FISCHER BLACK'S GLOSSARY FOR FINANCE: SUPPLEMENT

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After-tax discounting

For a firm that pays taxes, the right way to find the present value of a series of cash flows is to estimate the conditional after-tax cash flows and then discount them at the after-tax interest rate.

If you are discounting the cash flows from a current coupon bond, then discounting the before-tax cash flows at the before-tax interest rate will give the current value of the bond, and discounting the after-tax cash flows at the after-tax interest rate will give the current value of the bond. However, when discounting a single cash flow, the two procedures give different results.

If we use the capital asset pricing model, then the correct way to do after-tax discounting is to use a form of the capital asset pricing model that contains only the after-tax interest rate.

Bankruptcy costs

When a firm enters bankruptcy, lawyers' fees and other out-of-pocket costs as a percentage of the value of the firm tend to be quite small. However, there are other indirect costs which can be quite large. The firm's suppliers will want to be paid in cash, which may be difficult for a firm in bankruptcy, and more important, the firm's customers may be uncomfortable with dealing with a firm that may not be here next year. They may feel that the firm will not stand behind the products and services that they buy from it. Thus, total bankruptcy costs are likely to be quite large as a percentage of the value of the firm, and are likely to far exceed the out-of-pocket bankruptcy costs of the firm.

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Book return on capital

A firm's or a country's book return on capital indicates how well the firm or the country has been doing in the past. When the market price of the firm's stock has been rising, or when the market prices of a portfolio of the country's stocks have been rising, then the return on capital or return on equity is likely to be high.

Since it often better to invest in sectors that have been doing well than in sectors that have been doing badly, the return on capital may well indicate differentials in the return to new investments in these sectors. Thus, we expect to find that investment in sectors showing a high return on capital is higher than investment in sectors showing low return on capital.

Changes over time in the book return on capital, however, will not tell us anything that changes in market value don't already tell us.

Conditional cash flows

A conditional cash flow is a cash flow estimated by assuming that the return on the market in each period before the cash flow is equal to the interest rate. If the period is shorter than a year, then we say the return on the market is equal to interest in each period prior to the cash flow. One way to find the present value of a project is to estimate the conditional cash flows from the project and then discount them at the interest rate.

Contestable market

A contestable market is one where there is entry without cost or where the entrant can recoup the cost of entry if he leaves the industry. In principle, a market can be contestable even when there are certain kinds of economies of scale in the market.

For example, there may be a kind of economy of scale in the provision of airline services between two points. A new entrant would be an airline that sets up service between those two points in competition with the existing airlines serving that market. The economy of scale comes from being able to fill more seats on each flight. The costs of entry and exit are relatively low, because the planes can be moved to and from other routes.

If economies of scale are sufficient, then the service in a contestable market will be priced at average cost, according to the theory. If it were priced higher than that the provider would be making profits and a new entrant would be able to set a lower price and take away all the business of the old participant in the market.

In practice, however, it is not clear that any markets are close to fully contestable, because the costs of entering a market seem normally to be quite large. Moreover, it is very rare that a new entrant will completely drive out an old participant in a market even when there are economies of scale. It seems more likely that there will be a complicated battle for the business and the end result will be that the two participants will share the market.

Corporate investment in bonds

Corporate investment in bonds is a zero net present value investment.

Assume that a firm has reached an optimum capital structure. This means that small changes in the capital structure between bonds and stocks will not affect the value of the firm or the value of its stock. In particular, it means that issuing stock to buy the firm's bonds will not change the value of the stock. But the firm's bonds are an almost perfect substitute for other bonds. Thus, issuing the firm's stock to buy other bonds will not change the value of the stock, and it is clear that issuing the firm's bonds to buy the bonds of other firms will not change the value of the firm's stock, because the two bonds will cancel.

Thus, at the optimal capital structure, small investments in bonds by a firm will have about a zero net present value. The firm will be indifferent to buying small amounts of bonds even though the interest is taxable.

Corporate investment in stocks

Corporate investment in stocks is a negative net present value investment.

When a firm is at its optimal capital structure, small changes in the capital structure between bonds and stocks will have no effect on the value of the firm's stock. In particular, if the firm issues bonds to buy back a small amount of its stock, there will be no change in the value of the firm or its stock. Thus, the firm will be indifferent to buying back a small amount of its own stock.

However, if it buys stock in other firms, it will pay taxes that it would not pay if it bought stock of its own. It will pay some dividend taxes, assuming that it pays taxes, and it will pay capital gains taxes if it realizes capital gains.

Thus, the firm will not be indifferent to investment in stocks of other firms. It would prefer not to make such investments, at least as a first approximation.

Demand and price with rate of return regulation

In a competitive market, higher demand means a higher price. When demand is higher than it was expected to be, the price will be higher than it was expected to be. If regulation is to emulate competition, then we might expect the same relation between demand and price under regulation. We'd want a system of regulation under which unexpectedly high demand will be associated with unexpectedly high price. This will certainly be true in an industry that shows constant returns to scale and perhaps does not need to be regulated in the first place.

However, rate of return regulation does not give this result. In the short run, an increase in demand will not change the rate base but will provide more units of demand and thus more sources of income to spread over the rate of return that is allowed on the rate base. When there is no regulatory lag, an increase in demand in the short run will cause a decrease in the unit price, because it must leave total operating revenues and thus total rate of return on rate base unchanged.

Regulatory lag will ease this problem but will not eliminate it. Surely we would like a system of regulation which will work well when there is no regulatory lag.

When there are economies of scale in the regulated industry, we might in fact want the unit price and service provided by the industry to fall with an increasing demand. However, we would also want the value of the rate base to rise in the short run, even when there have been no additions to the rate base through new investment. Standard methods of rate of return regulation will not give an increase in the value of the rate base when there is an increase in demand.

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Differential cash flows

One way to decide on whether or not to undertake a project is to estimate the differences between the cash flows on the project and the cash flows on another project, or the differences between the cash flows from this project and the cash flows that someone else would obtain from the same project.

For example, a merger will generally make sense only if the buyer will get higher cash flows than would have been obtained in the absence of the merger. The premium that can be paid in achieving the merger is the present value of the difference between the cash flows with the merger and the cash flows without it.

Similarly, a divestiture is likely to be sensible only if the seller will receive lower cash flows from the division being sold than the buyer will receive. The present value of this differential indicates the potential gain from the divestiture.

Diffuse ownership

The ownership of a firm's stock is diffuse when there are many owners and no one owner holds a very large percentage of the stock. In this situation, it will be hard to coordinate the interests of the owners because no one owner will feel it worthwhile to put out the money or time that would be required to exercise full control over the directors or managers of the firm. The benefits of any effort put out by one owner will be shared by the other owners even if they do not themselves put out any effort. This is the cost of diffuse ownership.

However, diffuse ownership also has a benefit. The benefit is that each of the owners of the company can own it as a part of a diversified portfolio of stocks. One way to have the benefits of diffuse ownership without the costs is to have the firm owned by a few financial institutions who hold widely diversified portfolios that are in turn held by individuals.

Economic bankruptcy

A firm faces economic bankruptcy when stockholders are unwilling or unable under the terms of their debt contracts to use cash on hand, plus cash available from the sale of assets, plus cash available from issuing new securities or from new borrowing, to make a currently due payment to a creditor.

Estimates based on market prices

If we want to estimate the value of a firm that has traded stock, the first step is to take the market price of the firm's stock. If we have been estimating cash flows for projects within a firm, and the firm's stock goes up, or stocks of other firms in similar businesses go up, then we should doubtless increase our estimates of the cash flows from these projects. The result is that we will be more likely to take on a given project the more a firm's stock has been going up and the more other related market prices have been going up.

If we need to estimate future interest rates, we can use the term structure of interest rates to calculate forward rates. If we need to estimate future commodity prices on which there are futures contracts, we can use the futures prices as if they were the known future commodity prices.

Forward interest rates

If we need to estimate future interest rates, the best way to do so seems to be to take forward interest rates from bonds of different maturity. This is likely to be better than asking economists what they think interest rates are going to be doing in the future.

Roughly speaking, the forward interest rate is the interest rate that when compounded with the interest rate on a short-term bond gives the interest rate on a long-term bond. We can compute forward rates from either taxable bonds or tax-exempt bonds. Forward rates on both kinds of bonds will be affected by default risk, and default risk is often higher with tax-exempt bonds than with taxable governments.

Moreover, the forward rates on both kinds of bonds will be affected by the likelihood of tax law changes in the future. If all capital is taxed at the same rate, and if taxes on capital are suddenly eliminated, then we would expect taxable interest rates to remain the same but tax-exempt interest rates to rise sharply and prices of tax-exempt bonds to fall.

If taxes on firms and taxes on real assets are held constant, while taxes on interest are eliminated, then we would expect taxable interest rates to fall sharply and tax-exempt rates to remain about the same.

Both these possible changes will affect the differential between forward taxable rates and forward tax-exempt rates.

Futures prices

The futures price for an agricultural commodity need not be the price that it is expected to have in the future. The futures price may be affected by risk premiums associated with that commodity price.

However, the farmer or a processor can use the futures price as if it were the price that were known to be the price that the commodity will have in the future. Using the actual expected future price of the commodity and then discounting using the appropriate risk premium will give the same result as using the futures price as if it were he actual price in the future.

Thus, there is no need to know the risk premiums associated with commodity prices or the actual expected future prices.

General equilibrium and transaction costs

In the standard general equilibrium model, all trading takes place at the beginning of the economy. Transaction costs are zero and there are individual securities corresponding to every possible future state at every possible future time.

However, if there are costs in trading these time- and state-indexed commodities, and if these costs are greater the farther in the future is the time in which the commodities will be spot commodities, then we would expect not all trading to take place at the beginning.

Some spot markets might not have corresponding futures markets at all. Other spot markets might have corresponding futures markets only for a short time before they become spot markets. This kind of model would seem to fit the world better than the standard general equilibrium model with no transaction costs.

Assuming that the transaction costs are not the costs of setting up a market, but are the costs to individuals of trading in the market, we might still find that a competitive equilibrium in a model like this is optimal. Thus, we might find that a competitive equilibrium can be optimal in a model with incomplete markets, if the reason for the incomplete markets is costly trading in the securities associated with those markets.

Gold standard with zero reserves

A gold standard is a system under which the price of gold is fixed in terms of the local currency. If the local currency is dollars, this means fixing the price of gold in dollars at any given point in time. The dollar price of gold may change over time so long as the government determines what it is at any given point in time.

The simplest way for a government to fix the price of gold is to stand ready to buy or sell gold at that price. If the government's willingness to buy or sell gold at that price is unrestricted, then gold will have to sell for that price.

It might seem that the government would run out of gold following this policy, or would accumulate stocks of gold that would be too high. In fact, though, the government can buy or sell gold at a fixed price without either running up or running down its stocks of gold significantly. The key to this is having other transactions which affect the stock of gold.

A gold standard with zero reserves is one in which the government holds only working balances of gold and does not hold stocks of gold beyond these working balances.

If a government is fixing the price of gold by standing ready to buy or sell it freely at a certain price, it can control its stocks of gold by engaging in open market operations. For example, if the government buys bonds with currency, then people receiving that currency who feel that they have too much currency will reduce the amount of currency that they have by exchanging it for gold. This will eliminate any excess supply of gold the government may have.

Similarly, if the government runs down its stocks of gold, it can sell bonds in exchange for currency and people who are trying to increase their stocks of currency will turn gold into the government. Thus, the government will be able to operate a gold standard with no reserves beyond what it needs for its working inventories. By choosing the path of the price of gold appropriately, the government can stabilize the consumer price index or any other index that it chooses to stabilize.

Government deficits



Suppose we represent the simplest kind of government deficit as a distribution of government debt without payment by any of the people who receive it. And suppose we assume that the interest on this debt will be paid with the proceeds of a tax that falls entirely on capital. This tax will have the effect of reducing saving even if people have bequest motives. Thus, if taxes associated with higher government debt fall at least in part on capital, government deficits will have the effect of reducing.

This effect will be reinforced if some people do not have bequest motives. These people will experience lower taxes without any offsetting future increase in taxes. Thus, they will consume more and work less, which means they will save less. These two effects mean that government deficits can have a considerable effect on total saving.

Imperfect information

A market has imperfect information if some people have information that others do not have. If everyone acts rationally, no one will trade on information. Even those who have information will not trade, because they will find no one to trade with.

On the other hand, if there are people who enjoy trading on noise or who trade on noise out of ignorance, then there may be trading by both noise traders and information traders. In a market like this, prices will not perfectly reflect the information that some people have. However, it is not clear that the existence of imperfect information will have any macroeconomic consequences.

Incentive problems

Incentive problems are problems in inducing an employee or an agent to do his job. These problems exist because the employee tends to want to look but for his own interests rather than for the interests of his employer. Tools like stock options, bonuses, and the threat of firing are used to help control incentive problems. When defined in the most general possible way, incentive problems are just management problems.

Income and real exchange rates

The income of a country includes the wages earned by that country's residents plus the return on capital owned by that country's residents. Income from capital includes both income from capital within the country and income from capital that residents of the country own outside the country. The real exchange rate between two countries is the ratio of the consumer price index in one country and the consumer price index in the other times the exchange rate between the countries. The real exchange rate measures the relative price of goods and services produced in one country and goods and services produced in the other.

One country's income may grow relative to another country's income because the first country's residents are thriftier than the residents of the second country. But business cycles provide the main reason for fluctuations in a country's income in the short run. There is a world business cycle which affects all countries and there are regional business cycles which affect countries located in the same area or countries with similar cultures. But there are also national business cycles which affect individual countries independent of what is happening in other countries.

When a country's income rises relative to the income of other countries, demand for goods and services produced in that country will rise too. Thus, the price of goods and services produced by the country whose income rises will normally rise relative to the price of the goods and services produced by other countries. Rising income within a country will be associated with an decrease in the real value of that country's currency relative to the values of other countries currencies.

Income and the trade balance

A country's income includes both wage income and income from capital. The capital may be located anywhere, so long as it is owned by residents of the country. A country's trade balance is measured by the flow of goods out of the country minus the flow of goods into the country. Normally, services are not included. Goods flows are measured in dollars when we are talking about the U.S., or in the local currency when we are talking about another country.

When times are good and a country's income rises relative to incomes in other countries, the residents of that country will start consuming more goods and services relative to consumption of the residents of other countries. This means they will tend to export less and import more. If the trade balance is measured as exports minus imports, an increase in income will thus be associated with a decrease in the trade balance.

Since high income is usually regarded as good, we see that a decrease in the trade balance is often associated with an improvement in a country's welfare.

Incomplete markets

In a general equilibrium model of an economy, markets are incomplete if some trading for state contingent claims is not done.

Some economists claim that incomplete markets explain the existence of such phenomena as unemployment. More likely, though, incomplete markets simply reflect the costs of setting up the markets.

One can imagine a general equilibrium model in which markets initially do not exist, but as the time associated with the state contingent claim approaches, the cost of setting up the market declines and the market starts to operate. Thus, all spot markets will operate and certain futures markets will operate for a certain period of time before the spot market starts to operate.

If costs like these are the reasons for incomplete markets, it is not clear that they will have any macroeconomic consequences.

Inflation

Inflation is the rate at which prices increase. While high inflation is associated with large changes in relative prices, there is no special evidence that high inflation causes changes in relative prices.

In fact, it may well be that large changes in relative prices cause high inflation, especially when there are more goods whose relative prices are decreasing than there are goods whose relative prices are increasing. It is then easier to increase the prices of a few goods than to decrease the prices of many goods, and the rate of inflation may increase. If this is what is going on, then the rate of inflation will decrease when there are changes that cause a few things to go down in price relative to many things.

Inflation does not obviously have significant costs for the economy. It may be associated with shifts of wealth from one group to another, but it is relatively easy to index various kinds of contracts. If anyone is concerned about these shifts of wealth, it is fairly easy for that person to protect himself against them.

Inflation and discounting

When discounting cash flows, one can either discount dollar cash flows at nominal interest rates or real cash flows at real interest rates. In a world without taxes, these two methods will give the same answer.

As a first approximation, the rate of inflation does not affect the present value of a corporate project, either actual or proposed. It is possible, however, that the rate of inflation will affect the taxes on a proposed project. It is also possible that it will affect the relevant interest rates for the project since it will be affecting taxes and optimal capital structure for projects and firms throughout the economy.

A more precise form of discounting would take into account these effects of inflation on both after-tax cash flows and after-tax interest rates used for discounting. As a first approximation, it appears that one can assume that inflation changes before-tax interest rates point for point, and thus that inflation changes after-tax interest rates by less than point for point.

Information traders

Information traders are people who buy information and trade on it in the hope of making a profit. When there are noise traders, information traders may in fact consistently make profits. The more noise traders there are, the more profits information traders will make, although the efficiency of the market will be lower when there are more noise traders.

Actions that bring in information traders but do not bring in noise traders, or that bring in more information traders than noise traders, will tend to increase the efficiency of the market. It is likely that traders with more wealth are more likely to be information traders, while traders with less wealth are more likely to be noise traders. It is likely that traders with more education and more experience in financial markets are more likely to be information traders with less education and less experience in financial markets. Thus, it may be desirable to structure markets so as to encourage traders with more information, with more education, and with more wealth, and to discourage other kinds of traders.

Insider trading

Insider trading occurs when an individual who has a business relationship with a firm trades in that firm's stock on the basis of information obtained through that business relationship. It may also occur when an individual has a personal relationship with someone who has a business relationship with the firm, or in other ways.

If the information is confidential, then the individual may well have harmed the firm by trading on the information. Under certain circumstances, at least, it makes sense for the firm to have the right to sue the individual to recover any losses caused by that trading. Under other circumstances, it might pay to have insider trading be a criminal offense.

However, it is not clear that it makes sense for insider trading to be viewed as an offense against the other side of the trade. Normally, people do not need to trade in the shares of individual companies' stock. They can own shares of mutual funds, and when they need money, can redeem those shares.

Mutual funds normally don't need to trade in individual companies shares either. Most redemption by individuals of mutual fund shares can be balanced against purchases by other individuals of those shares. It is also common for a mutual fund facing net redemptions to offer for sale shares in its entire portfolio, or a substantial part of its portfolio, rather than individual company shares.

Thus, almost anyone can avoid being hurt by insider trading by simply not trading in the shares of individual companies' stocks. Since trading by individuals in the stocks of individual companies does not obviously help other individuals, there is no clear reason for increasing confidence that individuals can have in doing such trading.

Thus, control of insider trading for the benefit of securities markets markets does not seem justified.

Management_compensation

There is no substitute for supervision in determining the correct compensation for a manager. The supervisor can take into account all kinds of factors that may have affected the manager's performance other than the manager's skill and effort. Objective measurements of the manager's performance are likely to have been affected by many factors beyond the manager's control. Thus, no formula or automatic scheme for management compensation will be an effective substitute for a supervisor's judgment.

But if an automatic scheme is to be used, the following scheme seems better than a system of stock options. <u>Give the manager a base salary</u> <u>plus a bonus that takes the form of a multiple of the stock price of the</u> firm he works for. This will give the manager an incentive to do things that will increase the value of the stock. In other words, it will encourage the manager to maximize the value of the firm, just as we would like managers to do.

Stock options, on the other hand, have rather strange behavior. Worst of all is that the fact is that the compensation to a manager depends not on the value of the firm but on the change in the value of the firm. Since most factors affecting the price of the firm's stock are beyond the manager's control, it seems too volatile a form of compensation to give the proper incentives to the manager.

Thus the simplest scheme seems to be best. Simply pay the manager part of his salary in the form of a constant multiple of the stock price of the firm.

Noise traders

Noise traders are people who act like information traders but whose information is not systematically either correct or incorrect. They are people who trade on noise as if it were information.

An increase in the number of noise traders in a market, as may be caused by reducing the barriers to trading that market, will tend to make prices less efficient and will thus tend to attract more information traders. Since it is the less efficient prices that attract the information traders, we know that an increase in the number of noise traders overall will be associated with a decline in market efficiency, in spite of the fact that more information may be generated.

Not-for-profit accounting

A firm that is not managed for profit is typically a firm or organization that relies on donors for much of its income. Taxpayers may also provide some of the income of the organization in the form of special tax credits for the donors. Thus, the taxpayers and the donors are the residual claimants in a not-for-profit organization.

Since their claims do not trade, we cannot seek to define an earnings figure that corresponds to the earnings figure in a for-profit organization. It makes no sense to have a target price/earnings ratio in a not-for-profit organization.

The kind of accounting that is of great interest to donors and taxpayers emphasizes the cost of providing a given unit of service to the beneficiaries and the cost of raising the money that the organization gets from donors.

Observables

An observable is something that can be estimated with a reasonable amount of effort. In both finance and economics, there are sharp distinctions between quantities that are observable and those that are not.

For example, the price of a security is observable because we can see the prices at which trades occur, and because we can find out about offers to buy or sell the security. The expected return on a security, though, is not observable. There is no easy way to estimate what it is, either for one individual or for the economy as a whole.

Similarly, the interest rate on a bond is observable, and the short-term interest rate is observable, but the expected return on a long-term bond over and above the short-term interest rate is not observable.

The risk of a security is observable whether it is measured by beta or by total risk, because we can usually observe prices for a security at frequent intervals and use these observations in estimating its risk. The price of risk, though, is not observable. The price of risk is the amount of extra return that we get by bearing an extra unit of risk.

Things like expected return and the price of risk can be estimated only by looking at the change in a security's price over a long period. This will give us an estimate of the average expected return or the average price of risk over the period that we look at, but will not give us a good estimate of the current expected return or the current price of risk.

Since expected return is not observable, it is very difficult to estimate the process by which expected return changes through time. It is even hard to find out what factors might affect the expected return.

In accounting, many quantities are not observable. Such key concepts as cash flow and accounting depreciation are not easily estimated.

Similarly, in economics, some of the most important quantities are not observable: like national income and saving. Total consumption may be relatively easy to estimate, but since total income is not easy to estimate, neither is saving, which is the difference between income and consumption.

One of the major problems in estimating income is deciding how to deal with changes in the values of assets. If actual changes in asset values are used in estimating income, then income will be very volatile. If expected changes in asset values are used, then the fact that expected changes are unobservable will make income unobservable.

Optimal asset and liability structure

The more debt a firm has, the lower its taxes will be, because its interest payments will be tax deductible. On the other hand, the more debt the firm has, the higher its costs of avoiding bankruptcy will be, and the more likely the firm will be to go into bankruptcy. The costs of avoiding bankruptcy and the costs if the firm goes into bankruptcy are likely to be high, because suppliers are not going to deal easily with a firm that may not pay and customers will be reluctant to buy products from a firm that is not going to be in a position to stand behind them. The out-of-pocket legal costs of bankruptcy are likely to be but a small part of the total cost of bankruptcy.

Reduced taxes from debt and increased bankruptcy costs from debt are not the only factors in the firm's asset and liability structure, however. The more specialized the firm is, the more focused the incentives of the / firm's managers will be on the well-being of the firm. This is why a firm that spins off a division to the managers of the division can often be doing a profitable thing. At the same time, the managers of a more specialized firm will be holding somewhat less well-diversified portfolios on average since a part of their portfolios will be less well diversified. This will increase the amount that the firm will have to Moreover, a firm that is more pay these managers in salaries. specialized is less well diversified and therefore will be able to support less debt or will have a higher probability of bankruptcy.

Finally, the larger the dollar value of the firm's common stock, the more diffuse the ownership of the stock is likely to be, and the greater the costs of coordinating the interests of the owners are likely to be.

All of these factors will affect the firm's optimal asset and liability structure.

Pro forma earnings statements

It is common to evaluate investment projects in a firm by projecting the earnings of the project after it has reached a stable state and then multiplying this normal level of earnings by a price/earnings ratio. The resulting value can then be discounted to the present.

This is an alternative to projecting cash flows and discounting them to the present. When one uses a discounted cash flow method, the cash flows are often smoothed in the same way that earnings figures are, so one is using a method like the pro forma earnings statement method anyway. Moreover, in using a cash flow method, the terminal value of the project often plays an important role in its present value, and the earnings method may have to be used to estimate the terminal value in any case.

The use of a pro forma earnings statement is likely to be just as accurate as the use of discounted cash flows in evaluating projects.

Purchasing power parity

Purchasing power parity means that the relative price of two goods or services is independent of monetary arrangements. It means that when a country is using fixed exchange rates, a devaluation will be followed by price level changes in that country and in other countries that exactly offset the effects of the devaluation. Thus, a devaluation will not lead to any changes in relative prices or any changes in trade patterns that would not have occurred anyway.

It is extremely difficult to tell whether purchasing power parity holds, because changes in relative prices and in trade patterns are constantly occurring whether or not there are changes in exchange rates. Purchasing power parity simply says that the international economy is in equilibrium.

Thus it seems natural to assume that purchasing power parity holds, unless we come up with striking evidence to the contrary. None of the evidence against purchasing power parity produced so far is very convincing. We can assume that purchasing power parity holds in both the short run and the long run.

Reputation

A good reputation has benefits either for an individual or for an organization. It is a principal factor limiting the desire of the individual or the organization to take advantage of other parties. For example, it helps control the desire of stockholders to take advantage of bondholders, the desire of managers to take advantage of stockholders, and in general the desire of agents to act in a way that serves their own interests rather than the interests of their employers. Under favorable circumstances, an agent's desire to maintain a good reputation can sharply reduce the costs of controlling the agent.

Residual claim

A residual claim on an asset or a business is a claim that comes after all better defined claims. For example, in an ordinary corporation, the common stockholders have the residual claims on the business. Their claims come after the claims of the government, trade creditors, bondholders, and preferred stockholders. Claims that are senior to the residual claims are usually defined so that they are not very risky. Most of the risk in a business is normally borne by the holders of the residual claims. Thus, it is natural for the holders of the residual claims on an asset to be defined as the owners, and to have control over the asset.

Social security

Social security represents a transfer from young to old.

To the extent that people have bequest motives, social security will accomplish nothing, since it will simply be given back by the old to the young in the form of bequests. However, there will always be some people who do not have operative bequest motives and who do not save much for retirement. These people will consume more with the social security system than they would have consumed without social security. They will also work less than they would have worked without social security. Since they will spend more and earn less, their saving will be sharply reduced. Counting government saving, the saving of people with bequest motives may not be affected by social security. Thus, overall saving will be reduced by the existence of a simple social security system.

Symmetric claims on excess return

A symmetric claim on an asset's excess return is a claim that is proportional to the excess return. The holder of the claim will receive a positive amount when the excess return is positive, and a negative amount when the excess return is negative.

The present value of a symmetric claim on excess returns will be zero. It is always possible to construct such a claim by borrowing all of the money needed to buy the asset. The equity for such a position is zero and therefore the present value of a payoff stream similar to that obtained from such a position will be zero too.

Thus, for example, a tax of 50% of the excess return on an asset will have a zero present value to either the government or the taxpayer.

Similarly, an incentive investment advisory fee that is symmetric and is applied to a portfolio's excess returns will have a zero value to both the investment advisor and the beneficiary of the portfolio. When the owner gives up a symmetric claim on the portfolio, he gives up both some of the expected excess return on the portfolio and some of the risk. These two offset one another, so the owner is indifferent.

Tender offers

In a tender offer, a firm or group of individuals offers to buy the shares of a target firm at a price which is generally substantially higher than the previous market price of the target firm's shares.

A tender offer may be made because the buyers believe they can manage the target firm better than existing management. The existing managers have an incentive to try to do a good job, so they won't be fired as a result of a takeover.

Sometimes tender offers are made by people who believe that the market price of the target firm's stock is low relative to its value even if the current managers are kept. Since markets are quite efficient, this belief is likely to be mistaken more often than it is correct.

Yet another reason for tender offers is that the managers of the firm making the offer are trying to expand total assets under their control. They don't mind overpaying for the target firm's stock, because they are trying to increase the size of the firm they manage and thus their salaries, rather than trying to maximize the price of the stock of their firm. The amount of this kind of takeover activity might not increase if takeovers were made easier, because <u>managers doing this sort of thing</u> would be subject to takeovers themselves.

For the managers of a potential target firm to resist takeovers by any means other than working harder is probably not in the long-run interests of that firm's shareholders. If tender offers are easy to make, then the premium associated with any given tender offer may not be very high, but the likelihood of a tender offer will be high. The incentive effects on managers will tend to increase the price of the firm's stock even if no actual tender offer occurs.

Thus, it appears that most firms would gain by binding their managers not to resist tender offers.

Transfers and real exchange rates

A transfer is a gift from one country to another. For example, transfers may take the form of foreign aid. The real exchange rate between two countries is the ratio of the consumer price indexes in the two countries times the exchange rate between the countries.

When one country makes a transfer to another, the giver becomes poorer and receiver becomes richer. Normally, residents of a country will want more of goods and services produced in that country than they will want of goods produced in another country. Thus, after a transfer, demand for goods and services produced by the country receiving the transfer will go up, and demand for goods and services produced by the country making the transfer will go down. This means that the relative price of goods and services produced by the receiving country will rise while the relative price of goods and services produced by the giving country will fall.

In the normal case, then, the giving country will find that the real value of its currency rises and the receiving country will find that the real value of its currency falls.

Unemployment

Unemployment arises because individuals make investments under certain assumptions about future conditions, and those investments turn out to be inappropriate because conditions turn out to be different than they were expected to be.

For example, a person may become an expert in timesharing computer terminals at a time when microcomputers are becoming popular and making timesharing terminals largely obsolete. That person will then need to switch, perhaps to being an expert on microcomputers. The process of making the switch may well result in something that we call unemployment. There is a cost involved in making this switch but it is a cost that the individual wants to incur and that society wants him to incur.

People who are unemployed may be in the process of moving from one employer to another within their skill field; or they may be in the process of moving from one skill field to another, which will usually take longer; or they may be waiting for conditions to improve within their skill field before taking another job; or they may be faced by government restrictions on the availability of jobs for which they are qualified. For example, minimum wages have the effect of restricting the availability of jobs for people who would normally earn less than the minimum wage.

Unemployment fluctuates because business conditions fluctuate, and business conditions fluctuate because of uncertainty about future demand and supply conditions. For example, suppose that an expected boom in the domestic oil business turns into a bust. People employed in the domestic oil business will have to find other jobs. In the process, many of these people will be unemployed. Others will simply wait, hoping that the bust will turn back into a boom, or at least into reasonable demand.

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Thus, unemployment is associated with fluctuations in demand and supply across specific sectors of the economy. Total unemployment is simply the sum of all those unemployed for specific reasons in specific sectors.

When firms and individuals have anticipated correctly what business conditions will be like, unemployment will tend to be low. However, when firms and individuals have made large mistakes in estimating what conditions in the future will be like, they will have invested in the wrong places and will have trained themselves for the wrong jobs, and total unemployment will tend to be high.

Under this view of unemployment, there is little that the government can or should do to change the overall amount of unemployment.

info. Nesitkenert.