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OPINION

Stocks in trade

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Stock and bond markets are the trading places for capital. Our fourth schools brief on finance explains how the markets guide capital around the world economy, and how they continue to evolve to meet the needs of savers, companies and governments

NOT so long ago, stockmarkets were derided by critics from communist countries as emblems of capitalism's greed and instability. Now, ten years after the Berlin Wall came down, it is hard to find a country without its own bourse. In Poland, the Warsaw Stock Exchange even occupies the former headquarters of the Communist Party. Despite China's commitment to state control of its economy, it has two stock exchanges, even without counting a third that it inherited from Hong Kong. The number of developing countries with stockmarkets has doubled during the 1990s (see chart 1). Why is everyone betting on the markets?

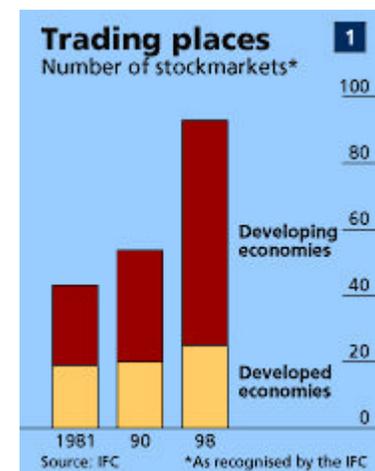
Part of the answer is that capital markets have proved remarkably efficient at bringing savers and borrowers together. Capital is just another word for stored wealth and resources, which can take many forms. And markets, as basic economics shows, are the least bad way to set prices and to allocate scarce resources.

The key difference between capital markets and financial intermediaries, such as banks or life insurers, is that capital markets cut out middlemen. Where banks and institutions stand between savers and investors, directing the flow of resources, capital markets bring the two parties face to face.

The two main types of capital markets are equity markets, for trading company shares (or equities), and bond markets, for trading the debt of companies and governments. Both perform two crucial functions in the economy. They move resources across space and time, from where they are in surplus to where they are needed most. And they produce valuable information, through the prices they set, that firms, households, and governments use to manage resources better.

Although the forms of capital markets have changed significantly over the years, these broad functions have remained the same. That is not enough to silence critics, however. Many argue that share and bond prices gyrate wildly, with no underlying justification, and that financial markets exert too much control over the world's resources. They point to America's great crash of 1929 and Japan's long stockmarket slump in the 1990s as evidence that volatile capital markets can wreak havoc on the real economy. Yet such events are usually symptoms of broader ills, not causes. The apparent chaos of the trading floor should, over the long term, lead to greater efficiency in the real economy—and will certainly work better than any centrally planned alternative.

Exchange and mart



Today's financial markets have come a long way from their humble origins. Securities that looked much like modern shares were issued as early as the late Middle Ages in Italian city states. Government bonds with publicly quoted prices date at least as far back as long-term Venetian loans called *prestiti*, in the 13th century. The New York Stock Exchange started under a buttonwood tree in 1792 with just two equities and three government bonds. By 1998, the NYSE's average daily turnover—the value of traded shares—had reached \$29 billion. In many rich countries, stockmarket capitalisation, the market value of all listed companies, now rivals or exceeds the size of the domestic economy (see chart 2).

Bond markets, too, play an essential role in raising finance for companies and governments. In 1997, the market for dollar-denominated bonds was worth \$11 trillion, measured by publicly traded debt outstanding, almost twice as much as in 1989. Most of this (and also most equities) was traded by large institutions.

Modern capital markets can be real or virtual. Traditional financial exchanges had a trading floor on which members would gather to buy and sell securities. Floor traders have become icons of modern finance. Yet today the NYSE is one of the few examples left of an exchange with a floor. Increasingly, exchanges' only address is in cyberspace, with traders linked by a computer network. The most successful example of such screen-based exchanges is America's Nasdaq. The Tokyo Stock Exchange recently replaced its trading floor with a computer.

In the past, stock exchanges were almost always owned mutually by their members, but now several of the largest plan to issue shares to the public, following the example of Australia's stock exchange, which is now quoted on its own market. And there are different trading mechanisms. Dealer exchanges, such as Nasdaq, rely on market-makers to match buy and sell orders, while auction markets such as the Frankfurt exchange match such trades electronically. The NYSE is a hybrid of the two. The trading method chosen can affect liquidity, a measure of how fast securities can be sold and how much such sales affect prices.

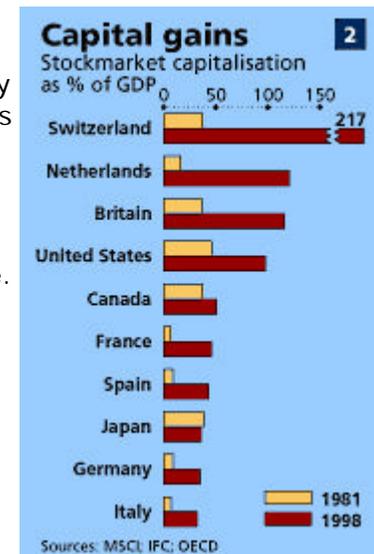
Most capital-market trading takes place between one investor and another. This is known as the secondary market, since it does not directly involve the company or government that issued the security. New shares and bonds, however, are born in what is called the primary market, where the money raised flows directly into the coffers of the issuers. The primary market includes initial public offerings (IPOs) of shares in the stockmarket as well as new debt issues in the bond market.

Capital styles

These shares and bonds are in essence only the receipts that savers get for lending money to, or investing in, a firm or a government. A bond, for example, is a loan that can be traded between investors. A government might issue a bond because it spends more than it receives in tax revenues, and needs to borrow the difference. Bonds are often called fixed-income securities because they give the investor a regular stream of interest payments, called coupons.

A bond is an agreement to repay an amount of principal at a future date, along with a schedule of interest payments over a period of time, usually several years. American Treasury bonds are a well-known example. An investor today who buys a newly issued \$10,000 face-value, 30-year Treasury bond with a 6% coupon will receive 6% interest per year (or \$600) until 2029, when he will also get back his \$10,000 principal.

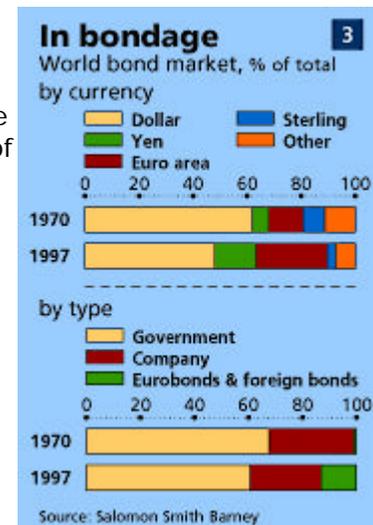
Bonds come in countless flavours. Government debt includes municipal bonds, central or federal



government bonds, and the bonds of related agencies. Corporate issues include the relatively safe debt of a large company such as AT&T, as well as high-yielding “junk” bonds of riskier firms. Bonds are denominated in many currencies, but most often these days in dollars and euros (see chart 3). Restrictive regulations in America in the 1960s spurred Europeans to issue dollar-denominated debt. These Eurobonds were an innovation that helped ensure London’s continued prominence as a financial centre. The Eurobond market grew from \$64 billion in 1980 to over \$1 trillion in 1997.

The market price of a bond will vary over time in response to several factors: expected inflation, interest rates on competing investments and the creditworthiness of the borrower. The less worried investors are that inflation will erode the value of both interest and principal, the more they will pay for a bond. Bond prices are thus a good reflection of investors’ expectations of future inflation. When interest rates offered on new investments rise, the fixed payments of older bonds become less attractive; so investors will bid the prices of these bonds down.

One way of summarising a bond’s value is its yield. This is a measure of the return a bondholder receives on his investment, stated as a percentage of the bond’s market price. As a bond’s price falls, investors can purchase its stream of interest payments for less. Likewise, when that bond’s price rises, investors pay more dearly for its cashflow. This gives rise to one apparent paradox about bonds: the cheaper they are, the more they “yield”.



Fair shares

In contrast to bonds, shares are little slices of ownership in private firms. As owners, shareholders elect a board of directors and vote on company business. They are also entitled to the firm’s profits—the income that remains after payments for wages, materials, and any interest on the company’s debt. This is one way to see that shares generally carry more risk than bonds: bondholders have a higher legal claim, or seniority, on the cashflows of a business than do shareholders. If a firm’s business declines, bondholders will be paid first, and shareholders last, if at all. But if business booms, shareholders will do better.

For share valuation, one commonly cited measure is the price to earnings, or p/e ratio. The p/e ratio is the market price of shares divided by the firm’s profits. P/e ratios are to shares what yields are to bonds; in fact, the inverse of the p/e ratio measures a firm’s profits as a percentage of the market price of its shares, or earnings yield.

From the savers’ perspective, bonds appear safer than shares. From the issuers’ perspective, things look rather different. For a company issuing securities to fund its growth, shares are the least risky choice. Shareholders, unlike bondholders, receive no legal promise to be repaid in cash at a certain time. Shareholders can exchange their shares in the stockmarket at the market price, but the firm promises them no particular return.

For firms, as for people, taking on debt can be risky. If they are unable to meet interest payments, bankruptcy may ensue. So, in general, the more financially sound a company is, the more investors will be willing to pay for its debt. But it is costly and time-consuming for individuals to gather such credit information. Ratings agencies, such as Moody’s and Standard & Poor’s, reduce this cost by assessing companies’ financial condition and publishing their conclusions. Debtor companies also face bond covenants restricting their activities to ensure that they can continue to service their debts.

For years, businessmen believed that having the right mix of debt and equity could make their company more valuable. But in 1958 Franco Modigliani and Merton Miller, two American

economists, showed that the value of a firm should be unaffected by whether it is financed using all debt, all equity, or a mix of the two. What really matters is the value of the underlying business, not the details of its financing. But this theory, for which they were later awarded the Nobel prize in economics, relies on the crucial assumption that capital markets operate "perfectly": ie, it ignores such real-world snags as tax, and differing costs of borrowing for firms and individuals.

Tears for open outcry?

However, capital markets in the real world are far from perfect. Cultural preferences of investors and firms, as well as regulatory constraints, play a huge role in the allocation of capital. English-speaking countries, for example, are keen on shares. This is especially true in America, with the rapid growth of mutual funds. Shares are increasingly used to compensate workers through share "options" and employee share-ownership schemes. American Internet entrepreneurs start new firms with visions of stockmarket riches dancing in their heads.

Meanwhile, in most of continental Europe the average worker has little direct exposure to the capital markets. The aversion to publicly traded shares in continental Europe also helps to protect companies from hostile takeovers. This "market for corporate control" can help an economy by keeping managers disciplined and companies efficient. But it can also upset the stability that is prized in many European economies. In Germany, for example, hostile takeovers remain rare.

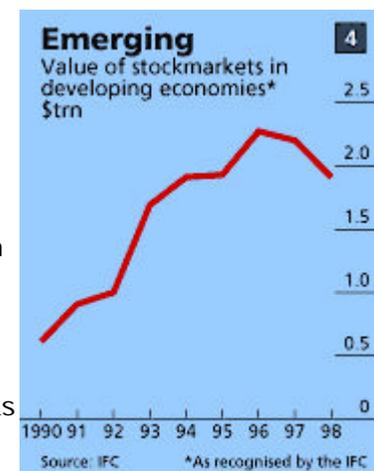
In Asia, capital markets have generally had less influence than bank finance and internal financing. Poor countries in Asia and elsewhere have made the creation of modern stockmarkets a goal of economic development. These emerging markets have more than tripled in capitalisation since 1990 (see chart 4). But poor countries might be better off if their companies listed on rich countries' stock exchanges instead of their own. This would save them the costs of developing new regulatory structures and accounting rules. Moreover, it would give them access to a deeper pool of investment capital than they can find at home.

Even so, the trend is towards more international stock exchanges. Recently Nasdaq announced the launch of a new exchange in Europe to compete with several other screen-based exchanges. And financial markets are not just venturing abroad; they are making as big a splash in cyberspace. The Internet is a near perfect tool for capital markets. It allows savers and borrowers to come together cheaply online, without having to go to a physical market. The Internet also allows financial information, such as prices and yields, to be spread, in real time, to anyone with a computer screen.

New technology poses at least three challenges for capital markets. First, traditional "open outcry" exchanges are under siege from electronic-communications networks (ECNs). These electronic networks allow shares to be traded more cheaply than traditional exchanges, even established electronic ones such as Nasdaq.

Second, online brokers and investment banks are creating new ways of distributing and underwriting shares. Firms like Charles Schwab have already made it possible to buy and sell shares and bonds without ever speaking to a broker. Online investment banks like WIT Capital are distributing shares in IPOs to individual investors via the Internet. As well as amateur investors who occasionally punt on shares, day traders try to earn money by exploiting tiny moves in share prices. This can cause already volatile share prices to jump around even more.

Third, established markets are consolidating and demutualising in response to increased competition. The NYSE plans to issue shares in itself by the end of next year. It needs the capital to fend off threats from exchanges like Nasdaq as well as the upstart ECNs. Other exchanges may



follow suit.

Spare a thought for the traditional market traders, however. In most parts of the world, they are now looking for other work. They have already lost their battle with technology: it has made capital markets so successful at connecting borrowers, lenders, buyers and sellers, that it has transformed the exchanges themselves into just more listed companies.

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