Union is a unilateral exchange rate regime with eight countries operating a kind of common currency board. Its Central Bank, the Eastern Caribbean Central Bank, is required to hold the level of pooled official reserves at no less than 60 percent of the value of its demand liabilities (Van Beek et. al. 2000). In the South African case, all countries have formally their own currencies (Namibian dollar, Lesothan maloti, and the Swazi lilangeni) that are at par with the South African Rand, serving in these countries as an additional legal tender. Moreover, the anchor country, the South African Rand, is not an international currency¹⁵ and under a floating regime vis-à-vis the US dollar and the euro.¹⁶ Hence, the credibility transfer and stabilisation effect associated with euroisation/dollarisation might be much more limited than in the case of countries adopting the US dollar or the euro.

Trade theory versus OCA theory

The work of Rose and his co-authors is based on trade theory, i.e. they use the standard tool kit of the gravity model, including the usual control variables, and check for the significance of the CU dummy variable. The significant, positive effect can be interpreted as the contribution of a common currency in reducing transaction costs between trading partners. However, since most previous research failed to establish a strong link between exchange rate volatility and trade, the alleged massive effect of having a common currency is a “mystery” (Rose 2002a). Despite the many control variables the possibility that the common currency variable captures effects of other variables as well, is one of the explanations offered to explain this puzzle. This is why there have been several attempts to challenge the results (Nitsch 2002, Persson 2002).¹⁷

In this paper we take a different approach based on the integration view explained above. By doing this, it is taking for granted that a common currency has a transaction cost reducing character, with the cost savings being proportional to the number of transactions conducted between two countries. Hence, from an OCA perspective the integration view relies on, the evidence presented by Rose and its co-authors comes as no surprise: countries sharing a common currency should be more engaged in trade than countries that use different currencies.

Surprising, however, are the results presented by Rose and his co-authors suggesting that the currency union observations in their samples do not form a subgroup strongly

¹⁴ Key differences between unilateral and multilateral monetary unions are highlighted by Angeloni (2002).

¹⁵ Usually, dollarization is referred to as either the unilateral adoption of the dollar or other internationally used currency.

¹⁶ As Yeyati and Sturzenegger (2002) point out, this arrangement has the advantage that shocks elsewhere in the world will entail some sort of disequilibrium only to the extent that its effect differs across member countries.

¹⁷ Rose (2001, 2002a) replied to these papers arguing that they fail to dispute the main message of large trade enhancing effects of a common currency.

deviating from the mean samples with regard to other economic criteria.¹⁸ The OCA literature implies that only a few countries might actually benefit from a currency union having rather special characteristics that allow them to forego an independent domestic monetary policy. Accordingly, an analysis of the sustained cases of euroisation/dollarisation should find special characteristics of these countries the OCA literature refers to when discussing costs and benefits of a currency union.

V. Special policy factors in sustained cases of euroisation/dollarisation

With the exception of the anchor countries, euroised currency union (CU) members are very small economies. In the sample used by Rose and Engel (2000), the average population size of a CU member is 1.8 million, for a non-currency union member 23.6 million. Indeed, 56 of the 80 countries and regions with a population size of less than 1 million listed in the CIA World fact book are CU members, whereas only 20 out of the 155 countries and regions with a population size larger than 1 million are CU members (disregarding the anchor countries). Abstracting from the CFA Franc Zone countries, until recently Panama was the only dollarised/euroised independent state with more than 1 million inhabitants. Therefore, most empirical studies on sustained cases of euroisation/dollarisation have focused on the case of Panama (Moreno-Villalaz 1999, Hausmann/Gavin/Pages-Serra/Stein 1999, Edwards 2001).

From the viewpoint of trade theory, population size may only be relevant as a proxy for the degree of openness. For example, empirical evidence confirms that microstates, defined as countries with less than 1 million inhabitants, are more engaged in international trade than larger countries, measured by the share of trade in GDP (Easterly and Kray 2000), no matter what exchange rate regime they have chosen.¹⁹

From the viewpoint of OCA theory, however, population size may even itself be an economic variable. Since one of the main functions of money is to facilitate transactions among people, it follows that the smaller the economic active population is, the smaller are the potential gains from having a national currency, since there are only few domestic in comparison to international transactions and even the volume of domestic transactions may not justify the fixed costs of having a national currency. The need for domestic money may be further reduced in those small countries where the economy relies on only a few resources, like agriculture, fishing or raw materials, as it is still the case in the poor dollarised microstates and as it was the case in those microstates before they concentrated on tourism and banking.²⁰

¹⁸ Since the sample of bilateral trade relations among the CU members is very small and accounts for only 1% of total bilateral trade pairs analysed by Rose and his co-authors, a selection bias would destroy the validity of the message of trade enhancing effects of a common currency. This is why Rose (2000), Rose and Engel (2000) and Glick and Rose (2001) present summary statistics regarding the various control variables. They suggest that in most cases the two groups of countries are indeed rather similar.

¹⁹ Rose and Engel (2000) find that CU members are more open than countries with their own currencies.

²⁰ Rose and Engel (2000) find that CU members tend to be more specialised than non-CU members.

In addition, an independent monetary policy can be assumed to be rather ineffective in a small and specialised economy. However, this inefficiency is not related to a credibility problem of monetary policy, but to the fact that there is no independent, diversified economy monetary impulses could be transmitted to. Accordingly, also from that point of view, very small countries are often considered to be potential candidates for currency unions.

In the following subsections, the paper focuses on three features that appear to be significantly more pronounced in euroised/dollarised countries than in similar countries with a different monetary regime and that are likely to have contributed in an important way to the sustainability of the regime.

1. Large fiscal transfers from anchor country to the CU members

Size may be an important factor in explaining why some countries are more engaged in trade than other countries, but cannot explain why trade is heavily concentrated with the anchor country. The OCA literature explains this concentration through the use of a common currency that reduces transaction costs and thus leads to stronger trade integration. However, there is still a potential puzzle: how were currency unions, mainly comprising microstates with a rather high degree of specialisation, sustainable when the potential for asymmetric shocks was very large?²¹ One answer relates to the role of significant fiscal transfers within the common currency area.

The question of fiscal transfers has implicitly been taken up Edwards (2001) who finds that dollarised countries do have a similar fiscal record as non-CU members, suggesting that dollarisation does not have the disciplinary effects on fiscal policy commonly attributed to the regime. His detailed analysis of Panama's record revealed that the country has heavily relied on IMF support and has also been a large recipient of development aid, provided by the US, multilateral development banks and other governments on bilateral terms. Nitsch (2002) points out that some of the dollarised island economies, like Guadeloupe, receive substantial subsidies from the respective anchor countries.²² However, neither Edwards nor Nitsch provide comprehensive evidence on the issue of fiscal transfers between CU members.

Based on the data of the CIA World Factbook and of the OECD Development Assistance Committee (DAC) the role of fiscal transfers in existing currency unions can be generalised (Annex 1). There are indeed significant flows of fiscal transfers and/or development aid from Denmark, France, the UK, the US, Australia and New Zealand to many of the regions/countries that use their respective currencies:

- 12 countries (Faeroe Islands, Greenland, French Guyana, Guadeloupe, Martinique, Reunion, St. Pierre and Miquelon, Bhutan, Palau, Guam and the Marshall Islands) are identified in the CIA World Factbook as receiving “substantial transfers” from their respective anchor countries;

²¹ Edwards and Magendzo (2002) present evidence that macroeconomic volatility – measured by the standard deviation of GDP growth – is indeed higher in dollarised countries than in countries with a domestic currency of their own.

²² As a second observation, Nitsch notes that the CU subgroup includes country pairs with historically strongly distorted trade patterns, like in the case of Denmark and Greenland, where Denmark had for more than 150 years a monopoly of trade with the island.

- From 1996 – 2000, 22 CU members (Kiribati, Nauru, Tonga, Tuvalu, Cameroon, Central African Republic, Chad, Comoros, Congo Republic, Côte d’Ivoire, Equatorial Guinea, Gabon, Niger, Senegal, Togo, Montserrat, Mayotte, Micronesia, St. Helena, Cook Islands, Niue, Tokelau) received from their anchor countries more than 20% of development aid,²³ the island states among them even close to 100%.²⁴

Actually, the data reveals that with the exception of some ECCA countries, the European microstates, Guinea-Bissau and the South African CU members all countries listed in Box 1 have received financial assistance from their anchor countries in such an amount that they might be qualified as financially dependent countries.

Table 3: The relevance of ODA for CFA Franc Zone Countries

Country	Aid per capita (in USD)		Aid as % of GNI		Aid as % of imports of goods and services	
	1994	1999	1994	1999	1994	1999
Benin	48.0	34.0	17.5	9.0	39.1	25.2
Burkina Faso	44.0	36.0	23.5	15.5	83.1	50.4
Cameroon	57.0	30.0	10.0	5.0	35.0	15.7
Central African Rep.	51.0	33.0	19.9	13.3	61.9	44.7
Chad	33.0	25.0	18.5	12.4	50.3	36.6
Comoros	n.a.					
Congo, Rep.	145.0	49.0	23.9	8.4	19.1	7.0
Côte d’Ivoire	118.0	29.0	23.1	4.3	46.4	8.9
Equatorial Guinea	n.a.					
Gabon	169.0	39.0	4.9	1.2	8.6	1.9
Guinea-Bissau	162.0	44.0	77.7	25.7	160.6	55.9
Mali	47.0	33.0	25.3	14.0	54.0	35.8
Niger	43.0	18.0	24.6	9.4	80.9	41.3
Senegal	79.0	58.0	18.3	11.4	38.1	30.3
Togo	31.0	16.0	13.5	5.2	23.0	9.4
Memo						
Low income countries	13.0	9.0	2.9	2.2	13.7	7.9
Middle income countries	10.0	9.0	0.6	0.4	2.2	1.5
Low & middle income countries, Sub-Saharan Africa	34.0	20.0	7.2	4.1	20.2	10.6

Source: World Bank

This conclusion is supported by the fact that in many cases the amount of official development assistance is quite substantial. With regard to the dependent island states this view can only be supported by qualitative evidence provided by the CIA World Factbook (Annex 1). For the CFA Franc Zone countries, however, the relevance of development aid can be evaluated by a comparison with other countries included in the World Bank’s statistics on aid dependency (Table 3). The data suggests that in

²³ It should be noted that even from a donor perspective, CU members – despite their small size - are major recipients of DAC member aid. This is the case for France and New Zealand (OECD 2001, Table 34).

²⁴ As Annex 1 shows this result is not restricted to this particular period.

most CFA countries aid flows contribute significantly to gross national income (GNI) and are a substantial source of financing for imports.

Finally, the data suggest that being a CU member raises the probability to receive a significant share of development aid from one particular donor country. An analysis of the contribution of net official aid of seven donor countries²⁵ to total development aid received by 179 developing countries shows that there are only 65 countries²⁶ that in the period 1981–2000 received more than 20% of their development aid from one particular country. 32 of these 65 countries were CU members (Table 4). Also the share of transfers from the anchor country in total transfers is significantly higher for CU members.²⁷

Table 4: Developing and emerging economies that received more than 20% of their total development aid from one particular donor (ranked by the period 1981-2000)

Rank	Country	1961-2000	1966-2000	1971-2000	1976-2000	1981-2000	Donor
1	French Polynesia		99.3%	99.3%	99.4%	99.4%	FR
2	New Caledonia		99.0%	99.1%	99.2%	99.1%	FR
3	Mayotte					97.8%	FR
4	St Helena	98.2%	98.0%	97.6%	97.2%	96.5%	UK
5	Oman					96.2%	US
6	Tokelau				93.0%	92.4%	NZL
7	Turks, Caicos				90.9%	90.0%	UK
8	Niue				89.1%	87.8%	NZL
9	Montserrat				81.3%	83.8%	UK
10	Anguilla				83.4%	79.2%	UK
11	Costa Rica	67.0%	64.1%	6.17%	63.9%	76.6%	US
12	Papua New Guinea		82.6%	79.8%	76.2%	72.6%	AUS
13	Gabon		64.6%	65.9%	66.8%	67.2%	FR
14	Cook Is				71.0%	66.1%	NZL
15	Korea, Rep. of	61.5%	57.1%	54.5%	57.6%	65.1	US
16	Iran	53.60%	55.00%	53.20%	60.20%	63.20%	GER
17	UK Virgin Islands				68.3%	63.0%	UK
18	Congo, Rep.		57.2%	56.2%	57.1%	58.1%	FR
19	El Salvador	57.0%	52.3%	49.0%	50.9%	57.4%	US
20	Egypt	41.8%	35.6%	39.5%	47.2%	51.1%	US
21	Cote d'Ivoire		51.9%	50.6%	50.9%	51.0%	FR
22	Chile		27.6%	31.9%	36.1%	48.2%	FR
23	Mauritius			40.9%	45.5%	46.8%	FR
24	Algeria	58.6%	54.2%	49.2%	45.8%	44.3%	FR
25	Djibouti		61.9%	55.7%	47.5%	44.1%	FR
26	Comoros		52.9%	46.1%	37.0%	41.1%	FR
27	Central African Republic		47.0%	44.2%	43.3%	40.5%	FR
28	Cameroon		38.3%	37.9%	38.1%	40.4%	FR
29	Venezuela					38.70%	GER
30	Haiti	48.8%	43.7%	38.4%	36.4%	38.1%	US

²⁵ Australia, France, New Zealand, United Kingdom, United States, Belgium, Germany and the Netherlands.

²⁶ Vanuatu is mentioned twice since it received more than 20% of its development aid from France and Australia.

²⁷ It has to be noted, however, that the ECCA members among these 32 countries receive the largest share of their development aid from the UK, and not the US.

31	Guatemala	49.8%	43.9%	39.0%	35.3%	36.3%	US
32	Tunisia	29.3%	29.9%	32.3%	33.9%	35.9%	FR
33	Uruguay		25.60%	28.50%	32.40%	34.30%	GER
34	Fiji		27.5%	29.9%	32.6%	34.1%	AUS
35	Honduras	40.8%	37.0%	34.1%	31.0%	32.2%	US
36	Senegal		37.8%	34.4%	33.6%	32.2%	FR
37	Liberia	44.1%	42.2%	35.4%	30.6%	30.7%	US
38	Chad		37.7%	34.9%	31.8%	30.1%	FR
39	Madagascar		34.9%	31.2%	29.3%	29.7%	FR
40	Morocco	29.4%	28.1%	28.6%	28.0%	29.3%	FR
41	Tonga		24.0%	26.8%	28.1%	29.2%	AUS
42	Togo		25.4%	26.2%	27.0%	28.5%	FR
43	Benin	49.1%	45.8%	39.4%	33.4%	27.5%	UK
44	Panama	49.0%	43.0%	35.8%	31.3%	26.2%	US
45	Tuvalu				24.0%	25.7%	AUS
46	Antigua, Barb				27.2%	25.4%	UK
47	Iraq					24.7%	FR
48	Peru	34.5%	28.2%	23.6%	24.1%	24.7%	US
49	Vanuatu			26.0%	26.8%	23.8%	FR
50	Niger		29.4%	25.0%	23.6%	23.5%	FR
51	Seychelles				23.0%	23.4%	FR
52	Vanuatu		14.2%	16.6%	19.7%	23.3%	AUS
53	Equatorial Guinea					23.2%	FR
54	Swaziland			19.2%	19.5%	22.5%	US
55	Kiribati		16.3%	18.4%	21.0%	22.3%	AUS
56	Brazil	19.3%	20.8%	23.2%	24.8%	22.2%	GER
57	Columbia		17.4%	19.8%	22.2%	22.1%	GER
58	Samoa		19.5%	20.1%	21.5%	21.8%	AUS
59	Solomon Islands		14.3%	16.7%	19.7%	21.8%	AUS
60	Burkina Faso		29.2%	24.9%	22.0%	21.4%	FR
61	Argentina	24.4%	28.0%	30.4%	25.8%	21.2%	GER
62	Mali		24.1%	21.6%	20.8%	20.9%	FR
63	St Kitts Nev				28.4%	20.9%	UK
64	Jamaica		25.3%	22.9%	21.0%	20.7%	US
65	Dominica				26.9%	20.6%	UK
66	Mauritania		21.0%	17.0%	17.4%	20.0%	FR
Average CU			48.47%	46.54%	51.50%	50.97%	
Average CU excl. CFA					62.40%	64.50%	
Average non-CU			36.74%	33.09%	35.03%	38.15%	
<i>Ratio CU/non-CU</i>			<i>132%</i>	<i>141%</i>	<i>147%</i>	<i>134%</i>	
<i>Ratio CU/non-CU excl. CFA</i>					<i>178%</i>	<i>169%</i>	

* CU=currency union (CU members are in bold font); CFA=Members of the CFA Zone in Africa.

Source: OECD, own calculations

Over time the regional concentration of aid flows has diminished, in particular in the case when relations between the donor and the recipient country are characterised by a common colonial past. This is most evident when analysing the share of UK aid in total development aid to its former colonies, which in some cases (e.g. Gambia, Tanzania, Uganda, Zambia) has dropped from more than 60% to as low as 5 – 10% (Annex 3). Whereas the same tendency can be observed with regard to the CFA Franc

Zone countries (Annex 2), the percentage of development aid these countries have received from France over the last twenty years – 20% to 60% – has remained sizeable.

Whereas substantial fiscal transfers from the anchor countries have been identified as an important contribution to the sustainability of about one-half of the existing currency unions, there are other CU members that sustain the exchange rate regime without any major financial assistance. Actually, this is the group of relatively rich dollarised countries, basically comprising the European microstates, the ECCA countries and Panama.²⁸ A closer look reveals that growth and development of these countries relies on two pillars: offshore banking and tourism.

By developing an economic structure based on finance and tourism, the microstates build an economic structure conducive to real and financial integration with their anchor countries, overcoming the “home market bias” of their anchor countries. Whereas the first pillar, finance, is the sole creation of the local authorities and their tax policies, the second pillar, tourism, relies also on the rich endowment of natural and cultural attractions. For both pillars, the countries exploit their other comparative advantage, namely their political stability, which provides an exceptional safety both for persons as well as for savings.

Of course, the use of the same currency as the much larger neighbouring country has supported the development of both pillars. The communality of currency with a much larger financial system is indeed an advantage when developing banking activities for residents in the larger area, because all banking and financial operations with the anchor countries can be conducted without exchange rate risks and at minimum transaction costs.

Similarly, tourism was fostered by the absence of transaction and information costs related to currency issues. The use of the same currency is particularly helpful for tourists paying only short visits.²⁹ Since tourism expenditures in OECD countries are rather sensitive to the current state of the business cycle,³⁰ this may also at least partly explain the findings of Rose and Engel (2000) that CU members tend to have more synchronised business cycles than non-CU members despite them being rather specialised in the production of goods.

2. Significant activities in offshore banking

The Financial Stability Forum has compiled in 2000 a list of 37 off-shore centres, of which 23 can be considered as euroised/dollarised or similar economies (FATF, 2000).

²⁸ According to Edwards and Magendzo (2002) it is the performance of the ECCA countries which lead to the econometric result that, with other things given, CU members grow at a faster rate than countries with a domestic currency. The European microstates are not included, due to a lack of data.

²⁹ For example, 75% of the 9.4 million visitors of the Principality of Andorra in 1999 were day trippers, i.e. they did not spend the night in the Principality.

³⁰ OECD countries are contributing some 70% of world tourism trade.

Table 5: Off-shore financial centres, 2000

(Euroised/dollarised countries are marked with an asterisk)

Andorra*	Liechtenstein*
Anguilla*	Macau
Antigua*	Malta
Aruba	Marshall Islands*
Bahamas*	Mauritius
Bahrain	Monaco*
Barbados*	Nauru*
Belize*	Netherlands Antilles
Bermuda*	Nevis
British Virgin Islands*	Niue*
Cayman Islands	Panama*
Cook Islands*	Saint Lucia*
Costa Rica	Samoa
Cyprus	Samoa*
Gibraltar*	Seychelles
Guernsey*	St Kittis*
Isle of Man*	St Vincent*
Jersey*	Turks & Caicos Islands*
Lebanon	Vanuatu

Source: Financial Stability Forum

The existence of well-developed financial centres in some of these countries is not a recent phenomenon. For instance, Monaco always profited from the absence of exchange rate risks with the neighbouring larger economy (France), the very moderate level of risk premia (due to political stability), and the existence of tax incentives and other legal motives (e.g. bank secrecy) to deposit funds in the Principality. In the Caribbean, the first offshore operations date back to the 1930s, under British rule. Panama's financial offshore centre goes back to the early 1970s, when some of these small economies, as a combination of the country's policy of liberalisation and the sudden increase of international liquidity (the so-called petrodollar phenomenon). The latest cases to develop in Europe (Andorra, San Marino) reflect the capital movement liberalisation in larger economies (Italy, France, Spain) in the early 1990s, in an environment where progress towards tax harmonisation in the EU was still muted.

In the European Microstates and Panama, as the most prominent cases of euroisation/dollarisation regimes successfully maintained over long periods, the number of banks and assets per capita are far higher than in the economies of the reference currency.

In the Caribbean, the offshore financial sectors may, in some cases, consist of a very large number of offshore banks, which are legally established there, but do not have a physical presence. The fees collected for licensing represent an important source of government revenue for the countries concerned (Suss, Williams and Mendis, 2002). In the British Virgin Islands, for instance, fees collected from the registration of 314,000 international business companies in the local offshore centre account for 55 percent of government revenue or 13 percent of GDP (end-2000 data). None of these financial companies operates as a bank on the islands.

Table 6: Banking sector in the European Microstates and in Panama

Number of banks	Andorra	Liechten- Stein	Monaco	San Marino	Pro memoria: euro area	Panama	Pro memoria: USA
Number of banks*	9	15	40	8	7,685	80	9805 ^{##}
Implied number of banks per 1 million inhabitants	134	469	1,250	396	26	28	36
Total assets (EUR bln)	10	25	46	3.7**	15,400	44.7	7,142.5.1
Total assets per capita (EUR)	149,300	781,300	1,437,500	137,000	51,300	15,411	25.874
Assets to GDP %	770	3,500	5,750	586**	250	398	61.5
Liquid assets/total assets (%)	66**			81***		≈ 24.3	4.7
Loans/total assets(%)	17**			19**		≈ 58.9 [#]	85.9

Source: for European Microstates: Authors' compilation, inter alia, from information provided by national regulators. Data mostly apply to the year 2000. For Panama: IMF, Banking Association of Panama, FDIC, own calculations. Data apply to September 2000. *Including foreign subsidiaries. **1999 ***1997 [#]including loans to non-residents. ^{##}including Savings Institutions. USD computed at EUR/USD September 2000 average value.

Considering the case of European Microstates and Panama, the development of the financial centres in these countries has followed similar patterns:

- First, the financial centres mainly serve non-residents. In Monaco, even 90% of the banking customers are said to be non-residents. The deposit base of San Marino's banking system relies to 54% on non-residents. As for the balance sheet structure, in European Microstates liquid assets by far dominate on the asset side, indicating that the primary activity of the banks is to intermediate funds between foreign investors and (mainly) euro area capital markets; in contrast, loans play only a negligible role with less than 20% of total assets. In Panama, to the contrary, only half of all liabilities are foreign liabilities; accordingly, loans to the domestic economy account for about 50% of total loans.
- Second, albeit there is no central bank, some – albeit limited – independent institutional infrastructure exists. In Panama – a country dollarised since 1901 – some central bank functions were already performed by the Banco Nacional de Panama, a state-owned credit institution create in 1904. It acted as the financial agent for the Central Government and ad official clearing house for the banking system. In 1998, the “Superintendencia de Bancos” was created, marking the start of a major effort to reform the regulatory and supervisory framework of the banking system. European Microstates, to the contrary, did not have any authority performing Central Bank functions. This changed, however, in San Marino in 1986 when the Istituto di Credito Sanmarinese was founded, whose main tasks are

to perform treasury and tax collection services, co-ordinate the banking system and administer the required reserves; maintain relationships with foreign financial and international institutions and manage financial transactions with foreign counterparties. In 1993, similar institutions were founded in Andorra (the Institut Nacional de Finances) and Liechtenstein (the Financial Services Authority).

- Third, tax privileges for non-residents and other legal incentives are at the centre of the development of the financial systems. In many respects, these policies are necessary for the authorities to trigger large capital inflows and ensure a continuous balance of payment surplus, which is needed to import high-power money. In the list of 43 tax havens published by the OECD in 2000 (OECD, 2000), 25 countries are either euroised or dollarised.³¹
- Fourth, there is a recent tendency to enhance multilateral or bilateral co-operation. At multilateral level, several euroised/dollarised countries have undertaken steps to implement the recommendations against money laundering published by FATF³². At bilateral level, for instance, Liechtenstein and Switzerland have reached in 1980 a “Currency Agreement”. Pursuant to the agreement, the Swiss National Bank collects and integrates data on Liechtenstein banks and does not publish them separately from Swiss aggregates. The largest Liechtenstein banks are members of the Swiss Banking Association, and also benefit from the full integration into the Swiss RTGS payment system, SIC. More recently, a Monetary agreement has been reached also between the French Government (on behalf of the European Community) and the Principality of Monaco (Monetary Agreement, 2002). Among others, the agreement authorises credit institutions in Monaco “to participate in interbank settlement and payment and securities settlement systems in the European Union” at the same conditions as French banks (Article 10) and requires Monaco to apply EU legislation on prudential supervision and prevention of systemic risks to payment and security settlement systems (Article 11).

The importance of the existence of a strong banking sector in euroised/dollarised economies derives from the fact that the banking system can, by borrowing abroad (e.g. from parent institutions), act as lender of last resort in the absence of an autonomous central bank. The banking system is also effectively playing an important role within the domestic economy as it has been at the centre of many of the preferential (tax) policies implemented to attract funds³³ and therefore grown to dimensions far beyond the relative size of the underlying economies.

³¹ Andorra, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Cook Islands, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Isle of Man, Jersey, Liberia, Liechtenstein, Maldives, Malta, Marshall Islands, Mauritius, Monaco, Montserrat, Nauru, Netherlands Antilles, Niue, Panama, Samoa, San Marino, Seychelles, St. Vincent and the Grenadines, St. Lucia, St. Christopher & Nevis, Tonga, Turks & Caicos, US Virgin Islands.

³² At June 2002, the following euroised/dollarised countries remain in the “black list” compiled by the FATF to pencil jurisdictions not complying with international standards against money laundering: Bahamas; Cook Islands; Cook Islands; Marshall Islands; Nauru; Niue; St. Vincent and the Grenadines.

³³ Simultaneously, the granting of tax privileges was conducive to three crucial areas of the economy (Fischer 1982, p. 297): government finances, the balance of payments and the banking system. In

3. Specialisation on tourism

Among the countries for which data are available, the European microstates and the ECCA countries – with the exception of Montserrat – are top performers in international tourism, both with regard to tourist arrivals per inhabitant and tourism receipts as a share of GNP (Table 5).

Table 5: Countries most heavily exposed to tourism, 1998/1999

Rank	Country	Tourist arrivals per inhabitant	Rank	Country	Tourism receipts/GNP
1	Andorra	34.71	1	Turks & Caicos Isl.	164.00%
2	Samoa	20.66	2	Maldives	88.80%
3	Cook Islands	14.60	3	Anguilla	65.12%
4	British Virgin Islands	13.74	4	Saint Lucia	51.92%
5	Macau	11.13	5	Antigua, Barb	51.32%
6	Cayman Islands	11.12	6	Aruba	42.94%
7	Aruba	9.76	7	Macau (China)	40.03%
8	Monaco	8.73	8	Bahamas	35.78%
9	Guam	7.38	9	Barbados	29.41%
10	Turks and Caicos Islands	6.68	10	St Kitts Nev	27.03%
11	Bermuda	5.57	11	St Vincent, G	25.75%
12	Bahamas, The	5.29	12	Vanuatu	24.67%
13	Virgin Islands	3.97	13	Bermuda	23.00%
14	Anguilla	3.87	14	Dominica	21.30%
15	Antigua and Barbuda	3.46	15	Cyprus	20.67%
16	Cyprus	3.19	16	Jamaica	20.54%
17	Bahrain	3.09	17	Seychelles	19.96%
18	Malta	3.08	18	Grenada	19.69%
19	Palau	2.88	19	Malta	18.93%
20	Tonga	2.88	20	Samoa	17.57%
21	Brunei	2.81	21	Belize	16.59%
22	Saint Kitts and Nevis	2.17	22	Fiji	15.67%
23	Austria	2.14	23	Dominican Republic	15.65%
24	Luxembourg	1.89	24	Mauritius	13.11%
25	Barbados	1.87	25	Croatia	12.38%

Source: World Tourist Organisation, own calculations

these areas, tax privileges made a virtue out of the problems potentially associated to these three areas as a result of euroisation.

The government finance problem associated with the adoption of a foreign money is the loss of seignorage. For most ECCA countries and European microstates the contribution of their banking systems to tax revenues is however much higher than any seignorage that could have been gained by the use of a local currency (Suss/Williams/Mendis 2002). This tax revenue was achieved by low tax rates, which attracted many non-residents to become taxpayers in the microstates. The balance of payments problem has been solved because the large capital inflows triggered by the given tax incentives – together with income earned from tourism – has assured a continuous balance of payments surplus which is needed to import high-powered money. The banking system problem is solved because thanks to the different tax levels applied in the ECCA countries/European microstates and the anchor countries banking can flourish without taking serious risks. Accordingly, banks in the microstates collect deposits and invest them in highly liquid assets abroad.

VI Summary and conclusion

In sum, from an OCA perspective the available evidence on sustained cases of euroisation/dollarisation can be interpreted as follows:

1. Country size is an important economic factor. Indeed, all of the long-standing and sustained cases are small countries, many of them are even microstates. This does not seem to be a coincidence because the costs of the loss of domestic money are more limited for smaller countries since they have less scope for autonomous monetary and exchange rate policies. In addition, euroisation/dollarisation facilitated the efforts of these countries to enlarge the span of their international economic dimensions, which they had to do in any case due to the tiny home market.
2. Many sustained cases of euroisation/dollarisation owe their sustainability to sizeable fiscal transfers from their respective anchor countries.
3. Sustained cases of euroisation/dollarisation are associated with rapid economic development when they are able to exploit given comparative advantages to their respective anchor countries. In the case of the ECCA countries and the European microstates, the main success stories among the group of CU members, these comparative advantages have been the combination of natural beauty and cultural heritage as well as the extraordinary degree of political stability. To exploit these advantages, the countries implemented policies promoting the financial and real integration of the local economy with the economy of the anchor countries and the global economy. In the case of the ECCA countries and European microstates, this kind of promotion basically relies on the granting of tax privileges to non-residents, thereby attracting foreign capital. Again, albeit euroisation/dollarisation can be regarded as an instrument that facilitated the implementation of these policies, it is difficult to argue that euroisation/dollarisation was the main driving force in making these policies successful.

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Annex 1: Sustained cases of euroisation/dollarisation – aid flows and tax haven status

Country	Rose 2000	OECD ODA set	Glick/Rose 2001	Percentage of official aid flows to the respective currency unions provided by the anchor country								OECD tax haven status ⁺
				Average 61-65	Average 66-70	Average 71-75	Average 76-80	Average 81-85	Average 86-90	Average 91-95	Average 96-2000	
Australia	1	no	1									
Christmas Islands (Australia)	no	no	no									
Cocos Islands (Australia)	no	no	no									
Kiribati (Australia)	1	1	1	n.a.	3.6%	5.0%	16.0%	18.1%	18.2%	23.5%	29.3%	
Nauru (Australia)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	52.2%	63.3%	X
Norfolk Island (Australia)	no	no	no									
Tonga (Australia)*	1	1	1	n.a.	7.7%	20.1%	23.9%	29.3%	32.0%	28.6%	26.6%	X
Tuvalu (Australia)	1	1	1	n.a.	n.a.	n.a.	17.4%	19.2%	21.0%	34.7%	27.8%	
CFA												
Benin (CFA)	1	1	1	n.a.	50.1%	31.1%	20.5%	18.6%	23.5%	20.4%	17.1%	
Burkina Faso (CFA)	1	1	1	n.a.	55.1%	39.1%	24.5%	20.3%	21.4%	25.3%	18.7%	
Cameroon (CFA)	1	1	1	n.a.	41.0%	36.7%	28.9%	39.8%	33.1%	54.2%	34.5%	
Central African Rep. (CFA)	1	1	1	n.a.	63.8%	48.7%	54.8%	55.1%	37.3%	39.6%	29.9%	
Chad (CFA)	1	1	1	n.a.	54.8%	50.0%	38.6%	31.8%	32.9%	34.0%	21.7%	
Comoros (CFA)	1	1	1	n.a.	93.5%	91.7%	20.6%	30.3%	47.9%	37.0%	49.0%	
Congo, Rep. (CFA)	1	1	1	n.a.	63.1%	51.5%	53.3%	47.1%	74.9%	67.2%	43.0%	
Côte d'Ivoire (CFA)	1	1	1	n.a.	60.3%	48.8%	50.3%	60.5%	55.3%	53.6%	34.9%	
Equatorial Guinea (CFA)	1	1	1	n.a.	n.a.	n.a.	n.a.	20.0%	29.1%	18.2%	25.5%	
Gabon (CFA)	1	1	1	n.a.	57.0%	61.4%	65.1%	80.8%	77.3%	82.3%	28.5%	
Guinea-Bissau (CFA)	1	1	1	n.a.	n.a.	n.a.	n.a.	5.3%	5.8%	5.8%	5.5%	
Mali (CFA)	1	1	1	n.a.	38.6%	26.0%	20.2%	24.4%	21.0%	19.8%	18.5%	
Niger (CFA)	1	1	1	n.a.	55.6%	32.2%	24.1%	20.1%	18.6%	29.5%	25.7%	
Senegal (CFA)	1	1	1	n.a.	58.3%	38.2%	39.4%	28.8%	27.9%	38.3%	33.9%	
Togo (CFA)	1	1	1	n.a.	20.4%	22.2%	20.9%	23.8%	27.4%	34.4%	28.4%	
Denmark	1	no	1									
Faeroe Islands (Denmark)	no	no	1	Substantial annual subsidy (15% of GDP, \$135 million in 1999) from Denmark.								
Greenland (Denmark)	1	no	1	The economy remains critically dependent on substantial support from the Danish Government (\$380 million in 1999), which supplies about half of government revenues.								

ECCA													
Anguilla (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
Antigua And Barbuda (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
Dominica (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
Grenada (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
Montserrat (ECCA) - aid from UK	no	1	no	n.a.	n.a.	n.a.	73.9%	77.5%	78.9%	79.4%	99.5%		X
St. Kitts-Nevis (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
St. Lucia (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
St. Vincent and Gr. (ECCA)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
France	1		1										
French Polynesia (France)	no	1	1	n.a.	99.3%	98.5%	99.8%	99.6%	99.2%	99.1%	n.a.		
Mayotte (France)*	no	1	no	n.a.	n.a.	n.a.	n.a.	98.5%	97.2%	97.2%	98.2%		
New Caledonia (France)*	1	1	1	n.a.	99.8%	97.9%	99.3%	99.4%	99.5%	98.6%	n.a.		
Wallis & Futuna (France)	no	1	1	n.a.	n.a.	n.a.	99.6%	50.0%	n.a.	n.a.	n.a.		
Andorra (France/Spain)	no	no	no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
French Guiana	1	no	1	The economy is tied closely to that of France through subsidies.									
Guadeloupe (France)	1	no	1	The economy depends on France for large subsidies.									
Martinique (France)	1	no	1	The chronic trade deficit requires large annual transfers of aid from France.									
Monaco (France)	no	no	no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
Reunion	1		1	The economic well-being depends heavily on continued financial assistance from France.									
St. Pierre and Miquelon (FRANCE)	1		1	The islands are heavily subsidized by France (annual payments about \$60 million).									
India	1	1	1										
Bhutan (India)	1	1	1	The government of India finances nearly three-fifths of Bhutan's budget expenditures. Economic aid: \$73.8 million (1995). GDP \$2.3 billion (2000 est.)									
Italy	1	no	1										
San Marino (Italy)	no		no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Vatican City (Italy)	no		no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
South Africa	1	1	1										
Lesotho (South Africa)	no	1	1										
Namibia (South Africa)	no	1	1										
Swaziland (South Africa)	no	1	1										

Switzerland	1		1									
Liechtenstein (Switzerland)	no	no	no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	X
United States	1		1									
Belize (US)	1	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	46.6%	26.1%	n.a.	X
Liberia (US)	1	1	1	56.7%	83.3%	59.3%	30.3%	56.5%	30.6%	16.2%	19.5%	X
Micronesia, Fed.States (US)*	no	1	no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	83.2%	
Northern Marianas IIs. (USA)*	no	1	no	99.8%	99.7%	98.1%	99.1%	96.8%	92.9%	n.a.	n.a.	
Palau (US)*	no	1	no	Heavily financial assistance from the US. Economic aid: \$155.8 million (1995). The Compact of Free Association provides up to \$700 million in US aid over 15 years in return for furnishing military facilities.							67.2%	
Panama (US)	1	1	1	90.8%	86.3%	58.5%	51.7%	46.9%	50.3%	54.7%	-47.2%	X
American Samoa (US)	1	no	1	Substantial transfers from the US Government. Budget: revenues: \$121 million (37% in local revenue and 63% in US grants). Financial support from the US, more than \$40 million in 1994.								X (?)
Bahamas (US, former UK)	1	1	1									X
Barbados (US, former UK)	1	1	1									X
Bermuda (US, former UK)	1	1	1									
Guam (US)	1	no	1	Large transfer payments from the US Treasury (\$143 million in 1997); the Guam Treasury, rather than the US Treasury, receives federal income taxes paid by military/civilian Federal employees stationed in Guam.								
Marshall Islands (US)	no	1	no	US Government assistance is the mainstay of the economy, providing roughly \$65 million in annual aid (GDP: approx. \$105 million in 1998 (ppp))								X
Puerto Rico (US)	no		no	Duty-free access to the US								
Turks & Caicos Islands (US)	1	1	no									X
Virgin Islands (U.S.) (US)	1		no									X
Virgin Islands (U.K.) (US)	1	1	no									X
United Kingdom	1		1									
Falkland Islands (UK)	1	1	1	n.a.	66.3%	100.0%	100.0%	98.9%	100.0%	22.5%	n.a.	
Gibraltar (UK)	1	1	1	n.a.	94.9%	100.0%	100.0%	99.6%	96.0%	n.a.	n.a.	X
Guernsey (UK)	no	no	no									X
Isle of Man (UK)	no	no	no	The Isle of Man enjoys free access to EU markets.								X
Jersey (UK)	no	no	no									X
St. Helena (UK)*	1	1	1	100.0%	100.0%	100.0%	100.0%	99.6%	98.8%	95.5%	92.0%	

New Zealand	1	no	1									
Cook Islands (New Zealand)*	1	1	no	n.a.	n.a.	n.a.	90.6%	79.7%	76.2%	57.1%	51.6%	X
Niue (New Zealand)	1	1	no	n.a.	n.a.	n.a.	94.4%	92.5%	90.8%	86.5%	81.3%	X
Pitcaim Island (New Zealand)	no		no									
Tokelau (New Zealand)	no	1	no	n.a.	n.a.	n.a.	95.3%	93.1%	91.2%	91.6%	93.9%	

Tax Havens that are not currency unions: Aruba - Kingdom of the Netherlands, Bahrain, The Republic of Maldives, Netherlands Antilles - Kingdom of the Netherlands, The Republic of Seychelles, The Republic of Vanuatu. Accordingly 29 out of 35 tax havens (= 83%) are currency unions.

* **Mayotte:** The economy and future development of the island are heavily dependent on French financial assistance, an important supplement to GDP. **New Caledonia:** In addition to nickel, the substantial financial support from France is key to the health of the economy. **Tonga:** The country remains dependent on sizable external aid and remittances from Tongan communities overseas to offset its trade deficit. **Micronesia:** Present concerns include overdependence on US aid, accounting for 57% of consolidated government revenue. In 1996, the country experienced a 20% reduction in revenues from the Compact of Free Association under which Micronesia receives \$1.3 billion in assistance over a 15-year period until 2001.

Northern Marianas Islands: The economy benefits substantially from financial assistance from the US. The rate of funding has declined as locally generated government revenues have grown. **Palau:** The government relies heavily on financial assistance from the US. The Compact of Free Association provides Palau with up to \$700 million in US aid over 15 years in return for furnishing military facilities. **St. Helena:** The economy depends largely on financial assistance from the UK (\$5 million in 1997, almost one-half of annual budgetary revenues). **Cook Islands:** Trade deficits are made up for by remittances from emigrants and by foreign aid, overwhelmingly from New Zealand. Economic aid - recipient: \$13.1 million (1995); note - New Zealand continues to furnish the greater part

Annex 2: Developing countries with the highest share of ODA net flows from France, based on 91 – 95 averages

Country	Rank	1966 – 70	1971 -75	1976 – 80	1981 – 85	1986 – 90	1991 – 95	1996 - 2000
Singapore	30	n.a.	n.a.	n.a.	9.7%	-8.8%	19.9%	n.a.
Benin	29	50.1%	31.1%	20.5%	18.6%	23.5%	20.4%	17.1%
Venezuela	28	n.a.	n.a.	n.a.	26.0%	13.0%	20.5%	16.1%
Seychelles	27	n.a.	n.a.	21.4%	25.2%	32.9%	22.6%	13.1%
Vanuatu	26	n.a.	21.6%	39.0%	32.3%	17.8%	23.0%	22.1%
St. Lucia	25	n.a.	n.a.	n.a.	3.2%	0.3%	23.0%	18.5%
Guinea	24	-15.6%	n.a.	-1.5%	12.5%	27.4%	23.4%	14.9%
Burkina Faso	23	55.1%	39.1%	24.5%	20.3%	21.4%	25.3%	18.7%
Morocco	22	24.9%	31.9%	22.6%	19.5%	34.0%	26.8%	37.1%
Niger	21	55.6%	32.2%	24.1%	20.1%	18.6%	29.5%	25.7%
Mauritania	20	44.6%	15.1%	7.1%	13.3%	23.1%	29.9%	13.7%
Madagascar	19	56.8%	40.8%	27.7%	30.3%	32.8%	32.4%	23.3%
Chad	18	54.8%	50.0%	38.6%	31.8%	32.9%	34.0%	21.7%
Togo	17	20.4%	22.2%	20.9%	23.8%	27.4%	34.4%	28.4%
Comoros	16	93.5%	91.7%	20.6%	30.3%	47.9%	37.0%	49.0%
Senegal	15	58.3%	38.2%	39.4%	28.8%	27.9%	38.3%	33.9%
Djibouti	14	98.9%	96.9%	61.1%	49.2%	40.9%	39.0%	47.1%
Central African Rep.	13	63.8%	48.7%	54.8%	55.1%	37.3%	39.6%	29.9%
Qatar	12	n.a.	n.a.	n.a.	29.0%	25.5%	46.9%	n.a.
Kuwait	11	n.a.	n.a.	n.a.	13.5%	25.2%	51.3%	n.a.
Côte d'Ivoire	10	60.3%	48.8%	50.3%	60.5%	55.3%	53.6%	34.9%
Cameroon	9	41.0%	36.7%	28.9%	39.8%	33.1%	54.2%	34.5%
Algeria	8	84.7%	66.1%	51.6%	32.8%	33.8%	54.3%	56.4%
Tunisia	7	16.5%	23.5%	25.8%	24.6%	19.7%	55.1%	44.3%
Mauritius	6	n.a.	18.0%	40.4%	47.1%	43.0%	66.5%	30.5%
Congo, Rep.	5	63.1%	51.5%	53.3%	47.1%	74.9%	67.2%	43.0%
Gabon	4	57.0%	61.4%	65.1%	80.8%	77.3%	82.3%	28.5%
Mayotte	3	n.a.	n.a.	n.a.	98.5%	97.2%	97.2%	98.2%
New Caledonia	2	99.8%	97.9%	99.3%	99.4%	99.5%	98.6%	n.a.
French Polynesia	1	99.3%	98.5%	99.8%	99.6%	99.2%	99.1%	n.a.

* memo: Mali (31), Guinea-Bissau (64), Wallis & Futuna data only available for 1976 – 1985 (99.6%, 50%)

Source: OECD, own calculations

Annex 3: Developing countries with the highest share of ODA net flows from the UK, based on 91 – 95 averages

	Rank	1966 – 70	1971 -75	1976 – 80	1981 – 85	1986 – 90	1991 – 95	1996 - 2000
Gambia	30	66.8%	39.5%	18.3%	7.6%	11.2%	7.0%	5.8%
Zambia	29	67.0%	38.1%	18.4%	9.6%	8.4%	7.0%	11.8%
Tuvalu	28	n.a.	n.a.	75.3%	55.1%	36.2%	7.1%	n.a.
Uganda	27	45.5%	12.2%	5.6%	7.3%	7.0%	7.4%	15.8%
Lesotho	26	77.9%	31.8%	14.6%	6.8%	6.9%	7.8%	10.8%
Botswana	25	80.7%	30.6%	16.6%	11.7%	7.4%	8.0%	7.3%
Swaziland	24	92.7%	25.9%	28.8%	10.2%	-7.9%	8.3%	-0.6%
St. Lucia	23	n.a.	n.a.	37.7%	21.2%	17.4%	8.3%	-26.4%
Malawi	22	63.0%	44.1%	24.0%	13.6%	10.7%	8.6%	15.5%
St. Vincent and Gr.	21	n.a.	n.a.	59.7%	19.4%	10.9%	9.2%	5.7%
Guyana	20	36.3%	18.8%	7.4%	4.2%	8.7%	9.4%	31.3%
Zimbabwe	19	33.0%	53.4%	64.4%	12.0%	7.7%	9.7%	9.7%
Kiribati	18	96.4%	91.1%	70.2%	52.0%	20.6%	10.2%	n.a.
Nigeria	16	17.1%	11.1%	11.8%	10.8%	13.3%	10.4%	9.6%
Barbados	16	53.0%	44.4%	7.4%	2.7%	-1.4%	10.6%	10.7%
Solomon Islands	15	89.3%	94.2%	70.7%	33.5%	15.9%	12.7%	n.a.
Grenada	14	n.a.	n.a.	12.7%	1.3%	8.9%	13.0%	6.8%
Vanuatu	13	95.4%	74.7%	50.5%	32.3%	20.1%	13.7%	n.a.
Malaysia	12	37.2%	21.6%	8.1%	1.3%	13.6%	14.0%	1.0%
Dominica	11	n.a.	n.a.	52.0%	16.7%	16.5%	19.0%	30.2%
Belize	10	84.2%	69.3%	57.0%	42.2%	16.3%	21.9%	29.5%
Falkland Islands	9	66.3%	100.0%	100.0%	98.9%	100.0%	22.5%	n.a.
St. Kitts-Nevis	8	n.a.	n.a.	58.0%	32.2%	20.9%	22.7%	7.9%
Hong Kong, China	7	13.7%	33.5%	15.1%	-0.7%	1.6%	39.9%	n.a.
Virgin Islands (U.K.)	6	n.a.	n.a.	88.8%	62.9%	56.0%	42.1%	n.a.
Antigua And Barbuda	5	n.a.	n.a.	34.6%	18.3%	26.4%	43.8%	13.1%
Anguilla	4	n.a.	n.a.	100.0%	85.4%	64.7%	69.8%	97.1%
Montserrat	3	n.a.	n.a.	73.9%	77.5%	78.9%	79.4%	99.5%
Turks & Caicos Islands	2	n.a.	n.a.	94.1%	89.8%	88.9%	94.2%	85.4%
St. Helena	1	100.0%	100.0%	100.0%	99.6%	98.8%	95.5%	92.0%

* Guersney data only available until 1990 (96%).

Source: OECD, own calculations