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THE ECONOMICS OF THE EUROPEAN MONETARY UNION AND SOME IMPLICATIONS FOR ASIA

RAMKISHEN S. RAJAN
Research Associate
The Institute of Policy Studies
e-mail: ramkishen_rajan@ips.org.sg

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ABSTRACT

Most policy-makers and businessmen in Asia have understandably been preoccupied with the ongoing East Asian crises, and have not paid much attention to the developments in the European Union (EU). This neglect is unfortunate, as on January 1, 1999, the international monetary system will experience a truly momentous and historically unprecedented event (or more specifically, a key event in an ongoing process), with the introduction by eleven EU economies of a common currency, to be known as the 'Euro'. The aims of this paper are threefold. First, it describes the major events leading up to the introduction of the Euro (including the Maastricht Treaty) and the time-table for the completion of the entire process. Second, it surveys and elaborates on the recent literature on the economic costs and benefits of monetary union. Third, it highlights the main implications of the EMU and Euro for Asia.

1. Introduction and Motivation

The 1990s have undoubtedly been among the more turbulent decades for the international monetary system in the recent past. The virtual breakdown of the European Exchange Rate Mechanism (ERM) in 1992-93 was followed by the Mexican crisis and the accompanying Tequila effect in 1994-95. Since July 1997, when the Thai baht was devalued, acute currency-cum-financial crises have continued to plague East Asia. Into 1998, the East Asian crises have deteriorated into full-blown economic crises.

Most policy-makers and businessmen in Asia have understandably been preoccupied with the ongoing East Asian crises, and have not paid much attention to the developments in the European Union (EU)[1]. This neglect is unfortunate, as on January 1, 1999, the international monetary system will experience a truly momentous and historically unprecedented event (or more specifically, a key event in an ongoing process), with the introduction by selected EU economies of a common currency, to be known as the 'euro'[2].

About two thirds of global foreign reserves (excluding gold) are denominated in US$, about half of world exports are invoiced in US$, between one third and two fifth of all outstanding international bonds and world private portfolios are denominated in US$ and slightly over two fifth of foreign exchange (forex) turnover involves the US$ (Table 1). The corresponding figures for the EU currencies *in aggregate* (i.e. EU-15) are about 25 percent, 34 percent, 37 percent and 31.5 percent respectively. With the EU in aggregate constituting about one third of global output, one fifth of world trade (excluding intra-euro trade) and half of the global forex turnover (geographically), the euro is expected to easily overtake the Japanese yen in terms of being the world's second most important currency, and could

[1] In similar vein, Toyoo Gyothen (1997, p.1), President of the Japanese Institute for International Monetary Affairs, has noted that the "Japanese people have not paid sufficient attention to either the continuous efforts of the Europeans toward economic integration or the strong political determination that has supported them."

[2] The original six members of the European Community in 1957 were France, Germany, Italy and the Benelux countries of Belgium, Luxembourg and the Netherlands. Denmark, Britain and Ireland joined in 1973, while Greece did so in 1981. Portugal and Spain joined in 1986, followed by Austria, Finland and Sweden in 1995. Thus, current membership stands at 15 (EU-15).

possibly even challenge the hegemony of the US$ over the medium- and longer-terms (Tables 2-4)[3]. As such, benign neglect of the EMU will be to Asia's strategic disadvantage.

Table 1

CURRENCY DENOMINATION OF THE US DOLLAR, YEN AND EUROPEAN CURRENCIES IN THE WORLD, 1996 (% SHARE OF WORLD TOTAL)

	Official Reserves	Exports	Outstanding International Bonds[b]	World Private Portfolio[b]	Forex Turnover[d]
US dollars	63	48	34.2	39.8	43.5
Japanese yen	7	5	15.7	11.5	10.5
EU-15[a]	25	34	37.1[c]	36.9[c]	31.5
Others	5	13	13.0	11.8	14.5

Notes: a) Mainly aggregation of deutschmark, Pound sterling, French franc, ecu and Italian lira. See footnote 2 in text on the EU-15 countries
b) End 1995
c) All European currencies
d) Data for 1998

Source: Compiled by author from BIS (1997, 1998), EC (1997), Funke and Kennedy (1997), Temperton (1997) and Portes and Rey (1998)

Table 2
Relative Importance of the US, Japan and the EU in the World, 1996
(% Share of World Total)

	Output	Trade[b]	Population	Forex Reserves[c]	Forex Activity[d]
US	26.7	18.3	4.6	4.1	18
Japan	21.0	10.3	2.2	11.7	8
EU-15[a]	30.8	20.4	7.0	19.5	50[e]

Notes: a) See footnote 2 in text on the EU-15 countries
b) Goods and services trade excluding intra regional trade, which is about 60 percent of EU aggregate trade
c) Geographical distribution; Mid 1998 data
d) Mid 1998 data (approximation)
e) Britain alone constitutes 32 percent of global geographical distribution

Source: Compiled by author from Bergsten (1997), BIS (1997, 1998) and World Bank (1998)

Table 3

[3] Recent studies on the potential international role and strength of the euro (relative to the US$ and the yen) include Bergsten (1997), Economist (1998), Nomura (1998), Persuad (1997), Portes and Rey (1998), Rehman (1998) and Temperton (1997). Market participants (viz. Nomura and Persuad of JP Morgan) seem to hold the view that the euro will strengthen against the US$ even in the short-term.

Selected Economic Indicators, 1996

	Population (millions)	GDP ($ billions)	Reserves[c] ($ billions)	Average Real GDP growth, 1990-96 (%)	Average Inflation Rate, 1990-96 (%)	Average Unemployment Rate, 1990-96 (%)	Trade Balance (% of GDP), 1990-96
US	263.0	7253.8	74.8	2.0	2.7	6.3	-1.6
Japan	125.2	5134.3	183.3	1.7	0.8	2.6	2.5
EU-15[a]	371.8	8427.6	376.3	1.8	3.6	10.2	-0.8
EU-11[b]	289.0	6804.9	284.5	1.9	3.5	10.6	-0.9

Notes: a) See footnote 2 in text on the EU-15 countries
b) EU-15 excluding Greece, Denmark Sweden, UK
c) Excludes gold as at October 1996
Sources: IMF (1997) and Funke and Kennedy (1997)

Table 4
Selected Financial Indicators, 1995
$ billions (unless otherwise stated)

	Daily Average Forex Turnover	Stock Market Capitalization	Bank Assets[c]	Debt Securities[d]	
				Public	Private
US	244.4	6857.6	5000.0	6728.0	4322.6
Japan	161.3	3667.3	7382.2	3447.7	1877.1
EU-15[a]	261.0	3778.5	14818.0	4809.9	3863.5
EU-11[b]	778.5	2119.4	11971.6	3903.8	3088.6

Notes: a) See footnote 2 in text on the EU-15 countries
b) EU-15 excluding Greece, Denmark Sweden, UK
c) 1994 data. All banks with the following exceptions: commercial banks in Greece, Luxembourg; domestically licensed banks for Japan (excluding trust funds); commercial banks plus cooperative banks for Sweden; and commercial banks plus savings banks plus savings and loans associations for the US
d) Based on nationality of issuer
Sources: BIS (1997, 1998) and IMF (1997)

1.1 Aims and Scope of the Paper

The aims of this paper are threefold. First, it describes the major events leading up to the introduction of the euro (including the Maastricht Treaty) and the time-table for the completion of the entire process. Second, it surveys and elaborates on the recent literature on the pros and cons of monetary union. Third, it highlights the main implications of the EMU and euro for Asia.

2. Historical Background to and Evolution of the EMU[4]

The impetus towards European integration began immediately after World War II, with European federalists (such as Jean Monnet and Robert Schuman of France and Paul Henri Spaak of Belgium) hoping for the creation of a unified European state (*political union*) as the key towards enhancing intra-European harmony. Concrete foundations for European *economic union* were laid some 50 years ago[5], with the establishment of the Organisation for European Economic Cooperation (OECC) in 1948[6], followed by the Treaty of Paris, which established the European Coal and Steel Community (ESCS) in 1951. Other economic agreements of significance included the establishment of the European Economic Community (EEC) in 1957 (following the Treaty of Rome), the European Free Trade Area (EFTA) in 1960, the Common Agriculture Policy (CAP) in 1962 and the completion of the European customs union in 1968.

The origins of *monetary union*[7] began with the drafting of the Werner Report (named after Pierre Werner, the then Prime Minister of Luxembourg) in 1970, which envisioned full monetary integration within ten years. Significantly, the Werner Report is seen as the forerunner to subsequent moves towards the EMU. As required by the Werner Report, intra-European exchange rate variability was reduced through the creation in 1972 of the 'Snake'. This arrangement was supposed to limit bilateral exchange rate movements to +/-2.25 percent bands around the central parity (except Italy and Britain, which were granted 6 percent fluctuation bands). The lack of macroeconomic policy convergence, the OPEC oil shock, as well as the breakdown of the Bretton Woods System, effectively led to the redundancy of the Snake (and thus the Werner Plan more generally), as it failed in its primary goal of ensuring exchange rate stability.

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[4] This section draws on Currie (1997), Dallmeyer, et al. (1997), Eichengreen (1993), Rehman (1997) and Wyplosz (1997).

[5] Defined here as the creation of a single market for commodities and factors of production.

[6] This was subsequently renamed the Organisation for Economic Cooperation and Development (OECD) in December 1960.

[7] Defined as the conduct of common monetary policy and the irrevocable fixing of exchange rates (introduction of a single currency in the limit).

In 1979, a second attempt at exchange rate stabilisation was undertaken, with the creation of the European Monetary System (EMS). Unlike the Werner Report which saw monetary union as an explicit goal, the EMS was relatively more modest in ambition, conceiving only the establishment of a European Exchange Rate Mechanism (ERM). Following a major initiative by then President of the European Community Commission, Jacques Delors, an agreement was reached in 1986 to implement the Single European Act (SEA), which committed the member countries to the formation of a Single Market by end 1992 (thus the SEA is often simply referred to as 'EC 1992'). The progress towards a full-fledged *economic and monetary union* was fortified and accelerated by the publication of the Delors Report, which recommended full monetary union within ten years, including the establishment of a common currency and a single region-wide monetary policy[8].

2.1 Maastricht Treaty

Based on the Delors Report, in December 1989, the member country governments drafted the Maastricht Treaty, which was formally ratified in 1992. The Report envisaged the creation of the EMU in three stages, culminating with the introduction of a single currency. With this Treaty, the European Economic Community (EEC) became defunct, being replaced by the European Union (EU).

Stage I involved revoking capital controls within the EU and between third countries, and allowing for greater exchange rate stability[9]. Countries were also expected to adopt annual Programmes to work towards 'economic convergence' (to be discussed below). While stage I was partly achieved by July 1990, with France and Italy among the last of the 'major' European countries to remove all remaining capital controls, the goal of enhanced exchange rate stability was shattered by the onset of the ERM crisis in September 1992. The crisis led to the virtual collapse of the ERM. The British pound and the Italian lira were

[8] See Eichengreen (1993) for a succinct comparison of the Werner and Delors Reports. Also see Rehman (1997).

[9] The motivation for this is based on the so-termed 'impossible trinity' – countries cannot pursue an independent monetary policy, fixed exchange rate (common currency) and full capital mobility simultaneously.

withdrawn from the ERM, three other currencies (viz. the Spanish peseta, Irish punt and Danish krona) were devalued, and there was a substantial widening of the bands within which the currencies could fluctuate (to +/- 15 percent), with the exception of the Dutch-Guilder-German DM band, which remained at the +/- 2.25 band[10]. One of the paradoxes of the ERM crisis is that it seemed to strengthen the desire by key European countries to see through the Maastricht Treaty.

Stage II, which has been in effect since January 1, 1994, was intended to provide the groundwork for future monetary integration. In particular, it entailed the granting of formal independence to the national central banks and the creation of a European Monetary Institute (EMI). The EMI was aimed at laying the foundations for the establishment of an independent European Central Bank (ECB), as well as in assisting member countries in achieving the 'convergence criteria' (Table 4). The convergence criteria is a set of requirements which countries had to meet by end 1998, before being allowed to participate in the EMU (Stage III).

[10] See Eichengreen et al. (1996a,b) and Johnson and Collingon, eds. (1994) for discussions on the ERM crisis. Poul Thois Madison of Aalborg University has reminded me that the Danish krona returned to its old value relative to the Deutshmark a fortnight after the devaluation.

Table 4
Convergence Criteria

INFLATION RATE	Average inflation rate of a country (as measured by the consumer price index) must not exceed that of the average of the three lowest country inflation rates by more than 1.5 percent.
EXCHANGE RATE	A country must have participated in the ERM of the EMS and kept within the normal fluctuation margins for the last two years without realignment[a].
INTEREST RATE	A country must have an average long-term nominal interest rate that does not exceed the average of the three countries with the lowest inflation rates.
BUDGET DEFICIT	The government budget deficit must not exceed 3 percent of GDP unless the ratio has declined 'substantially and continuously' and is close to the reference value or if the value is exceeded temporarily.
GOVERNMENT DEBT	The outstanding government debt must not exceed 60 percent of GDP unless the ratio has declined 'substantially and continuously' and is close to the reference value or if the value is exceeded temporarily.

Note: a) Following the ERM crisis, the 'normal' fluctuation band was +/- 15 percent rather than +/- 2.25
Source: Dallmeyer et al. (1997), Currie (1997), IIMA (1997) and Rehman (1997)

The convergence criteria was further modified at the Dublin Summit of the European Council of Ministers in December 1996, with the proviso that the 3 percent budget deficit-to-GDP requirement was to be permanent (i.e. it had to be met even after the countries entered the EMU, the reference year being 1997). Following pressures from Germany, circumstances under which the deficit and debt ceilings may be breached, with the accompanying punishments to be imposed thereof, have also been elaborated upon. This, and other provisions relating to fiscal probity, under the banner of the 'Stability and Growth Pact', are highlighted in Table 5[11].

[11] It is argued that the primary rationale for the insistence on budgetary and debt ceilings in addition to the convergence criteria by the Germans, was to ensure that development of a 'stability culture' among member countries. De Grauwe (1997), Eichengreen (1993) and Wyplosz (1997) critique the economic rationale for the convergence criteria, while De Grauwe (1997) and Eichengreen and Wyplosz (1998) do so in the case of the Stability and Growth Pact.

Table 5
Stability and Growth Pact

Surveillance and Sanctions	Participating Member countries are obliged to submit stability Programmes to the European Commission every year and are subject to sanctions for failure to act effectively on excessive deficits. The stability Programmes will specify their medium-term budgetary objectives, together with an adjustment path for the government surplus or deficit ratio and the expected path for the government debt ratio.
EXCESSIVE DEFICIT	A deficit over 3 percent ceiling shall be considered to be excessive.
EXCEPTIONS	Government deficit over 3 percent ceiling value resulting from an economic downturn shall be considered to be exceptional only if there is an annual fall of real GDP of at least 2 percent. An annual fall of real GDP of between 0.75 to 2 percent may also be considered exceptional if determined by the Council of Ministers (COM) on the basis of further supporting evidence.
Structure and Scale of Sanctions	If a member country fails to act in compliance with the successive decisions of the COM, the COM will impose sanctions, including a non-interest bearing deposit. The non-interest bearing deposit should be converted into a fine after two years if the government deficit of the 'violating country' continues to be excessive. The amount of the deposit (fine) will be made of a fixed component equal to 0.2 percent of GDP and a variable component equal to one-tenth of the excess of the deficit over the reference value of 3 percent of GDP. There will be an upper limit of GDP.

Source: Currie (1997), IIMA (1997) and Rehman (1997)

2.2 Phasing in of the Euro

In 1995, an EMI report detailed the introduction of Stage III in three phases. It is set to begin on January 1, 1999 by the latest (and as early as 1997). Exchange rates between the participating countries are to be irrevocably fixed and a single European currency is to

be issued[12]. As part of Phase A, following the formal recommendation of the European Commission on March 25, 1998, the first wave of the members to the EMU (i.e. 'core' members) was chosen on May 3, 1998. Once chosen, a country is obliged to join the EMU. Britain, Denmark and Sweden opted out from being considered for union membership[13], while Greece did not qualify on the basis of the convergence criteria - thus EU-11[14] (Tables 6 and 7). The six-member executive board of the ECB (which succeeded the EMI) was announced on May 3, 1998 and the bank held its first meeting on June 2, 1998[15].

[12] During the Madrid European Council Summit in December 1995, it was decided to name the currency 'euro' rather than 'ecu' (acronym for European currency unit). The euro is to be subdivided into 100 'cents'. A decision at the Dublin Summit was also taken to specify a new exchange rate arrangement (ERM 2) between the euro ('ins') and the non-EMU European members ('outs' or 'pre-ins'). A +/- 15 percent bandwidth was agreed upon in April 1997 (Rehman, 1997).

[13] To be sure, Britain and Denmark have formal opt-out clauses, which they exercised (the concession being made to Denmark following the rejection of the referendum of the Maastricht treaty by the Danes in June 1992). Sweden does not have a formal opt-out, but decided against seeking membership and *formally* did not fulfill the convergence criteria, thus overcoming the obligation of 'qualifying' members having to join the monetary union.

[14] Obstfeld (1998) discusses the choice of the first wave members within the context of the convergence criteria, including the growth and stability pact. While all the eventual member countries made impressive steps towards attaining the necessary criteria, there was clearly some laxity in the application of the criteria, so as to ensure that most of the EU members were included. For instance, the debt-to-GDP ratios of Belgium and Italy, with ratios over 120 percent qualified, while the expected burgeoning of the public debts of Germany and France (given their unfunded public pension systems against the backdrop of aging populations) was ignored by the European Commission in their recommendations (despite the reservations of the EMI). The need to include France and Germany are obvious, given that they constitute more than 45 percent of the GDP of EU-15 (see Table 6).

[15] Wim Duisenberg, the head of the EMI, is the first President of the ECB. He has agreed to relinquish his post prior to the eight-year tenure to make way for Jean-Claude Trichet, the current Governor of the Bank of France. This agreement was a last minute political compromise to appease the French, following a rather public discord. The ECB bears close resemblance to the German Bundesbank (Dallmeyer, et al., 1997 and Rehman, 1997), and is the pivotal entity in the new European System of Central Banks or ESCB (the national central banks being the other members). Dornbusch, et al. (1998) discuss the technical issues relating to monetary policy instruments and targets that will be faced by the ECB come January 1, 1999.

Table 6
Key Convergence Criteria in the EU-15

	Government Debt[c] (% of GDP)		Budget Deficit (% of GDP)		Inflation[d] (%)		Long-Term Interest Rates[e] (%)
Maastricht Criteria	**60.0**		**3.0**		**3.2**		**7.7**
	1997	1998[f]	1997[f]	1998[f]	1997	1998[f]	1998[f]
Austria	66.1	64.7	2.5	2.3	1.1	1.5	5.6
Belgium	122.1	118.1	2.1	1.7	1.4	1.3	5.7
Britain[a]	53.4	53.0	1.9	0.6	1.8	2.3	7.0
Denmark[a]	65.1	59.5	-0.7	-1.1	1.9	2.1	6.2
Finland	55.8	53.6	1.1	-0.3	1.3	2.0	5.9
France	58.0	58.1	3.0	2.9	1.2	1.0	5.5
Germany	61.3	61.2	2.7	2.5	1.4	1.7	5.6
Greece[b]	108.7	107.7	4.0	2.2	5.2	4.5	9.8
Ireland	66.3	59.5	-0.9	-1.1	1.2	3.3	6.2
Italy	121.6	118.1	2.7	2.5	1.8	2.1	6.7
Luxembourg	6.7	7.1	-1.7	-1.0	1.4	1.6	5.6
Netherlands	72.1	70.0	1.4	1.6	1.8	2.3	5.5
Portugal	62.0	60.0	2.5	2.2	1.8	2.2	6.2
Spain	68.8	67.4	2.6	2.2	1.8	2.2	6.3
Sweden[a]	76.6	74.1	0.8	-0.5	1.9	1.5	6.5

Notes: a) Opted out of the EMU
b) Did not qualify for the EMU
c) Maastricht definition
d) Within 1.5 percent of average of lowest three
e) Within 2 percent of average inflation's lowest three, January 1998
f) As of March, 1998

Sources: OECD (1998) and the Economist (1998)

Table 7
Country Weights in Euro-GDP, 1997 (%)

	EU-11	EU-15
Germany	34.3	27.6
France	22.3	18.0
Italy	17.5	14.1
Spain	8.5	6.8
Netherlands	5.7	4.6
Belgium/Luxembourg[a]	4.0	3.3
Austria	3.3	2.7
Finland	1.8	1.4
Portugal	1.5	1.2
Ireland	1.0	1.0
Britain	-	13.2
Sweden	-	2.9
Denmark	-	2.0
Greece	-	1.4

Note: a) See footnote 18 in text
Source: Dornbusch, et al. (1998)

The euro is to be introduced by January 1, 1999, with wholesale financial markets to move to pricing, trading and settling in euro. There is to be no wholesale foreign exchange market in national currencies[16]. In Phase B (to be completed by December 31, 2001), the euro will be introduced on a non-cash basis. In Phase C (to be completed by July 1, 2002), the euro becomes the sole legal tender in the EMU participant nations (Table 8). This protracted conversion to the use of the euro as the sole legal tender has been the source of many debates, with concerns being voiced of the costs involved in the process. Most of the potential problems for businesses seem to be in Phase B, when the euro will be used side by side with the existing national currencies for retail transactions. For instance, rough estimates for the EU-15 countries are that the one-off costs of installing a system of dual pricing for the retailers would be as much as £25 billion or £40 per head for all the EU-15's citizens (Temperton, 1997)[17].

[16] The weekend of January 1-3, 1999 has been termed the 'conversion weekend', as the bulk of government bonds and equity markets in participating countries are converted into the euro.

[17] See Congdon (1997) and Kamm (1998) for other practical problems facing this drawn out conversion to the euro. The European Commission rejected a 'Big Bang' or an 'all-at-once' changeover, as they argued that it would pose 'insurmountable difficulties'.

TABLE 8

The Phased Introduction of the Euro

Phase A Early 1998	Exchange rates are irrevocably fixed against the euro. The ECB and ECSB established to be in charge of EU monetary policy. First wave members of the EMU chosen and bilateral exchange rate parities of member countries to be fixed.
To be completed by January 1, 1999	ECB formally in charge on monetary and foreign exchange policy. Production of euro notes and coins starts. Introduction of euro as book money. Stocks and bonds (particularly for maturities later than January 1, 2002) are denominated in euros. Irrevocable fixing of conversion rates between member countries' currencies and the euro. National currencies remain in circulation as legal tender. The TARGET Settlement System[a] for cross-border payments will become operational.
Phase B To be completed by January 1, 2002 (Maximum duration three years)	Euro banknotes are introduced. Monetary and exchange rate policy interventions to be conducted in euros. Inter-bank, capital, monetary and exchange markets operate in euros. Retailers and service providers must display prices in euros and national currencies. Business transactions may be conducted in either the euro or the national currencies. Withdrawal of national banknotes and coins initiated.
Phase C To be completed by July 1, 2002	Completion of the changeover, as the euro becomes the sole legal tender and the national currencies are withdrawn.

Note: a) Trans-European Automated Real-Time Gross Settlement (RTGS) Express Transfer
Source: Dallmeyer et al. (1997), Currie (1997) and IIMA (1997)

3. Evaluation of the Benefits of the EMU

Benefits of the EMU may be broadly divided into those that are *microeconomic* and those that are *macroeconomic* in nature. Microeconomic or efficiency benefits include reduction in transaction costs, the elimination of exchange rate uncertainties, benefits of transparency and enhanced competition and fortification of the European product market (customs union). Macroeconomic gains include those arising from increased price stability

and generally greater macroeconomic discipline and the economic advantages of a strong single currency (euro). We consider each in turn below.

3.1 Reduced Transaction Costs

The most cited benefit from the introduction of a single currency is the elimination of transaction costs between member countries arising from conversions of national currencies[18]. These cost reductions are estimated at anywhere between 0.1 to 0.6 percent on average (DeGrauwe, 1997) - the higher figure if all 15 countries participate. The cost savings will be unevenly spread between member countries. Smaller economies may see savings of as much as about 1 percent, while gains for the largest nations (such as Germany, France and Italy) may be in the range of about 0.1-0.2 percent. Other transaction cost savings pertain to the financial markets, with cross-border payments becoming far simpler and faster with the introduction of the TARGET system and other EU-wide regulatory mechanisms[19].

3.2 Eliminating Foreign Exchange Uncertainty[20]

The foreign exchange (forex) markets, post-Bretton Woods (system of fixed exchange rates), have generally been acknowledged as being far more volatile than might be warranted by underlying fundamentals such as price levels or real incomes. As noted by Frankel and Meese (1987, pp.117-8), the explanatory power of macroeconomic-based models of exchange rates are ‘disturbingly low’, even ex-post, with forecasts based on lagged spot rate consistently outperforming macroeconomic models.

Drawing on the real options approach to physical investment and trade, the presence of irreversibilities or sunk costs in investment implies that any short-term variability

[18] There currently exist fourteen different currencies among the 15 EU countries, as Belgium and Luxembourg are exchangeable one-for-one, with banks not charging for transactions between the two currencies.

[19] Garber (1998) provides a detailed discussion of the TARGET payment system, which is essentially a cross-border euro electronic payments system.

[20] This section draws on Rajan (1998d).

and uncertainties could, by delaying productive activities, have significant negative repercussions on the real economy[21]. While the empirical literature is lagging, recent studies that provide evidence of a negative impact of exchange rate volatility/uncertainty on investment include Huizinga (1994) and Corbo and Cox (1995). Corbo and Cox and others also find that macroeconomic uncertainty in general has a deleterious impact on investment (also see the broad literature survey by Serven, 1997). Frankel and Wei (1998) have undertaken a *cross-sectional* study of bilateral trade. They find that bilateral exchange rate variability seems to have had a statistically and economically significant negative effect on trade between 1960-85, though the impact - both economic and statistical - has been negligible in 1985-90.

In light of the above, even if one abstracts from the exorbitant economic and social costs of an outright currency crisis, given the typical day-to-day volatility of forex markets, a single currency ought to significantly reduce business costs and provide a more reliable basis for making trade and investment plans. Note that this statement makes two implicit assumptions.

First, currency crises may not always be based on 'fundamentals'. Indeed, Eichengreen, et al. (1996a,b) argue this to be so in the case of the ERM crisis; Sachs, et al. (1996a,b) do so in the case of Mexico; and Rajan (1998a) in the case of the East Asian crises[22].

Second, fixed exchange rate systems are generally unsustainable over the longer-term, without complete coordination of macroeconomic policies (Obstfeld and Rogoff, 1995). Insofar as this is the case, a single currency (backed by sound and consistent macro criteria) would be welfare-superior, given the other benefits entailed (such as reduced transactions costs discussed above).

3.3 Increased Price Transparency and Enhanced Intra-European Competition

[21] See for instance, Dixit and Pindyck (1995) for theoretical discussions of this burgeoning literature.

[22] Note the difference between the existence of macroeconomic imbalances per se and the issue of whether those imbalances were so large as to be inevitably unsustainable (Rajan, 1998a).

A common currency will greatly facilitate direct price comparisons across member countries. Greater price transparency ought to enhance competition between businesses and minimise the scope for price discrimination. Though some price variations between countries may be expected to continue to exist, given physical costs of mobility, information asymmetries, existence of other non-currency related transaction costs and tax differences[23].

The above efficiency gains ought to facilitate greater intra-regional trade and investment flows, hence complementing the moves towards product and factor market integration. Further, by lowering the costs of intra-union transactions, the chance of the Single Market in Europe being net trade creating (welfare improving) increases. However, there is little empirical and theoretical backing to the argument made by the European Commission (1990) that a common currency is a precondition for the success of a single market.

3.4 Reduction of Average Inflation and other Benefits of the ECB

It is argued that among the most important macroeconomic benefits is the expected reduction in the average union-wide inflation rate, as they subordinate their monetary policies to the ECB (which, as noted, is modeled after the inflation-hawkish Bundesbank). The independence and thus the ‘depoliticisation’ of the ECB is particularly important in this regard (Burdekin et al., 1992). As noted by Willett (1995, p.4), "(a) reading of the relevant theory and empirical evidence suggests that there is a strong political case for placing constraints on the scope of government's discretionary macroeconomic policy-making." The rationale is that a central bank that is not susceptible to political or interest group pressures and influences is under no obligation to accommodate fiscal deficits through money creation, and can thus effectively focus on its primary goal of maintaining an anti-inflationary environment.

[23] Indicative evidence of existing market segmentation is seen from the intra-EU price differentials of similar durable products such as automobiles (De Grauwe, 1997).

Cross-country evidence suggests that central bank independence exerts a negative effect not only on the size of the *monetised deficit*, but also on the size of the *overall government deficit*. This is so, because "if the fiscal authority faces an independent central bank committed to anti-inflationary policy, then the expectation that the deficit will not be accommodated tomorrow may deter the government from running a deficit today" (Burdekin and Laney, 1988, p.648). The evidence suggests that countries with `independent' central banks tend to experience lower rates of inflation than do countries with `dependent' ones (see for instance Alesina and Summers, 1993 and Banaian, et al., 1988)[24].

Note that this benefit will accrue asymmetrically, with countries such as Germany, which have a history of low inflation gaining relatively little, while more inflation-prone countries such as Italy, Portugal and Spain benefiting the most. However all countries do benefit, in that there are undoubtedly scale economies to be attained through the pursuit of a common union-wide monetary policy, and by ensuring adequate surveillance of member countries' macro policies (also see next section), hence reducing the possibility of negative spillovers from neighbouring countries.

[24] Granting independence to central banks is however not without its critics (see for instance, Mas, 1995 and Rajan and Asher, 1997, section 5.1). The problems in the case of the EU in particular arise as, while the ECB is in charge of region-wide monetary policy, domestic financial sector supervision is still in the (sovereign) hands of individual central banks (which are the other members of the ECSB).

3.5 Macroeconomic Benefits of the Convergence Criteria

While economists have questioned the theoretical rationale for the convergence criteria (definitely at least the specific quantitative reference points), it must be acknowledged that the criteria have, and will continue to promote macroeconomic stability in the EU members. The importance of ensuring macroeconomic stability arises from the recognition that in an environment characterised by high and variable inflation - which usually tend to be positively correlated (Ball, 1990 and Golob, 1994) - the information content of relative prices tends to be distorted, i.e. there is a `signal extraction' problem *a la* Lucas (1973), which effectively acts as a deterrent to private investment (Greene and Villanueva, 1991 and Serven and Solimano, 1993). Lower inflation ought also to stimulate growth for another reason. Specifically, for given nominal interest rates, lower inflationary expectations ought to reduce real interest rates. As detailed in Rajan (1998b), this in turn ought to stimulate investment and possibly even consumption (if the substitution effect of the interest rate change exceeds the income effect, ignoring the intertemporal effect). Further indicators/results of macroeconomic instability, such as a highly variable and weak exchange rate, as well as high external debt-to-export/GDP ratios, have also been shown to be negatively correlated with physical investment and thus growth (Serven and Solimano, 1993).

3.6 Benefits of a ‘Strong’ Euro

The potential macroeconomic advantages noted in the previous two sections could be gained without a single currency per se (though they are necessary preconditions for the introduction of a common currency which is ‘strong’). Apart from the transaction costs savings noted in section 3, four other economic benefits of a single currency come to mind.

First, there will be no scope for ‘beggar-thy-neighbour’ competitive devaluations by member countries. This problem becomes a matter of particular concern in the midst of a currency crisis. For instance, during the ERM crisis of 1992, the sharp depreciation of Italy’s real exchange rate made Italian exports more competitive vis-à-vis their French and German counterparts in particular. The then EC Commissioner, Mario Monti, is reported to

have stated that "the continuing devaluation of the (Italian) lira would in the long run lead to prolonged disruption in the internal market" (quoted in Eichengreen, 1996, p.4)[25].

Second, the euro ought to facilitate the development of a liquid European bond and equity market without forex risks (Prati and Schinasi, 1997). This will provide greater and more attractive investment and financing opportunities, thus benefiting both investors and savers (Table 4). The relative size of the EU-11 bond market in terms of all publicly issued bonds will be about US$7 trillion - two-thirds that of the US (Table 4). Thus far, France and Germany have announced plans to convert all existing sovereign debts to euros in early 1999 (though the phasing-in time frame allows this to be done by 2002)[26].

Third, a common currency without national boundaries will do away with the need for balance of payments statistics among EU member countries. This in turn ought to reduce the possibility of parochial protectionist demands in case of asymmetrical balance of payments transactions between EU countries. For instance, no one pays any attention to such statistics between various states in the US, and even if they do, it is certainly not a source of tension among the states.

Fourth is the ability of the member countries to benefit from international 'seigniorage', as foreigners may be willing to hold on to the euro, allowing for the member countries to obtain real-resources (this was supposedly one of Charles de Gaulle's primary reasons for wanting a common European currency to challenge the international hegemony – what he reportedly referred to as 'exorbitant privilege' – of the US$). Thus, an international currency could act as a form of an 'interest-free loan' (Portes and Rey, 1998). International seigniorage in the case of the US$ is nicely described by the following quote found in Cohen (1997, p.71):

> The United States has an advantage few other countries enjoy: it prints green paper with George Washington's and Ben Franklin's and Thomas Jefferson's

[25] Further, competitive devaluations in the midst of a currency crisis could exacerbate the problem (both in terms of depth and breadth), as seems to have been the case during the East Asian currency crises in 1997-98 (Rajan, 1998a).

[26] See Pieterse-Bloem (1997) for a discussion of the euro and government bond markets.

> pictures on it. These pieces of green paper are called 'dollars'. Americans give this green paper to people around the world, and they give Americans in return automobiles, pasta, stereos, taxi rides, hotel rooms and all sorts of other goods and services. As long as these foreigners can be induced to hold these dollars, either in their mattresses, their banks, or their own circulation, Americans have exchanged green paper for hard goods."

In the case of the US, it is estimated that this international seigniorage revenue is between US$11 billion and US$15 billion per year (Tavlas, 1998).

Fifth, a single currency would probably allow for easier policy coordination at an international level in general, while enhancing the presence of the EU in world affairs. However, for this advantage to be realised, it is imperative that issues regarding how the euro officials ought to participate and be dealt with in international fora such as the G-7 – do they participate as a group (G-3?) or should a representative from the ECB be included (G-7 plus 1) – be settled quickly (Henning, 1998).

4. Is the EMU an Optimal Currency Area (OCA)?

While accepting the invariable transition costs involved in moving to a complete monetary union (when the euro becomes the sole legal tender), euro-proponents have claimed that the EMU will offer significant and virtually unqualified benefits to the members (and even the global economy). Euro-sceptics, on the other hand, have argued that the costs of such a monetary union will dwarf any potential benefits. These differences in opinions are readily apparent at the policy level, with the opting out of the EMU for the time being by Denmark, Sweden and Britain on the one hand, and the seeming optimism of the first wave member countries and the long line of enthusiastic 'applicants' to the EMU (among Eastern and Central European economies) on the other[27].

[27] See the Economist (November 7, 1998, pp.57-8). Admittedly, political ideology as opposed to economic rationale may have at least partly contributed to the scepticism/optimism (as the case may be) of the various countries concerned towards the EMU.

Economists use the literature of 'optimum currency areas' (OCAs) to evaluate the costs of monetary unions. Specifically, the OCA theory, as pioneered by Mundell (1961) and extended by McKinnon (1963), Kenen (1969) and many others[28], asks the following question: Given that a monetary union necessitates forsaking monetary and exchange rate policy autonomy[29], under what circumstances will the cost involved in doing so be least onerous[30]? The remainder of this section considers the main requirements of an OCA in order to determine the extent to which the EMU satisfies them[31].

4.1 Asymmetric Shocks

The argument here is that the more dissimilar the shocks that hit the member countries in the union, the greater the necessity of maintaining discretionary, counter-cyclical monetary policy to offset/counter the effects of the shocks. In the case of the EMU, the high proportion of intra-union trade (about 60 percent of total EU trade), is suggestive of a high degree of interconnectedness of the economies. Accordingly, it is argued that most shocks will be union-wide rather than country-specific.

However, such an analysis is partial, in that it considers only *demand-side* shocks. There also exist *supply-side* shocks, though the literature is ambiguous on this aspect. Specifically, on the one hand, insofar as most of the trade is *intra-industry* rather than *inter-*

[28] Early literature surveys are by Ishimaya (1975) and Tower and Willett (1975). A recent textbook discussion is found in De Grauwe (1997). Tavlas (1993) provides a recent update of the theory. A succinct, informal discussion is in the Economist (1998). For a pioneering attempt at formalising the OCA theory, see Bayoumi (1994) and Ricci (1997).

[29] This includes renouncing the ability to use money creation as a source of revenue (i.e. domestic seigniorage or inflation tax). Among the EU-15, this is considered to be a significant revenue source only in the case of Greece.

[30] The implicit assumption of the OCA theory is that 'discretionary' macroeconomic policy is in fact both desirable and effective. For instance, Monetarists would argue that nominal variables such as monetary and exchange rate policies (appreciation or depreciation) have no real effects. More generally, as argued by McKinnon (1973), at least in the case of exchange rate policy, the smaller and more open the economy, the less the costs of joining a monetary union (as nominal exchange rate changes will lead to minimal real exchange rate variations, hence having little effect in adjusting external balances, while damaging price stability).

[31] It is important to note that the yardstick of comparison of the EMU is not the status quo of the ERM (which, as the ERM crisis of 1992 revealed, was highly fragile and easily vulnerable to a 'speculative attack'). Rather, it is one of full monetary autonomy with a flexible exchange rate (abstracting from the possibility of maintaining a fixed exchange rate system with the reimposition of capital controls).

industry in character, this suggests similarity in economic structures and thus susceptibility of the economies to similar supply shocks. On the other hand, as noted by Krugman (1993), to the extent that the economic union leads to greater specialisation between the participating countries, the more divergent the production patterns could get, thus making countries vulnerable to industry-specific (rather than common EU-wide) shocks. The extreme scenario could be one of agglomeration of activities in certain regions at the expense of others (de-industrialisation).

Thus, *a priori*, one is not able to determine the impact of a monetary union on industrial structures and production patterns, and accordingly, the extent to which the EMU comes close to being an OCA (as the product structure itself changes with the union)[32]. In an important empirical paper, Frankel and Rose (1997) have found that closer trade integration seems to lead to more closely synchronised business cycles, as demand-side shocks (which are common, EU-wide) dominate the supply-side shocks (that are industry specific). They therefore conclude that the EMU will lead to a greater synchronisation of business cycles among members[33]. The convergence criteria have helped ensure that the business cycles of member countries of the EMU are more synchronised, thus ensuring that a common monetary policy would be appropriate for all member countries.

4.2 Extent of Wage-Price Flexibility

The inability of countries to vary exchange or interest rates in response to altered economic conditions could be overcome if there was a compensating shift in demand elsewhere in one or more other price variables. Accordingly, it is argued that a monetary union will be less costly with a greater flexibility of wages. However, Europe is notorious for extremely rigid wage structures. Indeed, the downside of making prices completely

[32] This is an application of the famous Lucas critique that argues that historical data is of little relevance when analysing future events, given the endogeneity of the underlying structural parameters.

[33] Even if the business cycles in the union are synchronised, there is a question of differing sensitivities to a given monetary policy parameter among the countries. For instance, the short and long-term elasticities of a change in the real economy with respect to interest rates varies widely among European economies (see the Economist, March 28, 1998, p.78).

transparent (section 3.3) could be the possible ratcheting upwards of a participating country's wage demands (so-termed 'envy effects'), thus exacerbating the downward inflexibility of wages.

4.3 Extent of Labour Mobility

Inflexibility of costs could be overcome if the underlying factor of production is sufficiently mobile. Thus, the greater the intra-union mobility of labour, the lower will be the opportunity costs of forsaking monetary/exchange rate autonomy/flexibility[34]. Hence, if there are varying shocks in a union, workers from economically depressed areas could conceivably move to the more robust ones, doing away with the need for demand management policies or alterations in wages. It is, however, apparent that, unlike in the case of the US, cultural, language and general attitudes in Europe towards migration imply that labour is far less mobile between EU member countries than between various US states[35].

4.4 Extent of Federal-State Fiscal Transfers

Given the reluctance of labour to move easily across member countries, as well as the susceptibility of the countries to asymmetric shocks, one way that the adverse impacts of any negative shock may be mitigated in a monetary union in the short run, are through fiscal transfers to the impacted regions[36]. For instance, in the case of the US, the federal fiscal system plays a key regional stabilisation role by ensuring that for every dollar decline in state GDP, federal tax liabilities are automatically reduced about 34 cents and transfers rise about 6 cents (Sala-i-Martin and Sachs, 1992). However there is no centralisation of

[34] Of course, conventional neoclassical theory would suggest that trade and factor flows are substitutes. Thus, the presence of a customs union and corresponding product flows ought to be sufficient to ensure the necessary price flexibility. Conversely, such a world would imply greater specialisation of production among union members, thus possibly exacerbating the possibility of asymmetric supply shocks as noted previously.

[35] While a mere 3 percent of Europeans live in an EU country other than the one they were born it, Blanchard and Katz (1992) have confirmed the importance of intra-state labour migration as playing a major role in adjusting to asymmetric, region or sector-specific shocks within the US.

[36] As noted by Obstfeld and Peri (1998), fiscal transfer schemes that are not temporary (or perceived as such) may preclude necessary structural adjustments from occurring permanently (i.e. the usual insurance versus moral hazard tradeoff).

national tax revenues and expenditures in the EU (neither is it being envisaged as part of the EMU at present), with EU taxes compensating a mere 1 percent of income loss of a member country. The problem is aggravated by the fact that discretionary fiscal policy is largely precluded because of the constraints laid down by the convergence criteria and, particularly, the Stability and Growth Pact.

4.5 Evaluation of the EMU: The EMU is Not an OCA

To recap, a group of countries (geographical entities) is said to be an OCA if the benefits of forming a monetary union outweigh the costs of forsaking monetary and exchange rate autonomy. The preceding discussion seems to suggest that the EMU is far from being an OCA, particularly when compared to the US, a conclusion shared by most economists studying this issue. As succinctly summarised by Salvatore (1997, p.225):

> (M)oving to a full monetary union in Europe without first creating the conditions for its success is like putting the cart before the horse. A major asymmetric shock would result in unbearable pressures with the Union because of limited labour mobility, (and) grossly inadequate fiscal redistribution....This is surely the prescription for major future problems.

The problem of asymmetric shocks negatively impacting EU member countries is of particular relevance, as most of the countries have maintained stringent disinflationary policies (particularly fiscal policy) in order to meet the necessary convergence criteria. This has led to a sharp increase in unemployment in Europe (Table 10). The problem in countries such as Italy and Belgium will be particularly keen, as they need to ensure that their respective debt levels are reduced from their current levels of over 100 percent of GDP (Table 6) if they are to avoid the fines laid out in the Stability and Growth Pact. The same is true for other countries that are at or slightly above the 60 percent debt level[37].

[37] Indeed, in its recommendations as to the first-wave countries to join the EMU, the EMI had cautioned about Italy's and Belgium's debt levels.

Table 10
Unemployment Rates in OECD Countries, 1990 and 1997 (%)

	Actual Unemployment	
	1990	1997
Austria	4.7	6.2
Belgium	8.8	12.7
Britain	5.9	6.9
Denmark	9.4	7.6
Finland	3.5	14.5
France	8.9	12.4
Germany	6.2	11.4
Greece	7.0	10.4
Ireland	12.9	10.2
Italy	9.1	12.3
Luxembourg	1.3	3.6
Netherlands	6.0	5.6
Portugal	4.7	6.7
Spain	15.7	20.8
Sweden	1.6	8.0
EU-15 average[a]	7.9	11.2
USA	5.6	4.9
Japan	2.1	3.4
Canada	8.2	9.2
OECD average[a]	6.0	7.5

Notes: a) Weighted average
Source: OECD (1998)

Thus, rather than focusing solely on the various macroeconomic constraints - which are not based on the OCA theory - efforts ought to have been spent on steps towards reducing labour market rigidities, working towards greater coordination of fiscal policies (in terms of promoting intra-union fiscal transfers), and the like. The need for labour market and other reforms to reduce the extent of structural unemployment (such as reduction of marginal tax rates and other disincentives provided by the perverse tax-to-benefits system)[38] are particularly important, considering that the actual unemployment rate is very close to the

[38] See for instance the more than sixty concrete recommendations provided in the OECD Jobs Study Report to help alleviate Europe's high structural unemployment (OECD, 1994). Little attention seems to have been paid to the recommendations.

structural rate, which is extremely high in Europe[39]. To the extent that the EMU and its various eligibility criteria have diverted attention from the real issues of competitiveness, labour market flexibility and the like (Currie, 1997), there is real concern that the EMU could escalate unemployment and increase intra-union volatility of economic activities. To be sure, there is nothing original in this conclusion, having been reached in the 1950s and 1960s when a monetary union for Western Europe was first in vogue. For instance, Mundell (1961, p.661) noted that "J.E. Meade…argues that the conditions for a common currency in Western Europe do not exist...especially because of the lack of labour mobility." What is however surprising is that little seems to have been done to mitigate this problem, despite having been diagnosed some forty years ago.

Alternately, euro-advocates argue that the EMU may force the participant countries to make the necessary labour market and other institutional reforms required in order to ensure that the EMU remains viable. In other words, the EMU may force the hand of policy-makers to undertake the necessary reforms, essential to ensure the sustainability of the union. Conversely, though, if the unemployment situation does not significantly improve after the single currency comes into operation, the EMU may be blamed for the poor performance, whether or not the problem was caused/aggravated by the EMU (Dornbusch, 1996 and Soros, 1996), thus reducing the popular (and consequently, the political) support for it.

5. Implications for Asia

The above discussion suggests that the EMU is a gamble, albeit possibly a worthwhile one. Assuming that the EMU-advocates are indeed correct in predicting its success and consequent benefits to Europe, its creation does suggest some important implications for Asia.

[39] This is also seen from the fact that the weighted average output gap (i.e. difference between the actual GDP from the potential GDP as a proportion of potential GDP) of the EU-15 is a mere -1.4 percent in 1997 (OECD, 1998).

First, at the broadest level, the overwhelming focus and preoccupation of the Europeans the next two to three years will continue to be on ensuring a smooth introduction and functioning of the single currency, thereby implying that their attention will probably be less on the economic and financial crises plaguing East Asia. Indeed, it is possible that even international agencies and the world financial community (ex-Asia) will also be focused on what will undoubtedly be the biggest event in global capital markets since the breakdown of the Bretton Woods system[40]. This suggests that Asia may need to pay more attention on working towards a resolution of the crisis primarily on its own. In particular, efforts to resuscitate the Japanese proposal for an Asian Monetary Fund (Altbach, 1997) ought to be considered, along with more concerted attempts towards regional surveillance (i.e. 'peer pressure') to ensure macroeconomic discipline is maintained by neighbouring countries[41]. It is interesting to observe that while the ERM crisis seems to have fortified the links between the European economies, there are dangers that the crises in East Asia may have done just the reverse[42].

Second, at a time when much discussion is on-going in Asia in particular on issues relating to the appropriate exchange rate regime (fixed, pegged, floating, target zone, currency board) as well as the costs and benefits of restraints on capital flows (Rajan, 1998c), it may be useful to pay close attention to the European experience towards monetary integration. Indeed, the conceptual framework within which the costs and benefits of the EMU has been discussed (i.e. the OCA literature), would be just as relevant in

[40] This would of course not be so if the regional crises in East Asia blows up into a full-fledged global one. It is unclear at the time of writing this paper as to whether this will occur. Thus, while the non-EU-11 G-7 member countries (viz. Canada, Japan, the UK and the US) had lowered their interest rates in early October in response to the Asian crises and expected global slowdown in output growth, the EU-11 countries did not do so until early December. Even this seems to have been done solely in response to intra-European growth concerns (Barber et al., 1998).

[41] The initiation of a regional monitoring mechanism for members of the Association of Southeast Asian Nations (ASEAN), initially under the charge of the Asian Development Bank, but eventually to be transferred to the ASEAN Secretariat, is a welcome initiative.

[42] There is admittedly a time-dimension that needs to be considered here. Specifically, in the immediate aftermath of the crisis, Spain and Portugal did impose capital controls, Italy and Britain left the ERM, and there was general doubt about the viability of any sort of European monetary cooperation.

analysing Asian monetary integration - and in fact, even global monetary integration (see for instance, the Economist, September 26-October 2, 1998, p.90 for a discussion of the latter).

Third, in discussions of the potential 'strength' of the euro as a reserve currency relative to the dollar, it is often not recognised that the decision of Asian governments in determining the size and currency mix of their respective reserve holdings will potentially make a major difference. Specifically, Japan alone holds about $200 billion in foreign reserves (excluding gold), China, Hong Kong, Singapore, Taiwan and Korea together hold about $400 billion, while India, Thailand and Malaysia hold another $70 billion in aggregate. In comparison, the US holds $70 billion and the EU about $350 billion[43]. Based on 1995 data, about 60 percent of the reserves in selected Asian countries have been held in dollar, this share rising from less than 50 percent in 1980. In contrast, the yen's share has stayed constant at about 13 to 15 percent, while the European currencies in aggregate constituted 25 percent in 1995, down from about 35 percent in 1995 (Tavlas, 1998). Thus, if the euro proves to be a stable currency, there could be optimal portfolio diversification gains to be attained from shifting some of Asia's foreign reserves to the euro away from the dollar in particular (which is generally acknowledged to be 'over-represented' in government and private portfolios). Conversely, the choice of the Asian governments to do so ought to strengthen the euro significantly relative to the dollar.

Fourth, the question of currency mix of reserves in developing Asia will at least partly be dependent on the type of exchange rate regime chosen. Assuming the goal is to maintain a pegged exchange rate, serious consideration should be given to maintaining a trade-weighted peg, with appropriate weight given to the euro (Koh, 1998). The disproportionate weight given to the US$ by the regional economies has been among the primary causes of the crises in East Asia (Rajan, 1998a). For instance, the US$ constituted some 85-90 percent of the total Thai baht basket system and the yen the remaining 10-15 percent. This was despite the fact that Thailand's trade with the EU was as high as that with the US (about 15 percent each of Thailand's global trade), while Japan's was about 25 percent[44].

Fifth, the creation of the single euro bond market, with breadth, depth and liquidity comparable to the US and much more so than Japan (see section 3.6), will provide new funding opportunities for diversification of liabilities by Asian governments and businesses, which have hitherto been very US- and Japan-centric. In fact, Japanese investors have shifted gradually from US Treasury bills to European ones (Luce and Merchant, 1998); while a major bank in China, The State Development Bank, has expressed its keenness in wanting to issue euro-denominated bonds (Kynge, 1998). As Asian economies shift some of the external debt liabilities to euros, there will concomitantly be greater incentive to reduce the dollar reserve holdings in favour of euros (Table 11).

Table 11
Currency Composition of Developing Asia's Country Debt

	US$	Yen	EU	Others	Total
Amount (US$ billions)	344.7	243.4	71.7	85.4	745.1
Share (% of Total)	46.3	32.7	9.6	11.5	100.0

Source: EC (1997)

[43] Figures are as of mid 1998 from the Economist magazine and Tateishi (1998). Data for EU excludes Finland, Greece, Ireland, Luxembourg and Portugal.
[44] Based on 1994 data from UN-ESCAP (1996).

Sixth, Asian companies that have or aim for significant market share in European markets or strategic partnerships with European-based businesses, will have to consider dealing with the euro in their transactions. This ought to both reduce currency risks, while also ensuring they are not at a disadvantage to Eastern and Central European competitors, whose countries are expected to closely peg their currencies to the euro as a prelude to possible full monetary integration in the future (Abramson, 1997 and Robinson, 1998).
Seventh, the EU has not been a major recipient of foreign direct investment (FDI) from Asia, constituting some 5 percent of total flows from developing Asia and 18 percent of Japan's total flow between 1991 and 1995 (UNCTAD, 1996)[45]. Recent data from the same source is suggestive of an increase in interest in the EU as an investment destination for Asian investments. Given that among the EU countries, Asian investments have been most concentrated in Britain, the successful introduction of the euro on the one hand and the continued non-participation of Britain in the EMU on the other, may necessitate a re-think of Asian investment strategy in the region. Indeed, many major international companies such as BMW, General Motors (GM) and Toyota, have sought pledges by the UK government for a definite time-table in which Britain will join the euro, failing which they may reconsider maintaining their operations in the country (Taylor, 1998 and Wighton et al., 1998).
Eighth and lastly, just as in the case of international trade, Asia will need to recognise the EMU as a single, major player in the global financial markets. Accordingly, as much attention must be paid to the euro and the European monetary authorities (ECB) as is paid to the US$ (Fed and Treasury) as well as the yen (Bank of Japan).

6. Concluding Observations

The ERM crisis in 1992-93 led most observers (particularly among those outside Western Europe) to prematurely conclude that the goal of creating the EMU (as laid down by the Maastricht Treaty) was largely 'dead and buried' for the foreseeable future. Paradoxically though, the crisis seems to have provided the impetus for the Western European governments to see through the implementation of the process towards monetary union. It was only after the important Madrid and Dublin Summits in late 1995 and early 1996, that market participants and even the most sceptical of observers became convinced of the existence of the strong political will in the EU (particularly the German and French policy-makers) to ensure that the vision laid down for a single currency became a reality within a stipulated time-frame.

A common consensus among economists analysing the EMU through the lenses of the literature on optimum currency areas, seems to be that the necessary labour market reforms (to ensure greater wage flexibility or intra-union labour mobility), or, in its absence, temporary inter-regional transfer payments mechanisms to cushion against asymmetric shocks ought to have been put in place before the EMU was launched. Some have concluded that the advocacy of the EMU is primarily because of the catalytic role it is

[45] Similarly, according to the same source, investments from developing Asia are insignificant as a proportion of total FDI flows in the EU.

perceived to play towards closer political union in Europe, rather than for any economic rationale. An extreme statement of this is by Martin Feldstein (1992, p.19), who has suggested that the fundamental question in the case of EMU is whether the "political advantages of adopting a single currency outweigh the economic disadvantages?"[46]. While this may be too harsh a view, it nevertheless does highlight the scepticism with which some main-stream economists have viewed the EMU.

From the perspective of extra-EU actors though, the relevant issue is that the euro is inevitable and, insofar as the EMU does prove to be a worthwhile gamble, it can ill-afford to be ignored. While the East Asian financial and economic crises have obviously monopolised the time and energies of regional policy-makers and businesses, the potential significance of the euro in the global economy and a financially integrated European market, dictates that they pay far greater attention to the EMU than has hitherto been the case. It is in this light, that some important implications of the EMU and euro for Asia have been highlighted in this paper.

[46] See Feldstein (1997a,b) and Dornbusch (1996) for a similar conclusion. Indeed, in his seminal paper on OCAs, Mundell (1961, p.661) noted the following:

> (i)n the real world, of course, currencies are mainly an expression of national sovereignty, so that actual currency reorganisation would be feasible only if it were accompanied by profound political changes. The concept of an optimum currency area therefore has direct practical applicability only in areas where political organisation is in a state of flux such as in Western Europe.

The exact political motivations may and do of course vary between countries. For instance, Germany under former Chancellor Helmut Kohl is generally noted to be keen on ensuring that a united Germany is tightly integrated within a larger Europe; while the French desire a union to contain a possible German hegemony while maintaining France's voice in Europe as an equal partner with Germany. Also see the Economist (December 5, 198, pp.107-8).

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