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ABSTRACT

This curriculum unit of the Muncie (Indiana) Southside High School is to simulate the dynamics of foreign currency exchange rates from the perspectives of: (1) a major U.S. corporation, ABB Power T & D Company, Inc., of Muncie, Indiana, a manufacturer of large power transformers for the domestic and foreign markets; and (2) individual consumers who purchase imported items. An interdisciplinary approach is used with a variety of skills to be enhanced. The unit is composed of four major parts: (1) introduction to ABB, exchange rates, and a map of Germany; (2) transformer manufacturing; (3) transformer cost and currency exchange; and (4) import and export-currency exchange. (EH)

Currency Exchange Rates

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Muncie, Indiana

FOREIGN EXCHANGE--ABB AND GLOBAL PERSPECTIVE

The purpose of this curriculum unit is to simulate for students the dynamics of foreign currency exchange rates encompassing the perspectives of: 1) a major American corporation, ABB Power T & D Company, Inc. of Muncie, Indiana which manufactures large power transformers for domestic and foreign markets and 2) individual consumers who purchase imported items. While the unit primarily focuses upon the economics of foreign currency exchange, students will be presented with a variety of experiences in which they will simulate various aspects of currency exchanges and related economic concepts. An interdisciplinary approach is utilized for this unit because students must apply math skills, computer skills, reading and writing skills, geography skills, data analysis and interpretation skills, and economic concepts.

Students will study the role of foreign currency exchange utilizing the manufacturing of a large power transformer by the ABB corporation located in Muncie, Indiana as the overall basis for the unit. The unit is composed of four major parts and the students will be expected to read the various materials, participate in a variety of learning situations, complete a series of learning experiences, and apply the learning experiences to generalized questions concerning how currency exchange rates impact the economy of a country, company, and an individual. In the Introduction, students will read various materials about ABB, read about currency exchanges, and complete a map of Germany. In Part I, the students will analyze information focusing upon the manufacturing of a large power transformer. In Part II, the students will analyze the

impact of currency exchange rates upon the profitability of ABB as the transformer is manufactured. In Part III, the students will take a corporation trip to Germany to oversee the installation of the large power transformer and analyze the impact of currency exchange rates on individuals. In Part IV, students will investigate and analyze the impact of currency exchange rates on imports and exports within the context of a national economy.

DIRECTIONS FOR INTRODUCTION:

1. Students will read the ABB Employee Annual Report 1993 and participate in a class discussion about the company and the products manufactured.

2. Students will read the Student Background Information sheet entitled **Exchange Rates: The Dollar and The Mark.**

3. Students will read the booklet, **Strong Dollar/Weak Dollar** and answer the questions on the handout sheet from this booklet.

4. Students will complete the map of Germany by placing the items on the German map.

MAJOR ECONOMIC CONCEPTS:

1. Currency Exchange
2. Exchange Rates
3. Balance of Trade
4. Trade Deficit
5. Trade Surplus
6. Supply and Demand
7. "strong" dollar
8. "weak" dollar
9. Imports and Exports

Student Outcomes:

1. Students will identify cities, surrounding countries, and bodies of water in Germany.

2. Students will identify sources to locate current exchange rates.

3. Students will utilize various charts, tables, and computer programs encompassing exchange rate information.

4. Students will compare and contrast exchange rates of differing time periods.

5. Students will analyze relationships among exchange rates, supply and demand, and trade situations.

6. Students will analyze the impact of exchange rates upon domestic economic situations in a country.

7. Students will identify groups within the counties who benefit from either the "weak" or "strong" dollar.

8. Students will calculate various amounts of money using exchange rates from differing time periods.

9. Students will analyze the impact of flexible exchange rates upon American corporations.

STUDENT BACKGROUND INFORMATION--EXCHANGE RATES: DOLLAR AND THE MARK

The currency in Germany is the German Deutschmark (DM) or the mark as it is called. One hundred pfennigs (pf) equals one mark just as one hundred pennies equals one dollar in American money. In order to purchase and sell items in a foreign country, currency of the purchaser is converted into the form of currency in the seller's nation. Currency exchange encompasses one exchanging currency of one nation into the currency of another nation. The rate of exchange is called the foreign exchange rate and the rate is not static, but rather is flexible which means that the exchange rate changes from one day to the next, and this rate is dependent upon the supply and demand of one form of currency over another form of currency. The value of paper money is dependent upon the economic forces of supply and demand similar to any other commodity one would decide to purchase in the marketplace. The value of any nation's currency can be expressed in terms of the money of another country, such as $1.00 = 1.6805 DM or 1 DM = $.59506, the rate as of June 20, 1993. Fill in today's date _____ and the current exchange rate $1.00 = _____DM and 1 DM = $ _____.

A change in the exchange rate can have a significant effect upon the trade among nations, upon the economy of an individual nation, upon the import and export costs of items purchased by companies or individuals, or upon the profit margin and/or manufacturing costs of companies like ABB. Significant differences in amounts of money can be involved when the cost of products are altered due to the flexible exchange rates. These changes can

impact the amount of profit or loss experienced by a company importing or exporting in foreign trade situations. When exchange rates change, it affects the relative prices of goods and services traded by companies as well as individuals. Currencies become "stronger" or "weaker" in relationship to each other when the exchange rate changes. This makes goods more or less expensive among trading countries. When the purchasing power of a currency increases it becomes a "stronger" currency, and conversely when currencies become less valuable, those that decrease in purchasing power, are called "weaker" currencies. Over time, the relative values of currencies will change, some by a great deal while others may vary by a small margin.

Strong Dollar/Weak Dollar

Answer the following questions, using complete sentences, from the booklet.

1. What gives currency its value?

2. What does a "strong" dollar mean?

3. What does a "weak" dollar mean?

4. How does a "strong" dollar effect the US economy?

5. How does a "weak" dollar effect the US economy?

6. Why would a company like ABB be concerned over a strong or weak dollar?

MAP COMPONENT

Place the following items on the map of Germany.

SURROUNDING COUNTRIES:

1. Denmark
2. Poland
3. Czeck Republic
4. Austria
5. Switzerland
6. Netherlands
7. Belgium
8. Luxembourg
9. France

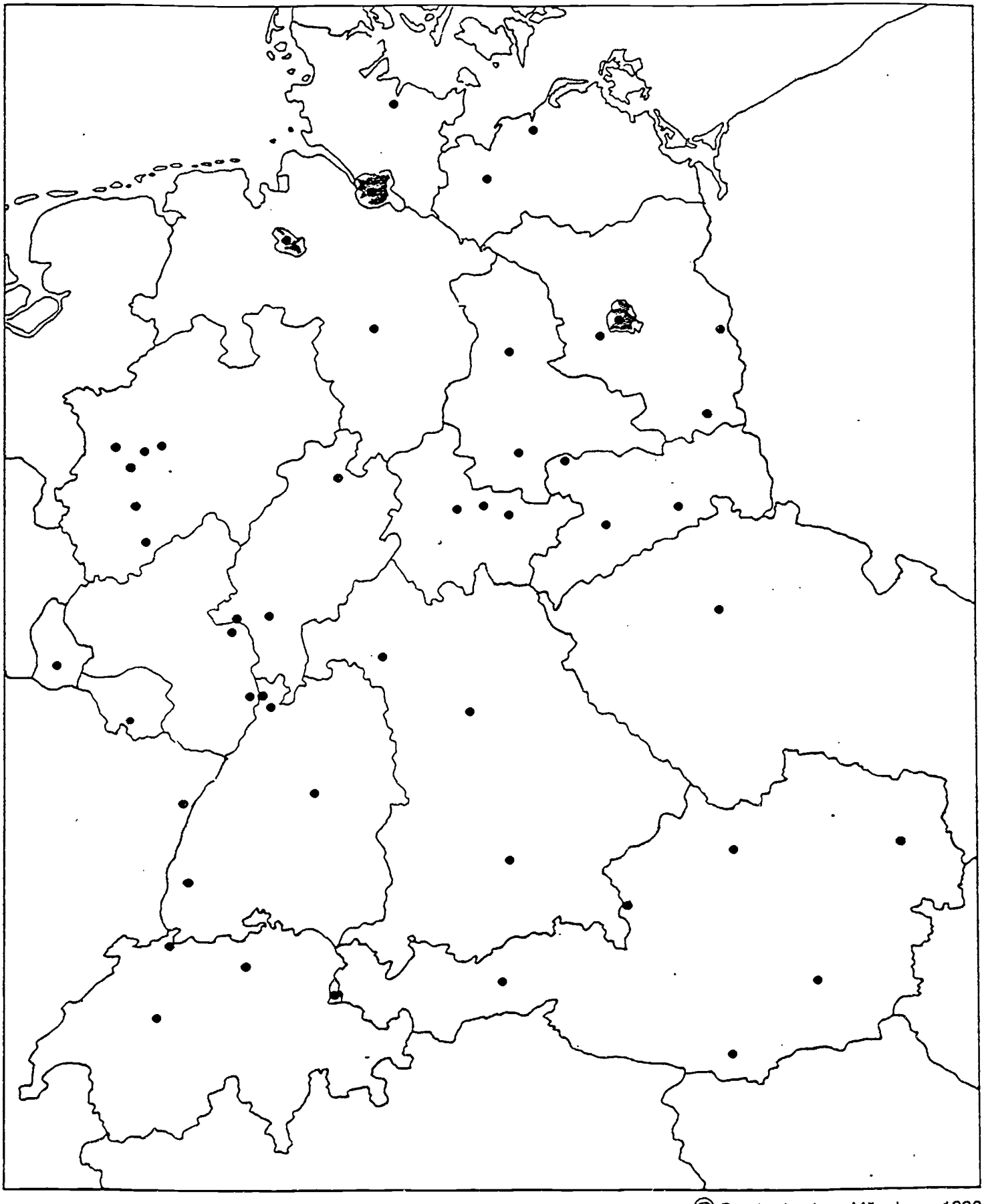
BODIES OF WATER:

1. Rhine River
2. Danube River
3. Elbe River
4. North Sea
5. Baltic Sea

CITIES IN GERMANY:

1. Bonn
2. Cologne
3. Frankfurt
4. Hamburg
5. Munich
6. Stuttgart
7. Nuremberg
8. Berlin
9. Leipzig
10. Dresden

Die deutschsprachigen Länder



PART I: TRANSFORMER MANUFACTURING

In Part I, the students will:

1. read article on ABB company history and how a transformer works.

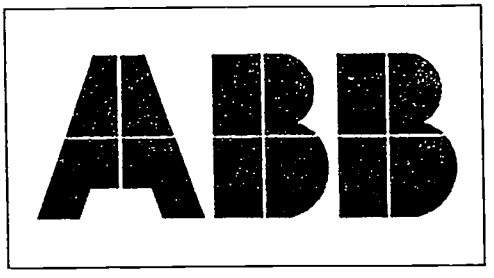
2. complete the worksheet on transformer manufacturing.

Exercise # 1:

Students will read the ABB company history material and the article explaining the manufacturing of a transformer. Students will then answer the questions on the manufacturing of the transformer. The teacher will then conduct a class discussing focusing upon this material.

ABB COMPANY HISTORY

ABB Asea Brown Boveri Ltd was created on January 1, 1988 by a merger between ASEA AB based in Stockholm, Sweden and BBC Brown Boveri Ltd in Baden, Switzerland. The company's international headquarters is located in Zurich, Switzerland ABB develops, produces, sells, and services systems in a wide range of areas generally related to the production, distribution, and application of electrical equipment and apparatus.

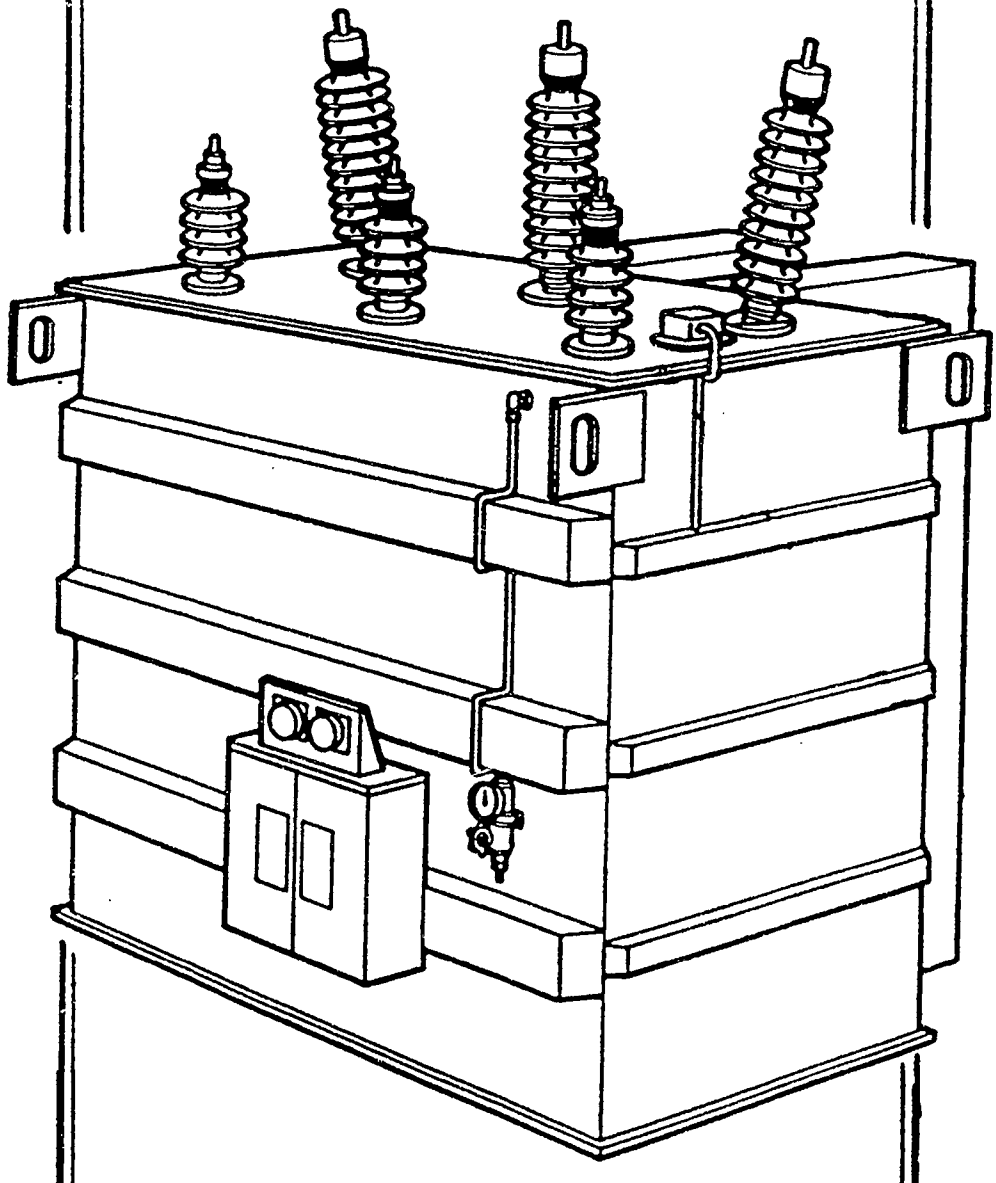


The Large Power Transformer Division of Westinghouse started factory operations in Muncie, Indiana in 1961 in a plant designed and built specifically to manufacture and test large power transformers. The facility is equipped to build transformers with the highest voltage and KVA ratings available today.

A joint venture between ABB and Westinghouse was announced in 1988; and after months of planning, and finally with the approval of the federal government, the joint venture began in 1989. On December 29, 1989, ASEA Brown Boveri Ltd exercised its option for full ownership of the facilities in the joint venture. The Muncie Westinghouse facility then became an ABB Power T & D plant.

The Muncie ABB Large Power Transformer Division Plant is an important and vital aspect of the ABB Group which is made up of 5 business segments which together contain 50 Business Areas, 1,300 companies, and approximately 206,000 employees. The mission statement of ABB Muncie is to provide efficient and dependable power transformers to utilities and industry to meet their energy and environmental requirements. Muncie ABB produces large power transformers for domestic usage as well as for export to a multitude of countries around the world. ABB's efforts are global in perspective and serves its customers' needs on a world-wide basis. ABB Muncie is an integral part of ABB's world-wide focus and commitment.

Power Transformer Division



A Transformer and How It Works

A Transformer and How It Works

A simple explanation of a transformer would be to consider it to be a black box with two input terminals and two output terminals.

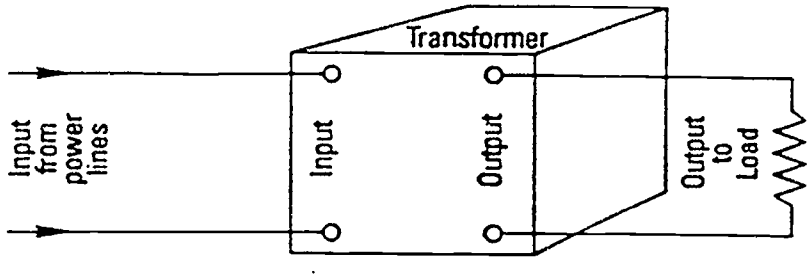


Figure 1 An idealized external view of a transformer.

The input terminals are connected to a source of alternating current power at one voltage, and the output terminals are connected to a load which is to operate at a different voltage.

The function of a transformer is to provide a means of economically transmitting electric power from a point of generation to the point of use. Electric power is generated at a low voltage and high current and it cannot be economically transmitted under these conditions.

An expanded "black box: electric power system is shown here.

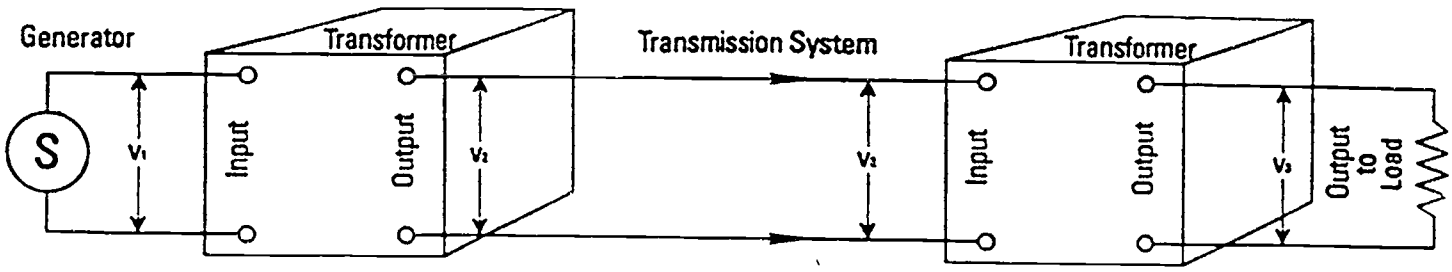


Figure 2 An idealized view of an electric power system.

Power is generated at low voltage and high current. The amount of power is determined by the product of the voltage and the current.

Power (kilovolt amperes) = voltage x current x 1000. The transformer receives the generated power, steps up the voltage and reduces the current so the power can be economically transmitted to the load. At the point of use the situation is reversed, and the power passes through a second transformer where the voltage is reduced and current stepped up to the operating levels of the load.

When we view the inside of a transformer, Figure 3,

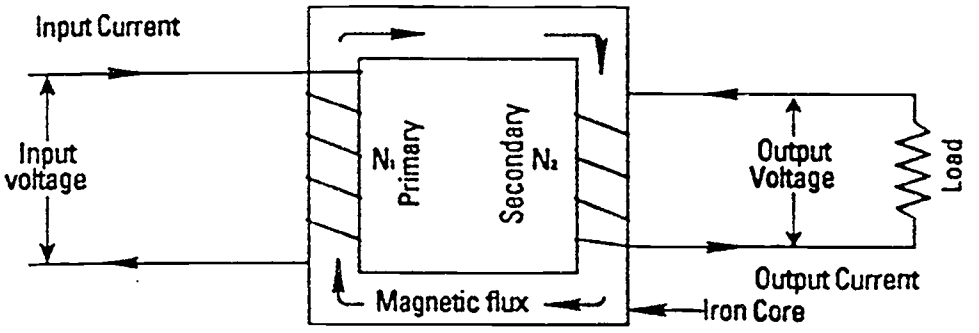


Figure 3 An internal view of a transformer.

we see it consists of an iron core with two separate windings that are wound on the core. The black box is filled with oil to insulate and cool the windings. When a voltage is applied to the terminals of the primary winding, a second voltage is induced in the secondary winding by electromagnetic induction. The secondary voltage is in proportion to the primary voltage by the ratio of the number of turns in each winding.

The transformer designer selects each of the components (windings, insulation, core, tank and auxiliary equipment) and combines them into an efficient system which is assembled and tested by the production workers. Each transformer is designed and manufactured to meet the purchasers specific requirements.

Figure 4 illustrates the components of a typical substation transformer.

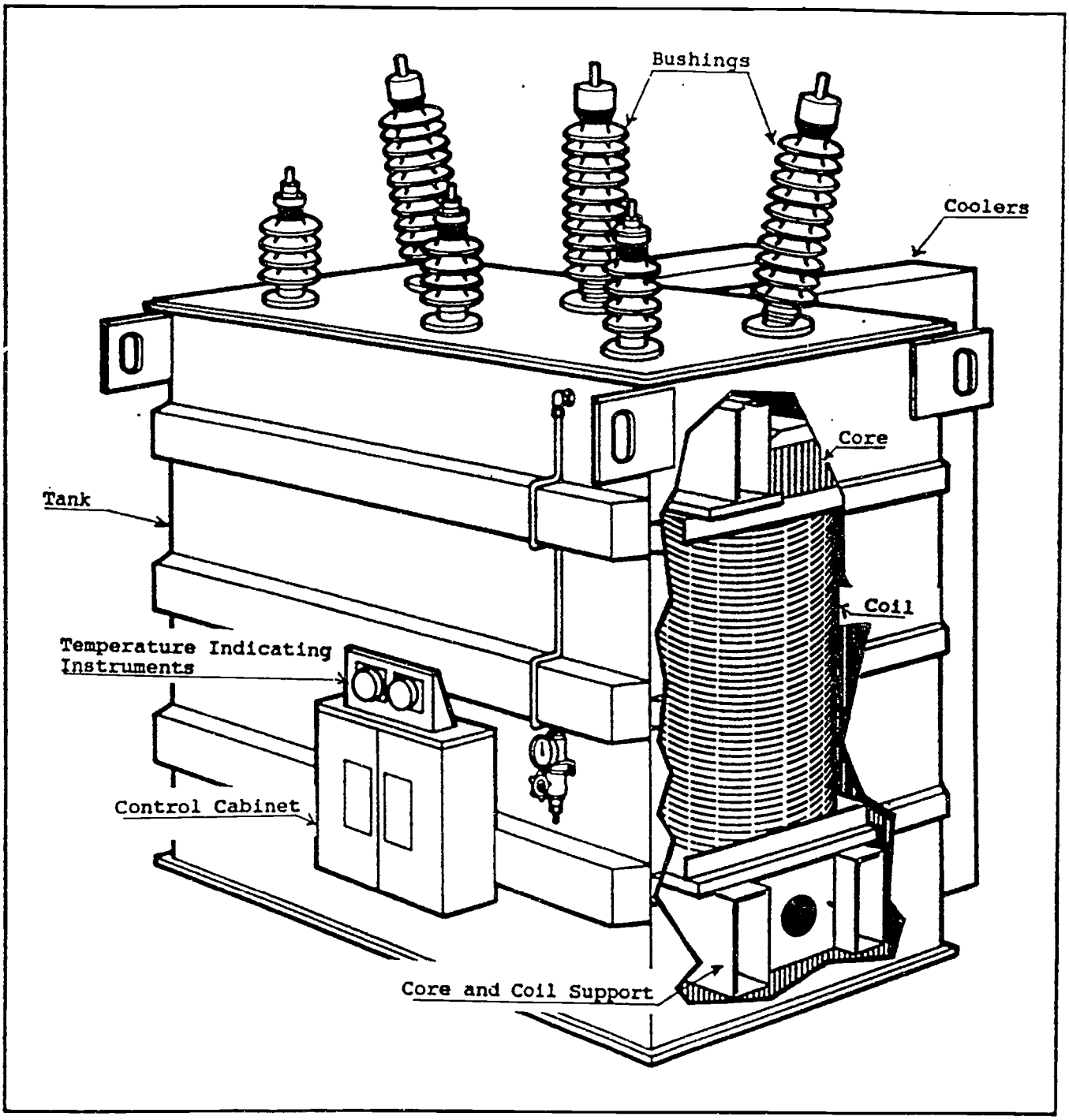


Figure 4 Cutaway Diagram of a Transformer

TRANSFORMER DIVISION PRODUCTS AND APPLICATIONS

An examination of a more complex diagram of a power system reveals the products manufactured by the Transformer Division cover a broad spectrum of equipment used in the transmission of electric power from the utility generating stations to distribution substations located near industrial plants and residential areas. The silhouette diagram, Figure 5, of a typical utility's power system indicates the location of the transformer division's products as well as the equipment from other divisions of the ABB Power T & D Company, Inc.

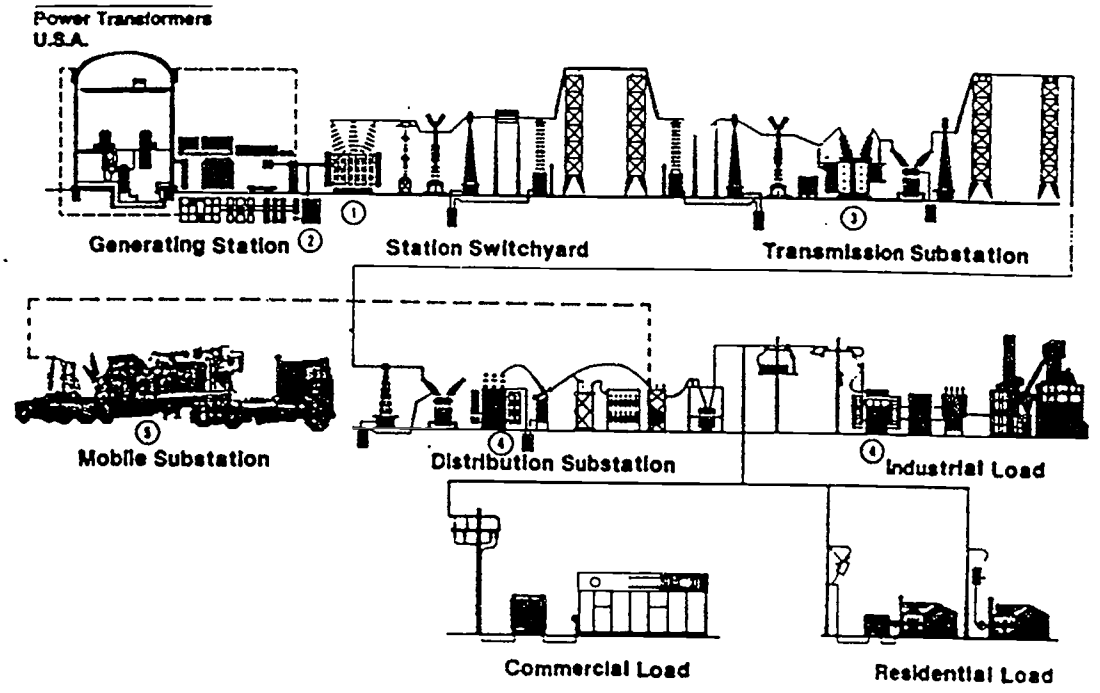


Figure 5 Typical utility power system

At the utility generating station, power from the turbine generator is fed to a generator step-up transformer (1). These transformers manufactured at the Power Transformer plant in Muncie, step up the generated voltage of approximately 25,000 volts to transmission voltages ranging from 230,000 to 800,000 volts. A small increment of the generated power is fed through an auxiliary power transformer (2) also connected to the generator bus. These medium power transformers, built in the Muncie or St. Louis plants, reduce the generated voltage to typically 4160 volts to supply the power needs of the auxiliary equipment in the generator station.

As the power moves down the transmission system to the point of use, large autotransformers (3) from the Muncie plant are used at bulk power transmission substations to reduce the voltage to

transmission levels. Typically, 500,000 volt transmission will be reduced to 138,000 or 230,000 volts for the transmission system around a major metropolitan area. These autotransformers are often equipped with underload tap changers which regulate the lower or output voltage and control power flow. Large Phase Angle Regulators, manufactured at the Muncie Plant may also be installed in the transmission substations and are used to control power flow at these locations.

The transmission voltage is utilized in a power system up to the distribution substations. At this point, the voltage will typically be reduced to 138,000 volts or 69,000 volts or perhaps 34,500 volts for the utility distribution network. Smaller medium power transformers (4) in the size range to 200,000 KVA will be used here.

These transformers can be designed and manufactured at either of the transformer plant locations. Usually, these units will have load tap changers to control the output voltage as the load varies. These substations may be single circuit and supply power to a large industrial plant or they may have multiple low voltage circuits feeding diverse loads such as shopping malls, light manufacturing operations or residential areas.

Smaller generator step-up transformer for cogeneration plants may also be used at the locations of large industrial plants or major commercial developments. These transformers used in conjunction with a combustion turbine generator will supply the power needs for the user's installation and may also feed a utility system if excess capacity is available.

Power transformers are also used for special industrial applications such as furnace transformers which supply high current, low voltage power to arc furnaces used in steel making or rectifier transformers, which in conjunction with a rectifier, supply DC power to chemical or aluminum processing lines.

Mobile substations (5) used by utilities for emergency or temporary power sources are also designed and built at the Medium Power Transformer plant in St. Louis, Missouri. These units equipped with a transformer, high voltage breakers, arresters, and low voltage switchgear are packaged and mounted on a trailer for easy transport to substation sites.

LARGE POWER TRANSFORMER WORKSHEET

Answer the following questions about large power transformers from the provided reading. Use complete sentences where appropriate.

1. Why is a transformer needed?

2. What is the function of a transformer?

3. Electrical power is generated at a _____ and _____.

4. What is the core of a transformer?

5. What purpose does oil fulfil in a transformer?

6. What is a power system?

7. Each transformer is designed and manufactured to meet:

---.

Manufacturing Process

Preparation:

1. Market and Design Engineering coordinate sale
2. Purchase materials and Schedule manufacturing process

Manufacturing:

1. Order materials
2. Wind Coils
   Build Core
   Build Tank
   > Done Simultaneously
3. Assemble Components
4. Fit to Test
5. Test Transformer
6. Ship to Customer

PART II: TRANSFORMER COST AND CURRENCY EXCHANGE

In Part II, students will:

1. participate in a class discussion concerning how the cost of the transformer is effected over time by various economic concepts.

2. complete a worksheet using PCGlobe program utilizing the currency exchange rates.

3. read, discuss, and analyze various ABB documents.

4. compose a contract between Meinfild Power Company of Munich, Germany and ABB Power T&D Company, Inc. to manufacture and install a large power transformer in Munich, Germany.

5. take a field trip to ABB in Muncie, Indiana.

Exercise # 1:

Students will be given a packet of materials from the ABB company which will include: A) ABB Employee Annual Report 1993, B) Potential Time Table for Manufacturing, C) Support Data, and D) Recommendation Letter from a satisfied ABB customer. The students will read and discuss the various materials in order to write a contract for the manufacturing of a large power transformer. Included in the discussion will be how the cost of a large power transformer is effected by: 1) raw materials, 2) labor costs, 3) shipping costs, 4) installation costs, 5) man hours to build the transformer, and 6) changes over time of the currency exchange rates. The teacher will lead this class discussion. The students will then compose a contract and the teacher will act as the ABB representative for signature purposes. Students may include any economic concepts and business wording they wish which

is agreeable to both parties of the contract: Meinfeld Power Company of Munich, Germany and ABB Power T&D Company, Inc. of Muncie, Indiana.

Exercise # 2:

Students will complete the handout sheet using the PCGlobe computer program and answer the questions on the sheet. Newspapers will be used to obtain the needed exchange rates.

Exercise # 3:

Students will take a field trip to the ABB plant located in Muncie, Indiana. Students will focus upon the manufacturing of large power transformers and ask questions of the employees.

LARGE POWER TRANSFORMER CONTRACT WORKSHEET

Main contract items which you feel must be addressed:

ITEMS	REASONS ADDRESSED
1.	
2.	
3.	
4.	
5.	
6.	
7.	

On the following pages, you will compose a contract between the two companies including these main items and include places for the two party's signatures.

Vazguez Power Company

ABB Power T&D Company, Inc.
2500 South Cowan Road
Muncie, Indiana 47302

June 6, 1993

Dear Sir,

Vazguez Power Company would like to take this opportunity to express our congratulations for a job well done. We are extremely pleased with our large power transformer, order LC 1273, which went on line as of April 12, 1993. Our company has experienced absolutely no problems with any phase of our relationship. The reasonable cost and overall quality of your product is superb.

The working relationship and cooperation with your company's representatives has been outstanding. Your on time delivery of a quality and dependable product documents the professionalism and dedication of your entire business organization. The quality of your product and the quality of your employees demonstrates to our company the professionalism of your entire operation. Vazquez Power Company sincerely hopes that we can do further business in the future.

Sincerely,

Alberto Sanchez
CEO, Vazguez Power Company

SUPPORT DATA

To: Meinfeld Power Company

From: ABB Power T&D Company, Inc.

Re: Support Date

In response of your letter of inquiry for the purchase of a large power transformer, we have compiled several pieces of information you will need to reach a decision.

I. The proposed time table for the entire transformer manufacturing is 28 work weeks. Your order will leave the plant 28 working weeks that is 140 working days from the date of the contract.

II. Cost factors for this transformer include the following items: Engineering costs, Drafting costs, and Manufacturing costs. ABB's proposed costs for the transformer is $1,750,000, and Meinfeld Power Company will pay the shipping and installation costs.

III. The completed transformer will be shipped by railroad on a special routing from Muncie, Indiana to New York City, New York on a specially built railroad car. The transformer will then be shipped to Hamburg, Germany by ship, and transferred to Munich, Germany on the German railroad system. The weight of the transformer is 455,840 pounds.

Transformer Cost and Currency Exchange Rates

Order Placed for Large Transformer:

Date:_____ Exchange Rate: $1.00 = _____DM

Cost of the transformer in American Dollars:_____

Cost of the transformer in German DM:_____

Transformer Delivered:

Date:_____ Exchange Rate: $1.00 = _____DM

Cost of the transformer in American Dollars:_____

Cost of the transformer in German DM:_____

Answer the following questions:

1. What happened to the cost of the transformer over the period of time from the placement of the order to delivery?

2. What does the flexible exchange currency rate do for the profit ABB will realize from the sale of this transformer?

3. Under what conditions does the change in exchange rates seem to help ABB's profitability?

4. Under what conditions does the change in exchange rates seem to harm ABB's profitability?

5. What can ABB do to maximize its profits from the sale of large power transformers in the export market?

TIME LINE AND EXCHANGE RATES

Contract (Part II): Set a date for competition of the transformer 6 weeks before the day you begin teaching the unit. Have students fill in this exchange for that date.

Date # 1 _____ Rate $1.00 = _____DM

The date of the contract order is 28 weeks prior to date # 1, so have students fill in the date and the exchange rate for that date.

Date # 2 _____ Rate $1.00 = _____DM

Installation Trip (Part III): Set a date for beginning the trip to Germany 2 weeks prior to the date you begin teaching the unit. Have the students find the date and exchange rate for that date. Have the students fill in the following chart to help them compute the various exchange rates because the change on a daily basis.

DAY/Date	CITY	EXCHANGE #	EXCHANGE RATE
1	Frankfurt	# 1	$1.00 =
2	Frankfurt/Berlin		
3	Berlin	# 2	$1.00 =
4	Munich		
5	Munich		
6	Munich		
7	Munich		
8	Munich		
	Return to Frankfurt	# 3	$1.00 =

PART III: INSTALLATION TRIP TO GERMANY

In Part III, the students will:

1. complete the worksheet concern a trip they must take to Germany to help install the large power transformer.
2. utilize PCGlobe program to help compute the exchange rate information.
3. compute information concerning travel using a date sheet.
4. complete a time line and exchange rate chart by locating and recording daily exchange rate amounts.

ABB: INSTALLATION TRIP TO GERMANY

ABB has designated you to be the company representative in charge of the installation of the newly delivered large power transformer. The transformer will be part of the main power grid in Munich, Germany. However you must first fly to Frankfurt, Germany to meet with company representatives and then fly to Berlin, Germany to meet with German government officials before actual installation in Munich. Your point of departure is Kennedy International Airport in New York City, and you will fly a Lufthansa 747 to Frankfort.

As you go into the airport, you notice a place where you can exchange your money from American dollars into German money called marks. You're in a hurry, so you decide to wait until you get to Germany in order to exchange you money. Since you will be in Germany for a while, you already have realized you need to change some of your $2,000 into their money because all the prices will be in marks(DM) and not in dollars.

As you settle in for the flight to Frankfurt, Germany which will take approximately seven hours, you think of the work you will have to accomplish during the time in various cities in Germany. You also plan to purchase some German souvenirs. You will need to keep a record of all your currency exchanges and purchases for accounting purposes. By the way, you just remembered that you lose five hours because Germany is five hours behind New York time. Your plane took off at 7:00 a.m., it is a seven hour flight, and you lost five hours; so you land in Germany at 7:00 p.m. local time.

You finally land at the Frankfurt flughafen about seven hours later. As you get off the airplane, you decide to exchange $1,000 into German money. You need to go to the currency exchange counter and using the current exchange rate, exchange $1,000 into German marks. The exchange rate for _____ (fill in date: Exchange # 1) $1.00 = _____DM so $1,000 = _____DM. Be sure to obtain a receipt from the currency exchange rate counter for your money.

As you leave the terminal to got to your hotel, you pass a small German shop. As you look in the window, you notice that all the prices are in marks and not dollars. Keep in mind that a pfennig is like a penny, that is 1/100 of a DM., so the prices are in marks and pfennigs just like American prices are in dollars and cents. In the store, you see several items. Compute the American value of each of the following products.

Set of Beer Steins: 84 DM American money = _____

German Cuckoo Clock: 126 DM American money = _____

Shirt and Tie: 57 DM 62 pf American money = _____

Running Jacket: 58 DM 82 pf American money = _____

The next day (Day 2) you must first pay for you hotel and the cost is 210 DM. Compute the cost in American dollars = _____. You take a taxi to the company headquarters at a cost of 20 DM 50 pf, compute the cost into American dollars = _____. Your meeting with the company goes very well, and you now can fly to Berlin for a final meeting with the government officials. The flight to Berlin, the capital of a newly unified Germany, only takes about one hour. The flight cost is 126 DM.

The cost in American money is _____.

In Berlin, your reservations are at the Landhaus Schlachtensee. The cost of the hotel for two days (Days 2-3) is 630 DM 19 pf. Compute the cost in American money = _____. While in Berlin, you decide to take a bus trip. This trip is listed as a three hour trip with stops at the Brandenburg Gate, the Reichstag, 1936 Olympic Stadium, and into former East Berlin, and the cost is $30 American money. Compute this to German marks = _____DM. While in Berlin, you purchase some small items, and you need to compute the value in American money for these everyday items.

U-Bahn (German Subway) 5 DM = $ _____

Big Mac at a German MacDonalds 10 DM 50 pf = $ _____

German Beer (Drinking allowed under age 21) 3 DM = $ _____

Coke 2 DM 30 pf = $ _____

Post Card 85 pf and stamp 15 pf = $ _____

The two day meeting goes well with the German government. ABB has a very good reputation and has a good working relationship with the German government. The Ministry of Industry approves all the needed procedures for ABB to install the transformer. After two days, you travel to Munich in the Southern part of Germany, so you purchase a railroad ticket for 142 DM 84 pf. Calculate that in American money = $ _____. At the train station, you also need to exchange the remaining $1,000 into German money. The currency exchange rate is $1.00 = _____DM so the amount is _____ DM. (Exchange # 2) Be sure to obtain a receipt from the bank where you obtain the currency exchange.

While in Munich, you see some advertising in a German newspaper. After reading the paper, compute the cost of the products into American money so you can ascertain if these items might be reasonable to purchase.

German Volkswagon 25,879 DM American money = _____

Camera 588 DM American money = _____

VCR 756 DM American money = _____

Weeks vacation in USA 3,865 DM American money = _____

The installation process in Munich will take five days. The installation process goes smoothly because ABB advance representatives have done a good job of laying the needed logistical groundwork, and the purchasing company is ready for installation. As you continue through the installation process, you can report to ABB that the process was efficiently and correctly done. The customer is very pleased with the ABB large power transformer as well as the professionalism of ABB in general.

You stay at the Hotel Pension am Markt where your lodging and food bill for five days is 840 DM. Calculate this bill into American money = _____. After five days in Munich in the morning, you decide to rent a car and drive back to Frankfurt from which you will return to the United States. The rental cost of the car is 84 DM and the cost of the gas is 2 DM per liter.(Day 8) Calculate the cost of the car rental in American money = $ _____ and the cost of gas per liter in American money = $ _____. The distance from Munich to Frankfurt on the autobaun is 410 km, and your rental car gets 10 km per liter. Calculate the amount of gas used in liters _____, the

cost of gas used in liters in marks _____, the distance in miles _____, the number of gallons used _____, and the cost of a gallon of gas in Germany in American money = _____. At the Frankfurt, you need to exchange any remaining Germany into American dollars. Using the exchange rate chart from the newspaper for that day, calculate the amount of American money you receive. The total amount of American money you have remaining is _____. (Exchange # 3)

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TABLE OF RATES OF EXCHANGE

Distance: 1 Kilometer = .62 Miles

1 Mile = 1.609 Kilometers

Capacity: 1 Liter = 1.057 Liquid Quarts

1 Gallon = 3.785 Liters

PART IV: IMPORT AND EXPORT-CURRENCY EXCHANGE

In Part IV, the students will:

1. compute various exchange rates exercises.
2. answer various questions concerning imports and exchange rates.
3. answer various questions concerning exports and exchange rates.
4. answer various questions concerning overall implications for individuals, corporations, and countries in the context of international trade.

EXCHANGE RATES--AMERICAN PRODUCTS: EXPORTS

The following chart shows the price information and exchange rates for several American products that are purchased by German buyers that is exported items. Assume for comparison purposes that all things are equal such as inflation and production costs. Keep in mind that exchange rates vary because of supply and demand for currency in the marketplace. Calculate how many German marks it would take to purchase the products in each of the following.

AMERICAN ITEM	BASE PRICE	1st Year	2nd Year	3rd Year
		3.35DM=$1	2.00DM=$1	1.57DM=$1
		1DM=$.2985	1DM=$.5000	1DM=$.6369
Lumber	$500			
Computer	$1,500			
ABB Transformer	$1,500,000			

1. Which year seemed to be the best to purchase American products? Why?
2. What happens to the cost of American products as it takes fewer German marks to purchase American dollars?
3. Would the German mark be getting stronger or weaker as compared to the American dollar? Why?
4. Which country would be economically improving as a result of this foreign exchange situation from the first year to the third year? Why?
5. In this situation, would the Germans tend to purchase German or American goods? Why?
6. Why or how would this situation tent to help or hurt the American economy?

EXCHANGE RATES: GERMAN PRODUCTS--IMPORTS

The following chart shows the price information and exchange rates for several German products that are purchased by American buyers that is imported items. Assume for comparison purposes that all things are equal such as inflation and production costs. Keep in mind that exchange rates vary because of supply and demand of currency in the marketplace. Calculate how many American dollars it would take to purchase the products in each of the following:

GERMAN ITEM	BASE PRICE	1st Year	2nd Year	3rd Year
		$1=3.35DM	$1=2.00DM	$1=1.57DM
Automobile	33,000 DM			
Television	1,320 DM			
Computer	4,840 DM			

1. Which year seemed to be the best to purchase the German products? Why?

2. What happens to the cost of the German products as the American dollars purchase fewer German marks?

3. Would the American dollar be getting stronger or weaker as compared to the German mark? Why?

4. Which country would be economically improving as a result of this foreign exchange situation from the first year to the third year? Why?

5. In what ways could this situation tend to hurt the American economy?

EXCHANGE RATES AND GLOBAL TRADE

Using the two charts on the previous pages, answer the following questions.

1. As the dollar weakens, what happens to the prices of foreign products imported into the United States?

2. As the dollar weakens, what happens to the prices of American products exported to another country?

3. How does the weak US dollar effect the imports and exports of American products?

4. How does a weak dollar effect the number of jobs produced in the United States? Why?

5. How does a weak dollar effect the trade balance between the United States and Germany?

6. Identify a group in the United States which would economically benefit from a weak dollar? Explain why.

7. Identify a group in the United States which would economically benefit from a strong dollar? Explain why.

8. How does the weaker dollar affect business decisions in the global perspective such as a company as ABB?

9. Why must companies such as ABB remain aware of the fluctuations in the currency exchange rates as they conduct business in the global context?

10. Explain how flexible exchange rates affect the profit margins for companies like ABB as they conduct business in the global context.