## Assignment Project Exam Help Monetary Systems

### https://powcoder.com

ECOS3010

### Add WeChat powcoder

#### Introduction: International Monetary System

In the first three topics, we have examined closed economies –

## Sequentiate peate mirely in extention with a single fiather of the land of the sequential links between countries are

- In modern world, trade and financial links between countries are increasingly important.
- We furt our focus/to the role of money in economies that encompass more than one country and currency. In this chapter, we will examine
  - how exchange rates are determined;
  - different types of international monetary system: fixed exchange rate, flexible exchange rate and etc. at 100 WCOCCT
  - the rationales for the European countries to adopt a single currency Euro;
  - when a country's currency is more likely to be subject to speculative attack: the Asian Financial Crisis.

• Based on our standard OLG model with money: suppose there are signment Project Exam Help

- Assume that endowments in each country consist of the same goods (a good in country a, is indistinguishable from a good in country b). Individuas are indifficient to the Origin of the goods they purchase. There is free international trade
- $\bullet$  We use superscripts a and b to identify the parameters and variables • growth rates of population: no and prowcoder

  - growth rates of money supply:  $z^a$  and  $z^b$ .
- For simplicity, assume that any new money created by the government is used to finance the government's own purchases.

Assignment Projecty Exam Help

 $e_t = \frac{\text{country } b \text{ money}}{1 \text{ unit of country } a \text{ money}}.$ 

For example, country a is Australia and country b is the U.S.

U.S. dollar

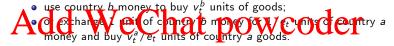
### Add WeChatt powcoder

- The inverse of e<sub>t</sub> indicates the number of Australian dollar per U.S. dollar.
- For each pair of currencies, there are always two exchange rates, depending on which currency serves as the base currency.

## Assignment du Prejecto la xoameri de le p

• use country a money to buy  $v_t^a$  units of goods;

ullet If the old individual owns 1 unit of country b money, he can



• What shall the old individual do?

- No matter which money the old individual holds, he always compares

  As given the property of the second sec
  - If  $v_t^a > e_t v_t^b$ , everyone prefers to use country a money. Country b money is not valued by anyone.
  - Interest of the state of the
  - Only if  $v_t^a = e_t v_t^b$ , all individuals are indifferent between the two monies. For both monies to be valued in equilibrium, the exchange rate  $\underbrace{ \text{Coder}}_{v_t^a = e_t v_t^b} \underbrace{ \text{powcoder}}_{e_t = \underbrace{\frac{1}{t}}_{b}}$
  - We will examine the behavior of this exchange rate under alternative international monetary arrangements.

- The first international monetary system that we consider is called a Standard Intro- 1 Topic that completely share testing property sectors of the two countries:
  - the citizens of each country are permitted to hold over time only the money of their own country; Coder.com
  - In our model, the policy of foreign currency controls implies that
    - the young of each country can hold only their country's money from the following to the next Nat POWCOGET
    - the old can buy goods from any country, but if he wishes to buy goods from foreign country he needs to exchange his money for the foreign currency and then make the purchase.

 With foreign currency controls, demand for country a money comes from country a young individuals and demand for country b money

## Assing from country a young individuals and demand for country a money market level p

$$https://powooder.com$$

It follows that

$$Add \underset{e_{t}}{\overset{V_{t}}{\underset{V_{t}^{b}}{\underbrace{V_{t}^{b}}}} = \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{M_{t}^{b}}{\underbrace{N_{t}^{b}(y^{b} - c_{1,t}^{b})}}} = \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{N_{t}^{b}}{\underbrace{N_{t}^{b}(y^{b} - c_{1,t}^{b})}}} \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{N_{t}^{a}}{\underbrace{N_{t}^{b}(y^{b} - c_{1,t}^{b})}}} \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{N_{t}^{a}}{\underbrace{N_{t}^{a}(y^{b} - c_{1,t}^{b})}}} \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{N_{t}^{a}}{\underbrace{N_{t}^{a}}}}} \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{N_{t}^{a}}{\underset{N_{t}^{a}}{\underbrace{N_{t}^{a}}}}} \underbrace{\overset{e_{t} \cdot h_{t}^{a}}{\underset{N_{$$

The exchange rate  $e_t$  depends on the relative values of the demand for money and the supply of money in the two countries.

• Recall: growth rates of population:  $(n^a, n^b)$ ; and growth rates of money supply:  $(z^a, z^b)$  – we consider **constant growth rates of** 

As significant of the project the focus on salouly

$$\begin{array}{l} & \text{https://p} \frac{v_{t+1}^a}{v_{t+1}^b} / \frac{\frac{N_{t+1}^a(y^a - c_1^a)}{M_{t+1}^a}}{v_{t+1}^b} = \frac{N_{t+1}^a}{v_{t+1}^b} \frac{M_t^a}{M_t^b} = \frac{n^a}{v_t^a}, \\ & \text{Add} \frac{v_{t+1}^b}{v_t^b} = \frac{N_{t+1}^b(y^b - c_1^b)}{M_{t+1}^b} = \frac{N_{t+1}^b}{v_t^b} \frac{M_t^b}{M_t^b} = \frac{n^b}{v_t^b}. \\ & \text{Add} \frac{v_{t+1}^b}{v_t^b} = \frac{n^b}{v_t^b} \frac{N_{t+1}^b}{v_t^b} \frac{N_t^b}{v_t^b} = \frac{n^b}{v_t^b}. \end{array}$$

The path of the exchange rate can be expressed as

$$\frac{e_{t+1}}{e_t} = \frac{\frac{v_{t+1}^a}{v_{t+1}^b}}{\frac{v_t^a}{v_t^b}} = \frac{v_{t+1}^a}{v_t^a} \frac{v_t^b}{v_{t+1}^b} = \frac{n^a}{z^a} \frac{z^b}{n^b} = \frac{n^a}{n^b} \frac{z^b}{z^a}.$$

• What are the factors that determine how the exchange rate changes

## Assignment Project Exam Help

growth rates of population and growth rates of money supply affect the lattrophs exchange at Coder.com

- Population growth: the greater the growth rate of country a's population relative to country b's, the greater the growth rate of the exchange rate.
  - Greater growth of population in one pountry ingher demand for the country's money increases increases the country's money appreciates over time.
  - In general, any factor that contributes to increase in the *demand* for a country's money will drive up the value of the country's money.

# Assignment ear rhoject te Exams Help supply relative to country b's, the lower the growth rate of the exchange rate.

- Greater a swift of the swift of the country's money decreases  $\rightarrow$  the country's money depreciates over time.
- In general, any factor that contributes to increase in the supply of a country's money with wer the value of the country's money.
- A special case is  $e_{t+1} = e_t$  fixed exchange rate.

Fixed Exchange Rates

## Assignment-Project Exam Help

 $z^a = \frac{n^a}{n^b} z^b. (1)$ 

If conttps ose to the Wicelet according to (1). Country a loses its independence in monetary policy.

- Aurty a move and country a more nave the same retent.
   If country b increases its growth rate of money supply z, country a
- If country b increases its growth rate of money supply  $z^p$ , country a will be forced to increase  $z^a$  to keep the fixed exchange rate.
- Country a government cannot acquire its preferred level of seigniorage revenue.

Fixed Exchange Rates

## With foreign currency controls, a country can choose the growth rate of money supply either to fix the exchange rate of to acquire its preferred level of seigniorage, it cannot meet both objectives.

- Example: Tutorial 3 Q6 optimal  $z^*$  that maximizes G?
- Now hupped hat the Cost of the U.S. is 2.0. The (gross) growth rate of the Australia population (n<sup>a</sup>) is 1. Foreign currency controls are in effect Add WeChat powcoder
  - What is the time path of the exchange rate  $(e_{t+1}/e_t)$ ?
  - Suppose Australia wishes to maintain a fixed exchange rate with the U.S.. To accomplish this goal, Australia must set its gross rate of money supply z<sup>a</sup> to what value? Is z<sup>a</sup> = z\*?

 Suppose now that people are free to hold and use the money of any country. We can no longer have two separate money market clearing

## Assignmentent Project Exam Help

$$v_t^a M_t^a + v_t^b M_t^b$$
;

• http:  $S^{den/a}$  powcoder. com  $N_t^a (y^a - c_{1,t}^a) + N_t^b (y^b - c_{1,t}^b)$ ;

• the world's money marked flearing condition 
$$v_t^a M_t^a + v_t^b M_t^b = N_t^a (y^a - c_{1,t}^a) + N_t^b (y^b - c_{1,t}^b).$$
 (2)

• How can we determine the exchange rate?

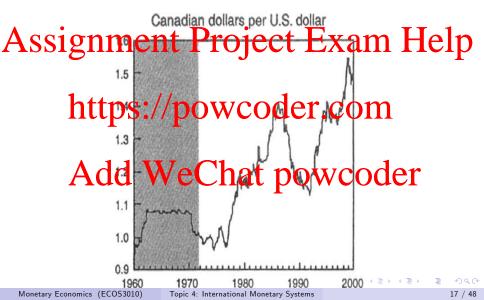
$$e_t = \frac{v_t^a}{v_t^b}$$

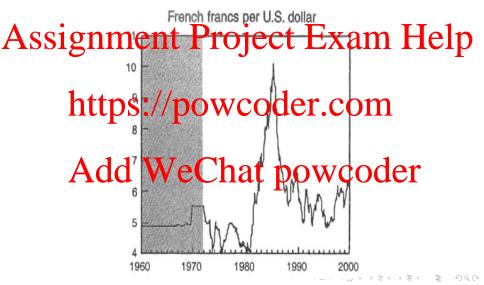
### ssignment Project Exam Help market clearing condition, how can we solve for two unknowns

- There exists an infinite combinations of  $(v_t^a, v_t^b)$ ? that satisfy (2).

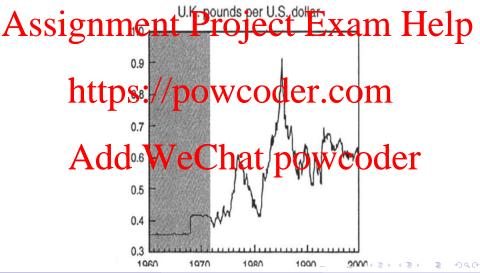
  - In other words, for any positive exchange rate  $e_t$ , we can find an Auilibrium in which is htisfied. powcoder

- o In the absence of the government determination of the Sixthank interior to be. The exchange rate could fluctuate because these beliefs fluctuate.
  - Exchange rate fluctuations need not be tied to changes in real economic positions. DOWCOGET.COM
- Before 1971, the U.S. dollar is pegged to gold at 35 dollars per ounce of gold (the Bretton Woods System). In 1971, the U.S. abandoned the effort to control exchange pates. Afterwards, the worldshap seen tremendous volatility in exchange rate.
  - See following figures for an example of the U.S. dollar against four major currencies.
  - See Table 1 for an illustration of the extreme movements in exchange rates.





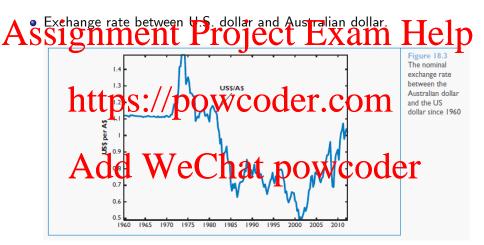




Exchange Rate Fluctuations

## Assignment Project Exam Help

Country	Months	Exchange Rate Movements
France 1	Dec 1973 - Jan 1974	9.4% depreciation of the franc
France Dec 1973 - Jan 1974 9.4% depreciation of the franc German July 3 / Jup 93 W Q40 per Lati G 6 The mark Italy Sep 1992 - Oct 1992 11.3% depreciation of the lira		
Italy	Sep 1992 - Oct 1992	11.3% depreciation of the lira
Japan	Sep 1998 - Oct 1998	10.0% appreciation of the yen
U.K.	Seb 1992 - Oct 1992	11.7% depreciation of the pound
Aud Weenat poweduci		



International Currency Traders

## Assignment Project Exam Help

- A model by King, Wallace and Weber (1992) about international currency traders. Three types of individuals:
  - Alican Or Sountry Dock to Confiner's money;
  - citizens of country b, forced by law to hold only country b's money;
    - multinational people, free to hold either currency.
- The numbers of the property of the limiting property of a legenoted as  $N_t^a$ ,  $N_t^b$  and  $N_t^c$ .
- Each country's money is held by its own citizens and perhaps by multinational people as well. Let  $\lambda_t$  be the fraction of country a money in the multinational people's real money balances.

International Currency Traders

Money market clearing conditions for country a money and country b

## Assignment Project Exam Help $v_t^a M_t^a = N_t^a (y^a - c_{1,t}^a) + \lambda_t N_t^c (y^c - c_{1,t}^c),$

 $\underset{\text{The value of country a money is}}{\text{https://powcoder.com}}^{y_t^b M_t^b} = /N_t^b \left( y^b - c_{1,t}^b \right) + (1 - \lambda_t) N_t^c \left( y^c - c_{1,t}^c \right).$ 

$$Add^{v_t^N} \overline{W_t^{a}}_{c}^{(v_t^a - c_{1,t}^a) + \lambda_t N_t^c} (y^c - c_{1,t}^c) der$$

The value of country b money is

$$v_t^b = \frac{\textit{N}_t^b\left(y^b - c_{1,t}^b\right) + \left(1 - \lambda_t\right) \textit{N}_t^c\left(y^c - c_{1,t}^c\right)}{\textit{M}_t^b}.$$

International Currency Traders

The exchange rate in the world economy is

# $Assignment_{e_t} = \underbrace{P_{v_t^b}^{N^a_t}}_{V_t^b} \underbrace{P_{v_t^b}^{N^a_t} \underbrace{P_{v_t^b}^{N^a$

• A simple case: suppose that preferences are such that the total real demand for money is dentical across the different types of people. That is,  $N_t^a \left( y^a - c_{1,t}^a \right) = N_t^b \left( y^b - c_{1,t}^b \right) = N_t^c \left( y^c - c_{1,t}^c \right)$ . The exchange rate can be simplified to

 $Add We Chat _{e_t} = \underbrace{\frac{1}{1+(1-\lambda_t)}}_{\frac{1+(1-\lambda_t)}{M_t^b}} p_{\frac{2-\lambda_t}{M_t^b}}.$ 

- When  $\lambda_t$  increases,  $e_t$  increases. When  $\lambda_t$  decreases,  $e_t$  decreases.
- The change in  $\lambda_t$  will cause change in  $e_t$ .
- Example: if  $M_t^a = M_t^b$ ,  $e_t = (1 + \lambda_t) / (2 \lambda_t)$ . What is the range of values for  $e_t$ ?

International Currency Traders

- With international currency traders, the exchange rate is still a Sode tributed the leavest in the leavest in the leavest at still the part of the par
  - The fluctuations in exchange rates make each country's money a risky asset.
    - Multinationals may be able to free themselves from this risk if they not a lia ance vottoio of the month of WCOCCT
    - Citizens of each country suffer the risk associated with exchange rate fluctuations.
  - Maybe monetary authorities would like to stabilize the exchange rate to reduce the risk associated with exchange rate fluctuations. How?

## Assignment Project Exam Help

- Monetary authorities may want to stabilize the exchange rate to reduce exchange rate fluctuations.

  Howard Sganize Drown Conclusions Capella C
- - Cooperative stabilization: countries coordinate to fix the exchange rate.

## $\begin{array}{c} \bullet \text{ Unilateral defense: unilateral commitment to a fixed exchange rate.} \\ Add WeChat powcoder \end{array}$

Cooperative Stabilization

## As It we take a cue from the propetary organization of national leap bills in a single national economy?

- The government tells us the exchange rate by printing the proposition on the tells us the exchange rate by printing the
- The government also stands ready to exchange the bills at that rate.
- For the world economy, if the two governments stand ready to exchange their currencies at some given rate, can they determine the exchange rate?
  - A recent example: during reunification of Germany, the German central bank announced that it would accept East German marks at a one-for-one rate of exchange with West German marks.

### Assignment Project Exam Help

- We rarely see countries cooperatively fix the exchange rate.
  - European Economic Community (now the European thinn) had trementious difficulties in maintaining fixed exchange rates.
- One major impediment:
  - · A stiped in William provided in the provided

Unilateral Defense

ASSI GENOME FOR THE CONTROL OF FOREIGN CONTROL OF THE CONTROL OF T government can keep a fixed exchange rate through unilateral defense of the exchange rate!

government needs to tax its citizens to acquire enough resources to defend the exchange rate.

atth power of the for anyone to turn in one form of money for the other.

 Is it believable that the government can defend the fixed exchange rate by taxing its citizens?

Unilateral Defense of the Exchange Rate

#### Assignment Ptroject & ExamuHelp controls is in effect. The government of country a pledges to tax the

old in order to defend a fixed exchange rate. The world money market

clear negrondition is powered production is powered by the sum of the contraction of the

$$V_t^{a}M_t^a + V_t^b\overline{M}_t^b = N_t^a(y^a - c_{1,t}^a) + N_t^b(y^b - c_{1,t}^b)$$

## or wAdid Weathat powcoder

$$\bar{e}v_t^b M_t^a + v_t^b M_t^b = N_t^a (y^a - c_{1,t}^a) + N_t^b (y^b - c_{1,t}^b).$$

Unilateral Defense of the Exchange Rate

• We consider a specific example to have a better understanding of the differences between cooperative stabilization versus unilateral referse.

ASSINGALIANCE TO JECT EXAM HELP

- ullet Suppose country a (Australia) and country b (the U.K.) are identical.
- In each country, the population of every generation is 100,  $W^a + W^b = 100/100$
- Each young wants to hold real money balances worth 10 goods. It follows that the aggregate demand for money in real terms in each country is

### Add WeChat-powcoder

- Assume that the total money supply in country a is \$800 and in country b is £600.
- In the first period, each initial old holds \$4 and £3, regardless of citizenship.
- The exchange rate is fixed at  $\bar{e} = 1/2 \$1$  trades for £0.5.

Unilateral Defense of the Exchange Rate

## Assignment Project Exam Help

$$v^b = ?$$

and hettps://pow.coder.com

$$v^a = ?$$

We can de derive the compact by Control of the Cont

$$c_2^a = ?$$
 and  $c_2^b = ?$ .

#### Cooperative Stabilization

- Now suppose that every member of the initial old of both countries decides to cut their balances of country a money in half. Each country a to acquire £1.
- **Cooperative stabilization:** if monetary authority of country *b* agrees to cooperate by printing the amount of its currency demanded. At the end of currency exchange, the stock of dollars is \$400 and the stock of pounds is £800.
  - The value of country b money is Add WeChat powcoder
  - The value of country a money is

$$v^a = ?$$
.

• Consumption of each old is

$$c_2^a = ?$$
 and  $c_2^b = ?$ .

Cooperative Stabilization: Inflationary Incentives

• With a fixed exchange rate, the world money market clearing Assignment  $V_t^a = \frac{V_t^a V_t^a V_t^a$ 

- An increase in one country's money supply reduces the value of both briefles. / DOWCOGET.COM
- This is mainly because without foreign currency controls, two currencies are perfect substitutes.
- If one country's toyernment wants to inflate to collect stigniorage, both countries' citizens are taxed. If both governments wish to inflate to collect seigniorage, a large inflation of the world's money stock will result.
- This inflation can be prevented if governments are willing to agree to limit their own growth rates of money supply. This can be difficult if some countries rely on seigniorage far more than others.

Unilateral Defense of the Exchange Rate

- Unilateral defense: if country b refuses to print money to accommodate the demand for its currency, country a has to attempt sometimes of the excharge rate. To do this, country b government must raise tax revenue to provide all of the country b currency demanded.
  - ·https://poweoder.com

$$200 \times 2 \times \frac{1}{2} = 200,$$

# Air dies where $\frac{200v^b}{100} = 2v^b$ .

• Total stock of money:

$$M^a = ?$$
 and  $M^b = ?$ .

## Assignment Project Exam Help

• The value of country b money is

### https://powcoder.com

• The value of county a money is

## $. \underbrace{Add}_{\text{Consumption of each old is}} \underbrace{WeChat}_{\text{each old is}} powcoder$

$$c_t^a=$$
 ? and  $c_t^b=$  ? .

Unilateral Defense of the Exchange Rate

# Assignment Project Exam Help country a money for country b money and country a government

honors these requests,

- .https://powcoder.com
- values of both monies increase;
- country b old's consumption increases;
- country a initiatold's consumption decreases because of the tax
- Overall, the unilateral defense policy has resulted in a transfer of goods from each old in country *a* to each old in country *b*.

Speculative Attacks on Currencies

The unilateral defense of the fixed exchange rate relies on the government's willingness pake actions (taxation) that make its 1p

- Would the government follow such a commitment?
- If the government lacks the will to take any of the actions to defend the exchange rate, what would people anticipate?
- More realistically, the government is prepared to take limited action to defend the exchange rate.
  - For example, the government is willing to tax its citizen a limited amount of government is committed to letted by the exchange rate until the tax bill of this policy reaches F goods.
    - If fewer than F goods worth of domestic currency are turned in for exchange, the fixed exchange rate is maintained.
    - If more than F goods worth of domestic currency are turned in for exchange, the government abandons its efforts to fix the exchange rate.
       Domestic currency will depreciate.

Speculative Attacks on Currencies

A limited government commitment may encourage speculative

Sattacks in fergion pure Dimarkets in a way that does not ledge 1

when the government's commitment is total.

- Consider the two country OLG model. Suppose that country a keeps a fixed exchange rate with country b with a limited commitment to defend the honge rate Operucator of Van Colonnage country a currency for country b currency.
  - For people who hold country a currency, exchanging country a currency
    - If country a government's commitment is sufficient to defend the exchange rate, the exchange rate does not change.
    - If country a government's commitment is too small to defend the exchange rate, country a currency will depreciate. For those who have exchanged country a currency for country b currency, they benefit because country b currency appreciates.

Speculative Attacks on Currencies

### Assignthmenter Projector an Help For country a citizens, they are in a can't-win situation.

• If country a government's commitment is sufficient to defend the

exchange rate, country a citizens need to pay the tax.

If country/a/gov for exchange rate, country a currency will depreciate. If country a citizens hold most of the country a currency, their money's value decreases.

- Examples of speculative attacks: at powcoder
  - the Asian Financial Crisis in 1997;
  - Brazil in 1999;
  - Argentina in 2002.

Speculative Attacks on Currencies

### Assignment Project Exam Help

- In the 1990s, Thailand, Malaysia, Indonesia and the Philippines were added to the list of Asian Tigers (Hong Kong, South Korea, Singapore and Taiwan, all of which displayed high rates of economic growth from the early 1060s to the 1990).
- In July 1997, the Thai baht which was fixed at 25 baht for 1 USD came under speculative attack. The Baht depreciated from 25 Baht per USD to around 65 Baht per USD in 1997.
- Malaysia, Indonesia, the Philippines and South Korea.
- The crisis brought to an end a period of extraordinary economic growth in southeast Asia.

Speculative Attacks on Currencies

### Assignment Project Exam Help

• The him Financial Crisis in 1997 oder.com insertmap

Add WeChat powcoder

Speculative Attacks on Currencies

### Assignment Project Exam Help

• The hear Financial Crisis in 1997 oder.com

insert exchange rate chart

Add WeChat powcoder

Speculative Attacks on Currencies

• In general, a country's currency is more likely to be subject to

## SSignment adopts a fixed exchange rate; Help

- the government lacks sufficient reserves and cannot resort to unlimited taxation of its citizens;
- fletetigs of hangs of the composition that have concerns about the value of the country's currency;
- These concerns could trigger speculative attacks on the country's
  - rrenty.dd WeChat powcoder

    If speculative attacks are successful, the country's currency depreciates.
  - If speculative attacks are not successful, the country defends its exchange rate.
- Speculative attacks on currency is called currency crisis. Sometimes currency crisis can lead to financial crisis.

### The Optimal International Monetary System

Currency Union

### Assignment Project Exam Help

- What is the optimal international monetary system?
  - of the assistant and the state of the state
  - Unilateral defenses of the exchange rate: speculative attacks on Currencies WeChat powcoder

#### The Optimal International Monetary System

Currency Union

- A currency union is where a group of countries share a single
- Scurrency Unlike a multiliteral fixed exchange rate regime He (cooperative stabilization), the control of the money supply is taken out of the hands of individual member countries and relegated to a central authority. This arrangement avoids the issue of member countries in equives to the countries to the countries of the countries to the countries of the countries to the countries of the count
- The European Currency Union (ECU) adopted the Euro in 1999. The central bank is called the European Central Bank.
  - Ae E B's givened (y a board of directors and headed by appresident.
  - Each country's central bank does not have independent influence on its domestic monetary policy.
- Having a centralized monetary authority help to
  - reduce the costs of conducting international trade;
  - mitigate the lack of coordination in domestic monetary policies.

#### More on International Monetary System

Currency Union

### Assignment Project Exam Help

- feeling of the ECB members that the central authority neglects the "special" concerns of their respective countries;
- http://seignjorp.th. Wice or detilute Groff member countries;
- how should monetary policy help to solve countries' fiscal problems.
- The success of a currency union depends largely on the bility of the centralized monetary authority to deal with issues of competing political interests.