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Task Order #10: Social Insurance Training Material Part A

By
Joseph M. Anderson



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Chemonics International Inc.

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Glossary of Financial Terms

Annual report: A yearly report to stockholders of a corporation containing financial statements (balance sheets, income statement, source and application of funds statement), auditor=s statement, president=s letter, and various other information.

Asset allocation: The determination of the proportions of various types of investment vehicles that will make up an investment portfolio. Active asset allocation refers to periodically revising the allocation of assets within a portfolio among stocks, bonds, cash equivalents, and other asset categories based on market expectations.

Banks: A primary job of banks is to take in deposits from people who want to save and use these deposits to make loans to people who want to borrow. Banks pay depositors interest on their deposits and charge borrowers slightly higher interest on their loans. The difference between these rates of interest covers the banks= costs and returns some profits to the owners of the banks.

Besides being financial intermediaries, banks play a second important role in the economy. They facilitate purchases of goods and services by allowing people to write checks against their deposits. In other words, banks help create a special asset that people can use as a medium of exchange. A medium of exchange is an item that people can easily use to engage in transactions.

Bond: An evidence of debt carrying a specified amount and schedule of interest payments, as well as a date for redemption of the face value of the bond. A certificate of indebtedness that specifies the obligations of the borrower to the holder of the bond. The bond identifies the time at which the loan will be repaid, called the date of maturity, and the rate of interest that will be paid periodically until the loan matures. The buyer of the bond (the lender) gives his or her money in exchange for the promise of interest and eventual repayment of the amount borrowed (called the principal).

Three characteristics of bonds are most important: the term B the length of time until the bond matures; the credit risk -- the probability that the borrower will fail to pay some of the interest or principal; the tax treatment -- the way in which the tax laws treat the interest earned on the bond.

Bondholders: Creditors of the firm (or other borrowing entity), whose evidence of debt is a bond issued by the firm (or other borrowing entity).

Broker: A broker brings buyers and sellers together for a commission paid by the initiator of the transaction or by both sides; a broker does not take a position (i.e., buy or sell for himself). (See Dealer.)

Capital gain: An appreciation (increase) in the value of an asset (investment).

Capital loss: A depreciation (decrease) in the value of an asset (investment).

Central bank: A bank that acts as banker to the commercial banking system and often to the government as well. In the modern world the central bank is usually the sole money-issuing authority.

Certificate of deposit (CD): A negotiable time deposit carrying a higher interest rate than that paid on ordinary time deposits.

Commercial banks: Privately owned, profit-seeking institutions that provide a variety of financial services. They accept deposits from customers, which they agree to transfer when ordered by a check, and they make loans and other investments.

In the United States commercial banks are chartered under federal and state regulations. Commercial banks offer numerous consumer services such as checking accounts, savings accounts, loans, safe deposit boxes, investment services, financial counseling, and automatic payment of bills. Approximately 14,000 commercial banks exist in the U.S., with over 50,000 branch offices.

Each account in a U.S. federally chartered bank is insured against loss up to \$100,000 in principal and interest per account by the Bank Insurance Fund (BIF) of the Federal Deposit Insurance Corporation (FDIC), an agency of the federal government, subject to an aggregate limit of \$100,000 for each person's accounts at that bank titled similarly.

Commodities: Marketable items produced to satisfy wants. Commodities may be either goods, which are tangible, or services, which are intangible. Examples of commodities traded on financial markets include wheat, petroleum, silver.

Common stock: Ownership shares in a firm. A form of equity capital usually carrying voting rights and a residual claim to the assets and profits of the firm.

Corporation: A form of business organization with a legal existence separate from that of the owners, in which ownership and financial responsibility are divided, limited, and shared among any number of individual and institutional shareholders.

Coupon: The annual rate of interest on the bond's face value that a bond's issuer promises to pay the bondholder.

Credit risk: The risk that an issuer of debt securities or a borrower may default on his obligations or that payment may not be made on the sale of a negotiable instrument.

Credit unions: Not-for-profit cooperative ventures developed to pool the deposits of members, which are then used to invest or lend to members/owners. Members are usually joined by a common bond such as employer, union, or fraternal or professional association. In the U.S. credit unions with federal charters have their accounts insured up to \$100,000 through the National Credit Union Share Insurance Fund (NCUSIF), administered by the National Credit Union Administration (NCUA), which provides the same safety as deposits insured by the FDIC.

Currency: Non-interest-bearing paper money issued by the government.

Dealer: A dealer, as opposed to a broker, acts as a principal in all transactions, buying and selling for his own account.

Debenture: A bond secured only by the general credit of the issuer.

Debt: Amounts owed to one's creditors, including banks and other financial institutions.

Debt finance: The sale of bonds to raise money. (See Equity finance.)

Default: Failure to make timely payment of interest or principal on a debt security or to otherwise comply with the provision of a bond indenture.

Demand deposit: A bank deposit that is withdrawable on demand and transferable by means of a check.

Derivatives: A derivative is a security that has a value that is directly tied to the value of an underlying security. The most common derivatives include futures, options, and warrants.

Devaluation: A reduction in the value of a particular country's currency as a result of a government fiat.

Dividends: The part of profits paid out to shareholders of a corporation.

Diversification: Dividing investment funds among a variety of securities offering independent returns.

Due diligence: The legal and ethical obligation imposed on those involved in the marketing of securities to assure that all appropriate information has been gathered and disclosed to the client and that the information that has been gathered and disclosed is accurate and reasonable.

Equity: Net worth; assets minus liabilities. The stockholder=s residual ownership position.

Equity capital: Capital provided by the owners of a firm.

Equity finance: The sale of stock to raise money.

Equity income fund: A mutual fund that invests mainly in income-producing common stocks and convertible preferred stocks.

Financial intermediaries: Financial institutions through which savers can indirectly provide funds to borrowers. The term intermediary reflects the role of these institutions in standing between savers and borrowers. Two of the most important financial intermediaries in the US economy are banks and mutual funds. Pension funds are financial intermediaries.

Financial markets: Financial institutions through which a person who wants to save can directly supply funds to a person who wants to borrow. The two most important financial markets in the US economy are the bond market and the stock market.

Financial system: The group of institutions in the economy that help to match one person=s savings with another person=s investment.

Fixed exchange rate: An exchange rate that is fixed or pegged within very narrow bands by the action of monetary authorities.

Floating exchange rate: An exchange rate that is left to be determined on the free market without any attempt by monetary authorities to determine its value.

Foreign exchange: Actual foreign currency or various claims on it such as bank balances or promises to pay.

Futures contract: A contract committing one party to deliver something (for example, wheat, corn, currency, Treasury bonds or bills) at a specified time in the future for a specified price.

Futures exchanges: Provide an organized market for the buying and selling of futures contracts. Contracts are regulated and standardized by the exchange, which also facilitates trading and enhances liquidity.

Growth fund: A mutual fund that invests primarily in common stocks of companies with above-average potential for capital appreciation. Current income is only an incidental consideration.

Hedge: To reduce risk by taking offsetting positions in different financial or real assets, for example: (1) by taking a position in futures equal and opposite to an existing or anticipated cash position, or (2) by undertaking a short sale of a security similar to one in which a long position has been established. (See Long hedger, Short hedger.)

Income fund: A mutual fund that invests in bonds and stocks that pay high interest and dividends. The objective is current income, rather than capital appreciation.

Index fund: A mutual fund that seeks to duplicate the performance of a stock index by buying securities that make up the index, such as the Standard & Poor's Index of 500 U.S. Stocks.

Interest: The payment for the use of money.

Interest rate: The price paid per dollar borrowed per year. Expressed either as a fraction (e.g., 0.08) or as a percentage (e.g., 8 percent). The return to lending or the cost of borrowing.

Interest rate risk: A systematic risk that exists because of the uncertainty associated with possible future changes in the general level of interest rates.

Investment bank: A firm that engages in the origination, underwriting, and distribution of new issues of securities.

Investment bankers: Investment bankers perform two closely interrelated functions: (1) In the primary market, they float new securities for cash. (2) In the secondary market for existing securities, they assist buyers and sellers by acting as a broker or a dealer. The problem of pricing and distributing a new issue B that is, a security that has never been traded B is most important to the corporate (or government entity) issuer because it sets the firm's (or government's) cost of capital.

Lender of last resort: The role of the central bank as a provider of loans to financial institutions during crises.

Liquidity: The ease of quickly converting an investment (asset) into cash without a significant loss of invested principal.

Liquidity risk: The uncertainty as to the length of time required to convert an asset into cash and the price concession the investor must make to achieve a rapid conversion to cash. Real estate typically has poor liquidity. Treasury bills have excellent liquidity.

Long hedger: A hedger who offsets risk by buying futures contracts.

Long position: Owning or being obligated to take delivery of an asset.

Make a market: A securities dealer is said to make a market when he quotes bid and offered prices at which he stands ready to buy and sell (i.e., price making).

Market risk: The uncertainty of the investor's total return because of changes in the market prices of the investor's assets.

Market value: The price at which a security is trading and could presumably be purchased or sold.

Merchant bank: A British term for a bank that specializes not in lending out its own funds, but in providing various financial services, such as accepting bills arising out of trade, underwriting new issues, and providing advice on acquisitions, mergers, foreign exchange, and portfolio management.

Money: The usual means of payment or medium of exchange in an economy. Money also serves as a store of value. Money may take the form of paper currency, commodities, or deposits at financial institutions.

Money market: The market in which short- term debt instruments are issued and traded.

Money market fund: A mutual fund that invests solely in relatively safe, liquid, and high-yield money market instruments.

Mutual fund: An institution that sells shares to the public and uses the proceeds to buy a portfolio of various types of stocks, bonds, or both stocks and bonds. The shareholder of the mutual fund accepts all the risk and return associated with the portfolio. If the value of the portfolio rises, the shareholder benefits; if the value of the portfolio falls, the shareholder suffers the loss.

The primary advantage of mutual funds is that they allow people with small amounts of money to diversify. Because the value of any single stock or bond is tied to the fortunes of one company, holding a single kind of stock or bond is very risky. By contrast, people

who hold a diverse portfolio of stock and bonds face less risk because they have only a small stake in each company. Mutual funds make this diversification easy.

A second advantage claimed by mutual fund companies is that mutual funds give ordinary people access to the skill of professional money managers.

Mutual savings banks: A mutual savings bank is quite similar to a savings and loan association (S&L). Historically, mutual savings banks (MSBs) accepted deposits in order to make housing loans. Technically, the depositors of savings are the owners of the institution. In the U.S. MSBs are state chartered and have either FDIC=s Bank Insurance Fund insurance or a state-approved insurance program up to \$100,000 per account. MSBs are not permitted in all states in the U.S. Most are located throughout the northeast.

Similar to S&Ls, mutual savings banks compete for consumer loans and offer interest bearing NOW accounts.

National banks: In the U.S. refers to federally chartered banks that are subject to supervision by the U.S. Comptroller of the Currency. State banks, in contrast, are state chartered and state regulated.

Negotiable order of withdrawal (NOW): A check like device for paying funds in one person=s time deposit to another person.

Option: The right, but not obligation, to buy or sell something at a specified price within a specified time period. (1) Call option: A contract sold for a price that gives the holder the right, but not the obligation, to buy from the writer of the option, over a specified period, a specified amount of securities at a specified price. (2) Put option: A contract sold for a price that gives the holder the right, but not the obligation, to sell to the writer of the contract, over a specified period, a specified amount of securities at a specified price.

Portfolio: The collection of securities held by an investor.

Price-earnings ratio: Ratio of the price of a share of stock to the earnings per share of that stock, often written as price/earnings or simply P/E.

Private placement: A new issue that is sold entirely to a small number of large, usually institutional, investors. Privately placed securities, then, are not offered to the general public and, therefore, are exempt from registration with the SEC in the U.S.

Prospectus: A detailed statement prepared by an issuer and filed with the SEC prior to the sale of a new issue. The prospectus gives detailed information on the issue's condition and prospects.

Preferred stock: A form of equity capital, with a preference over common stock to receipt of dividends, up to a stated maximum amount; may be voting or nonvoting.

Profit: The difference between revenues and costs for a firm.

Proxy: A document authorizing the holder to vote another owner's stock in a corporation.

Rate of return: The ratio of profits earned by a firm to total investment capital.

Real estate investment trust (REIT): A publicly traded, closed-end investment company that invests in a diversified portfolio of real estate or real estate mortgages.

Registered Investment Adviser: An official certified title in the U.S. designating an individual who gives investment advice about securities, is in the business of giving investment advice, receives compensation for giving investment advice, and has completed the necessary registration with the SEC as an investment adviser.

Required reserves: In banking, the amount of reserves a bank must, by law, keep either in currency or in deposits with the central bank.

Reserve ratio: In banking, the fraction of deposits of the public that a bank holds in reserves.

Retained earnings: The profits not paid out by corporations to their stockholders but instead used by the corporation for additional investment.

Return to capital: The total amount available for payments to owners of capital; the sum of pure returns to capital, risk premiums, and economic profits.

Risk: The possibility of loss; the uncertainty of future returns.

Risk-free rate: The rate of return (yield) an investor can obtain by investing in such risk-free instruments as U.S. Treasury bills and insured money market accounts.

Risk premium: The return to capital necessary to compensate owners of capital for the risk of loss of their capital.

Risk tolerance: The ability and willingness of a client to accept a given level and type of risk associated with an investment.

Savings and loan association (S&L): In the U.S., a federal- or state-chartered institution that accepts savings deposits and invests the bulk of the funds thus received in mortgages. Approximately 2,400 associations exist in the U.S., with over 15,000 branches. S&Ls also make installment loans for consumer products. S&Ls are not permitted to provide demand deposits (such as checking accounts with a commercial bank); however, they can offer interest-bearing NOW accounts which are similar to demand deposit accounts.

The FDIC insures accounts in all federally chartered S&Ls up to \$100,000 in principal and interest per account through its Savings Association Insurance Fund (SAIF). Some state-chartered institutions provide deposit insurance as well.

S&Ls are either mutual or corporate. In mutual savings and loan associations, which are more common, the depositors are the actual owners of the association. Corporate savings and loans operate as corporations and issue common and preferred stock to denote ownership.

Savings deposit: Interest-bearing deposit at a savings institution that has no specific maturity.

Securities and Exchange Commission (SEC) An agency created by the U.S. Congress to protect investors in securities transaction by administering securities legislation.

Securities market: An organized market where stocks and bonds are bought and sold.

Short hedger: A hedger who offsets risk by selling futures contracts.

Short position: Obligation to deliver an asset in the future, which is not currently owned.

Short sale: The sale of a security that is not owned by an investor, but rather is borrowed from a broker. The investor eventually repays the broker in kind by purchasing the same security in a subsequent transaction.

Stock: A claim to partial ownership in a firm. Stock represents ownership in a firm and is, therefore, a claim to the profits that the firm makes.

Stock index: An index computed as an average of a group of stock prices. In the U.S., the most famous stock index is the Dow Jones Industrial Average, an average of the stock prices of 30 large corporations, which has been computed regularly since 1896. Another well-known stock index is the Standard & Poor's 500 Index, which is based on the prices of

500 major companies. Because stock prices reflect expected profitability, these stock indexes are watched closely as possible indicators of future economic conditions.

Stock market: A market in which people trade shares of ownership in firms. The owners of stock receive the dividends paid out by firms.

Stockholders: The owners of a corporation.

Tender offer (takeover bid): An offer to buy directly some or all of the outstanding common stock of a corporation from its stockholders at a specified price per share, in an attempt to gain control of the corporation.

Time deposit: An interest-bearing deposit at a savings institution that has a specific maturity.

Total return: The sum of the return represented by the interest and dividend income from the investment plus the return represented by capital appreciation between the time the asset is bought and the time it is sold.

Treasury bill: The characteristic form of short-term government debt. A bill is a promise to pay a certain sum of money at some time in the early future (often one, three, or six months). It carries no interest payment; the lender earns interest because the price at which he or she buys the bill is less than its future redemption value.

Underwriter: A dealer who purchases new issues from the issuer and distributes them to investors. Underwriting is one function of an investment banker.

Underwriting: Agreement with an investment banker who guarantees a sale of securities by agreeing to purchase the entire issue

Venture capital: Risk capital extended to start-up or small going concerns.

Types of Financial Risk

Systematic Risks - Those that affect the entire market. Systematic risk cannot be eliminated through diversification. Systematic risks include: market risk, interest rate risk, purchasing power risk, foreign currency risk, and reinvestment rate risk.

Unsystematic Risks - Those risks that are unique to a single business or industry, such as

operations and methods of financing. Unsystematic risk can be reduced through diversification. Unsystematic risks include: business risk, financial risk, default risk and regulation risk.

Portfolio Risk - The total risk associated with owning a portfolio; the combination of systematic and unsystematic risk.

Securities (types and characteristics)

Equity Securities

- Common stock
- Preferred stock

Bonds

- United States Treasury Notes and Bonds
- U.S. Savings bonds
- U.S. Government agency issues
- Municipal bonds
- Bonds issued by corporations
- Mortgage backed securities & collateralized mortgage obligations

Money Market Securities

- Treasury bills
- Commercial paper
- Certificates of Deposits (CDs)
- Repurchase Agreements
- Bankers= Acceptances
- Short-term municipal obligations
- Eurodollars (U.S. dollar denominated securities created outside the United States)
- Federal funds

Insurance Based Investments

- Guaranteed investment contracts (GICs)
- Annuities
- Cash value life insurance

Investment Companies - Mutual funds are investment companies that pool funds together from numerous investors to invest in the market. In the U.S. mutual funds are governed by the Investment Company Act of 1940. These funds usually take two forms:

- Open-end mutual funds
- Closed-end mutual funds

There is a wide variety of investment objectives that mutual funds may provide.
Summary of fund objectives:

Common Stock Funds

Aggressive (higher risk, higher expected return) investment
Growth in capital value
Growth and Income

Index Funds

Balanced Funds

Money Market Funds

Global and International Funds

Sector Funds

Bond Funds

Municipal Bond Funds

High Yield (high risk/lower grade) Bonds

U.S. Government Bond Funds

Mortgage-backed Bonds (Ginnie Mae)

Global and International

Derivatives - A derivative is a security that has a value that is directly tied to the value of an underlying security. For example, the price of lumber futures will vary as the price of lumber changes. While derivatives have the potential for large losses, they also provide benefits to investors, such as hedging and increased leveraging.

The most common derivatives include:

Futures

Options

Warrants

Real Estate - There are many types of real estate investments:

Home ownership

Developed land

Undeveloped land

Apartment buildings

Condominiums

Partnerships and limited partnerships

Real estate investment trusts (REITs)

International Investments

Precious Metals

Collectibles (for example, works of art, antiques, stamps, etc.)

Glossary of Social Insurance Terms

Actuarial fairness: a method of setting insurance premiums according to the true risks involved.

Adverse selection: a problem stemming from an insurer's inability to distinguish between high- and low-risk individuals. The price for insurance then reflects the average risk level, which leads low-risk individuals to opt out and drives the price of insurance still higher until insurance markets break down.

Average effective retirement age: the actual average retirement age, taking into account early retirement and special regimes.

Benefit rate: the ratio of the average pension to the average economy- wide wage or covered wage.

Contracting out: the right of employers or employees to use private pension fund managers instead of participating in the publicly managed scheme.

Defined benefit: a guarantee by the insurer or pension agency that a benefit based on a prescribed formula will be paid.

Defined contribution: a pension plan in which the periodic contribution is prescribed and the benefit depends on the contribution plus the investment return.

Demographic transition: the historical process of changing demographic structure that takes place as fertility and mortality rates decline, resulting in an increasing ratio of older to younger persons.

Full funding: the accumulation of pension reserves that total 100 percent of the present value of all pension liabilities owed to current members.

Implicit public pension debt (net): the value of outstanding pension claims on the public sector minus accumulated pension reserves.

Intergenerational distribution: income transfers between different age cohorts of persons.

Intragenerational distribution: income transfers within a certain age cohort of persons.

Legal retirement age: the normal retirement age written into pension statutes.

Means-tested benefit: a benefit that is paid only if the recipient's income falls below a certain level.

Minimum pension guarantee: a guarantee provided by the government to bring pensions to some minimum level, possibly by "topping up" the capital accumulation needed to fund the pensions.

Moral hazard: a situation in which insured people do not protect themselves from risk as much as they would have if they were not insured.

Old age dependency ratio: the ratio of older persons to working age individuals. The old age dependency ratio used in the text refers to the number of persons over 60 divided by the number of persons aged 20 to 59.

Pay-as-you-go: in its strictest sense, a method of financing whereby current outlays on pension benefits are paid out of current revenues from an earmarked tax, often a payroll tax.

Pension coverage rate: the number of workers actively contributing to a publicly mandated contributory or retirement scheme, divided by the estimated labor force.

Pension spending: in this course, pension spending is defined as old age, retirement, survivors', death, and invalidity-disability payments based on past contribution records plus noncontributory, flat universal, or means-tested programs specifically targeting the old.

Portability: the ability to transfer accrued pension rights between plans.

Provident fund: a fully funded, defined contribution scheme in which funds are managed by the public sector.

Replacement rate: the value of a pension as a proportion of a worker's wage during some base period, such as the last year or two before retirement or the entire lifetime average wage. It also denotes the average pension of a group of pensioners as a proportion of the average wage of the group.

System dependency ratio: the ratio of persons receiving pensions from a certain pension scheme divided by the number of workers contributing to the same scheme in the same period.

System maturation: the process in which young people who are eligible for pensions, in a new system, gradually grow old and retire, thereby raising the system dependency ratio to the demographic dependency ratio. In a fully mature system all old people in the covered group are eligible for full pensions.

Universal flat benefit: refers to pensions paid solely on the basis of age and citizenship, without regard to prior work or contribution records.

Vesting period: the minimum amount of time required to qualify for full ownership of pension benefits.

PENSION REFORM TRAINING WORKSHOP

OUTLINE

I Introduction to Social Security Systems

- A Introduction and Overview of the Course
- B Goals of Social Insurance
 - 1 Provide Replacement for Labor Earnings
 - a Safety Net – Anti-Poverty
 - b Consumption Smoothing – Promote Savings During Working Years
 - c Potential Causes of Loss of Income
 - i old age
 - ii premature death of family supporter
 - iii permanent or long-term invalidity
 - iv temporary or permanent work injury
 - v temporary sickness and maternity
 - vi unemployment
 - d Types of Social Insurance Benefit Systems
 - i Guaranteed minimum level of income (flat benefit) for:
 - retired workers
 - disabled workers
 - surviving dependents of deceased workers
 - unemployed workers
 - ii Replacement of target percentage of lost earnings (earnings related benefit)
 - iii Minimum benefit with replacement of percentage of lost earnings (most common)
 - 2 Promote Domestic Saving and Capital Accumulation (Funded Systems)
 - a Domestic Saving
 - b Domestic Investment
 - 3 Promote Participation in Formal Economy
- C Components of Retirement, Disability, Survivors Income
 - 1 Family and Community Support – Informal Private Arrangements
 - 2 Voluntary Individual Savings – Tax Incentives, etc.
 - 3 Social Insurance – Formal Public Arrangements
 - 4 Means-Tested Allowances and Benefits
 - 5 Employer-Provided Pensions
 - 6 Individual-Provided Pensions

Table 1: Components of Retirement, Disability, Survivors Income

Table 2: Sources of Income of the Older Population in the U.S.

D Rationale for Mandatory, Public Social Security Programs

- 1 Provide safety net for low income persons
 - a Equity
 - b Income distribution
- 2 Force individuals to save for retirement or disability
 - a Reduce effects of myopia – paternalism
 - b Reduce moral hazard of safety net programs
 - c Annuities market failure
- 3 It is important to distinguish between these two objectives when considering pension reform alternatives. The relationship between the policy instruments used to prevent poverty among the old or disabled, and forced savings to provide for a smooth transition from work to retirement is the central policy choice in pension system design.

E Elements of Social Security Systems

- 1 Benefits
 - a Eligibility
 - b Benefit Levels
- 2 Financing
 - a Revenue Collection
 - i Social Contribution
 - ii Tax Revenue
 - b Interest Earnings on Funds
 - c Draw-Down of Funds
 - d Other
 - i Fines and penalties
 - ii Earnings on businesses
 - iii Borrowing from central bank or treasury
- 3 Funding
 - a Sources of funding
 - i Surplus of revenues over expenses
 - ii Other
 - b Fund accumulation
 - c Fund management
 - d Investment allocation and management
 - e Fund drawdown
- 4 Administration
 - a Information Collection and Maintenance
 - i Record assignment and record keeping
 - ii Accounting
 - iii Auditing
 - b Revenue Collection
 - c Funds Management
 - d Benefit Determination
 - e Benefit Payment
 - f Client services
 - g Communications – Public Information and Public Relations
 - h Staff Development and Training

- i Monitoring
- j Management of central and local offices

Figure 1: Institutional Framework

Figure 2: Overview of Functions and Administrative Processes of U.S. Social Security System

F Benefits

- 1 Eligibility Criteria
 - a Work Experience
 - b Age
 - c Coverage
 - d Relationship to Covered Worker
- 2 Benefit Formula
 - a Flat Benefit
 - b Earnings-Related Benefit
 - i Social Adequacy vs. Individual Equity
 - ii Example: U.S. Benefit Formula
 - c Previous Wages – Reference Wage: the Wage Used to Calculate the Pension
 - i May be final wage, average of last 3-5 years, or average wage over long period.
 - ii Use of final wage leads to “gaming” the system – “Every policeman retires as a captain”.
 - iii The U.S. and many countries use the average of a long history of past wages and contributions of the worker to calculate the reference wage (U.S. uses 40 years).
 - Failure to contribute reduces benefit – including years of zero wages reduces the average wage.
 - Increases benefit (implicitly) for longer work history.
 - Past wages must be indexed for past price inflation.
 - If pensions relative to recent wages are to be maintained, past wages must also be indexed for real wage growth in calculating the reference wage.
 - Requires complete record of individual contributions.
 - d Years of Contribution into Social Insurance System
 - e Age and Gender
 - f Relationship to Covered Worker (Primary Individual)
 - g Minimum and Maximum Pension Benefit

Figure 3: Calculating a Social Security Benefit under the U.S. System

- 3 Benefit Indexation
 - a Adjustment for changes in price level -- to maintain a given absolute standard of living, payments must keep abreast of inflation.
 - b Adjustment for inflation that occurred during the working years -- indexation of past wages in calculation of reference wage -- allows pensions to replace predictable percentage of former wages.
 - c Adjustment for real wage growth which occurred during worker’s career -- requires that past wages be indexed by average wage.

- d Adjustment for inflation that occurs after beginning of pension receipt --
indexation of pensions for changes in cost of living -- allow pensions to retain
original purchasing power.
- G Finances
 - 1 Social insurance is usually financed by (mandatory) contributions of active workers
and employers, because it provides insurance to maintain labor income. Source of
revenue is the wage base.
 - 2 Coverage
 - 3 Revenue Base
 - a Treatment of small farmers
 - b Self-employed
 - c Special situations
 - 4 Revenue Collection
 - a Tax authority
 - b Social insurance fund
 - 5 Compliance
 - a Tax avoidance
 - i If contribution rates are too high, workers and employers can avoid
participating in social insurance system.
 - Engage in work not covered by social insurance system
 - (1) Legally -- by working in non-covered sector or contracting out to
businesses exempt from social insurance
 - (2) Illegally -- by paying workers "off the books" or in the underground
economy. Higher tax rate and weak enforcement promote greater illegal
uncovered activity.
 - Enterprises may pay compensation in form not covered by social
insurance tax, such as free meals or other benefits.
 - ii System may become unstable
 - Weak enforcement and tax avoidance increases the tax rate that must be
imposed on covered compensation.
 - This increases the incentive for tax avoidance, and reducing the size of the
covered wage base.
 - 6 Fund Accumulation
 - 7 Fund Investment
 - a Government securities
 - b Private securities
 - c Foreign and international organization securities

Breakout Session 1:

The Role of Informal and Voluntary Systems in Providing Retirement, Disability, and
Survivors Income in Egypt

II Analyzing Social Security Systems – Key Principals, Features, Concepts

A Coverage

Coverage rate: ratio of workers making contributions to the social insurance system to total paid labor force.

B Dependency Rate

- 1 Old-Age Dependency Rate
- 2 System Dependency Rate

Table 3: Old-Age Dependency Rates and System Dependency Rates in Selected Countries

C Replacement Rate

- 1 Definition: ratio of monthly benefits to monthly wages expressed as a percentage.
- 2 Macro perspective -- ratio of average monthly pension paid to all pensioners to average (covered) monthly wage of all workers contributing to the social insurance system.
- 3 Micro perspective -- ratio of pension that would be paid to a particular worker if he retired to his current monthly wage, or ratio of his initial benefit to his last wage.
- 4 Macro and micro replacement rates can differ. In general, micro replacement rate will be greater than macro replacement rate, if benefits are not fully indexed for inflation, or if benefits do not reflect real wage growth after retirement.
- 5 Issue: The appropriate wage/income comparison.

D Contribution Rate

- 1 Statutory contribution rate
- 2 Effective contribution rate

E Defined Benefit (DB) and Defined Contribution (DC) Plans

1 Defined Benefit

- a Benefit formula is specified by pension provider, usually based on age, years of participation, and past earnings.
- b Pension provider may or may not accumulate a fund to pay the promised benefits.
- c Public defined benefit programs can provide redistribution from high to low-wage workers.
- d DB can provide disability and survivors benefits that far exceed value of worker's contribution.

2 Defined Contribution

- a Workers and/or employers contribute specified amount to a fund in each worker's name.
- b Benefits are determined by value of worker's fund (account) at time of distribution, which will depend on the level and timing of contributions and rate of return on the fund investments.
- c Benefits can be lump sum distribution, phased withdrawal, or used to purchase an annuity at retirement.
- d DC plans provide little or no redistribution.
- e Limited disability or survivors insurance benefits for younger workers.
- f DC plans are fully funded (by definition) (although workers may not have separate funds).

F Pay-As-You-Go (PAYGO)

- 1 Benefits to current pensioners financed out of current contributions.
- 2 PAYGO systems are almost always defined benefit, but do not need to be. (See discussion of notional defined contribution systems below.)
- 3 In payroll tax contribution system, the required contribution rate is a fixed formula: the dependency rate multiplied by average replacement rate.

Required Revenue = Benefit Payments

$$(c * t) * (W * L) = N * B$$

$$(c * t) = \left(\frac{N}{L}\right) * \left(\frac{B}{W}\right)$$

where $c*t$ = effective tax or contribution rate as a percentage of wage
 c = contribution compliance rate
 t = statutory tax (contribution) rate
 N = number of pensioners
 L = number of workers covered by social insurance
 B = average pension benefit
 W = average wage received by covered workers

- a *Dependency Rate* $\left(\frac{N}{L}\right)$ determined by eligibility rules (such as retirement age, disability standards) and demographics.
- b *Replacement Rate* $\left(\frac{B}{W}\right)$ determined by benefit formula and economic factors.
- c Both of these are predictable and subject to policy change.
- d Factors that raise the dependency rate and increase required contribution rate:
 - i population aging
 - ii reduction in rate of labor force growth
 - iii maturity of social insurance system
 - iv increase in prevalence of disability
 - v increase in unemployment
 - vi more liberal eligibility rules (e.g. lower retirement age)
- e Factors that raise the replacement rate and increase required contribution rate:
 - i increase in generosity of benefit formula
 - ii slowing wage growth
- f Some of these are easily predictable -- population aging, maturing of social insurance system, reduction in rate of labor force growth (falling fertility).

G Demographics

- 1 Fertility
- 2 Mortality
 - a Child and young adult
 - b Elderly
- 3 Migration
- H Financing problems of PAYGO systems
 - 1 Industrialized countries
 - a Slowing of labor force growth
 - b Increased average length of life, longer average retirement period
 - c Slowdown in labor productivity growth
 - d For example: Cost rate of U.S. social security system:
 - 1996 -- 12.5% of covered wages
 - 2030 -- 17-20%
 - 2 Developing and transition countries
 - a Poor tax compliance and tax avoidance
 - b Benefits distorted by failure to adjust appropriately for inflation
 - c Economic dislocation and contraction, falling real wages
- I Funding pensions.
 - 1 Current and future financial challenges to PAYGO pensions have prompted many authorities to propose funding future pensions.
 - a Use current contributions to accumulate a fund, which is invested and earns interest.
 - b Use earnings of fund, and perhaps principal, to pay future benefits.
 - 2 Funding addresses the demographic problem.
 - a Changing proportions of workers and dependents.
 - b Fully funded system is insulated from demographic change, because each cohort funds own benefits.
 - 3 Funding pensions may increase national capital formation, if increased pension saving is not offset by reductions in other government saving or private saving.
 - 4 Transition problem: if current contributions are used to pay current benefits, current workers must make higher contributions to fund own pensions, or alternative source of finance for current benefits must be found.
- J Inflation and Indexation
 - 1 Social insurance systems must prepare for extreme economic fluctuations.
 - 2 Unless real wages fall, revenues will increase with inflation.
 - 3 Real value of benefits must be protected.
 - 4 In countries with excessively generous benefits, authorities have reduced real benefits by not adjusting fully for inflation. This is arbitrary, creates inequities and distortions, and destroys public support for the system.
 - 5 Calculation of reference wage -- If several years of past wages or past contributions are used to calculate the reference wage of an individual, those wages/contributions must be indexed for past inflation if the initial benefit is to replace a stable proportion of the worker's wage.
 - 6 Indexation of current benefit -- After initial benefit, subsequent benefits must be indexed for inflation if the purchasing power of the pension is to be maintained.
 - 7 Price indexation

- a Past wages and/or current benefits are adjusted for the change in average price level.
- b Implies gradual decline in cost rate for pensioners. Pensioners do not benefit from growth in average real wages after they retire or become disabled.
- c Problem if prices grow faster than wages (decline in real wages).
- 8 Wage indexation
 - a Past wages and/or current benefits are adjusted for the change in average wages.
 - b Wage indexation adjusts the reference wage and/or benefits for real wage growth as well as for inflation.
 - c Wage indexation of benefits permits current pension beneficiaries to benefit from current productivity growth.
- 9 Mixed indexing methods
 - a U.S. uses wage indexation to adjust past wages in calculation of reference wage, and price indexation to adjust benefits after beginning of benefit receipt.
 - b Swiss use average of price index and wage index to index benefits.
- 10 Some countries adjust benefits by indexing them to a reference value set by the government, such as the minimum wage.
 - a This constrains and confounds both labor market policy and pension policy.
 - b If possible, pensions should be adjusted automatically for inflation, annually, using an objectively calculated price or wage index.
- K Effects on pension of additional year of work
 - 1 Treatment of working pensioners – reduction of pension benefit payment for earnings provides incentive to retire.
 - 2 Changes in pension benefit for retirement at ages younger or older than "normal" retirement age
 - 3 Early or delayed retirement benefit adjustment should be actuarially fair.
 - a Actuarially fair adjustment: expected present value of lifetime benefits is the same at a reference age, regardless of when individual retires.
 - b Retirement age choice does not affect system finances.
 - c System does not provide incentive for early or later retirement.
 - d U.S. system is approximately actuarially fair. Retirement pension benefit is reduced 5/9 percent per month (6 2/3 percent per year) that individual retires earlier than normal retirement age (65). Benefit is increased for each month that individual delays retirement to later age.
 - e Benefit reduction must be permanent.
- L Impacts on Government Finances
 - 1 On-budget and off-budget accounting arrangements
 - 2 Competing demands on government resources
 - 3 Surplus/ debt management
 - 4 Contingent liabilities – including Implicit Pension Debt (IPD)
- M Impacts on Economy
 - 1 Labor Markets
 - a Labor costs and factor proportions
 - i If social insurance contribution imposed on wages is perceived to be a tax, it imposes a “wedge” between the wage employers pay and the wage workers receive.
 - ii Payroll taxes raise the cost of labor relative to capital in the covered sector

- and prompt employers to substitute capital for labor.
 - b Retirement Behavior
 - i Pensions may provide reliable source of non-wage income available at specified age.
 - ii Effect on retirement ages depends on several factors:
 - Value of pension workers can claim at specified retirement ages in comparison to current wages
 - Change in future pension if workers delay claiming pension
 - Effect of receiving pension on ability to engage in paid work and effective wage -- retirement earnings test
 - iii Conditions favoring younger retirement:
 - Earliest age of eligibility is low
 - Initial pension is high
 - Increase in pension resulting from delay in claiming pension is small
 - Pension acceptance significantly reduces effective wage
 - c Work behavior before retirement
 - i Encourages workers to obtain the minimum credits needed for pension eligibility.
 - ii Reduces workers' willingness to participate in the social insurance covered sector if contribution requirements are too high and are perceived to be a tax.
 - Employers pay higher compensation costs than workers receive – a “wedge” between price paid and price received for labor.
 - Workers may perceive that costs exceed expected future benefits.
- 2 Capital Markets
- a Quantity of savings
 - i Personal saving
 - Social insurance systems provide workers with reliable source of income in retirement or disability.
 - This may reduce workers' incentives to save for retirement or covered contingencies.
 - Public social insurance systems may reduce employers' incentives to establish pension plans, or reduce their ability to do so by raising compensation costs.
 - Tax subsidies and/or government-mandated pensions may offset employer disincentives to provide pensions.
 - If establishment of public pensions encourages workers to retire, it may increase retirement saving.
 - ii Governments can offset reductions in private saving.
 - Accumulate reserves in social insurance system
 - Mandate contributions to private, funded pension program
 - b Efficiency of investment

- 3 International competitiveness
High payroll taxes may increase labor costs and increase prices of tradable goods in international markets, especially for labor-intensive products.

N Projections

- 1 Revenue
 - a Payroll tax financed systems – revenue depends on:
 - i Size of labor force
 - ii Average wage
 - iii Coverage and effective contribution rate
 - iv Structure and state of economy
 - b Other sources of tax revenue
- 2 Expenditure
 - a Benefit payments – depend on:
 - i Size of beneficiary population
 - average retirement age
 - age structure and mortality
 - ii Average benefit
 - b Administrative expenses
- 3 Fund balances
 - a Size of fund balances
 - b Rates of return
- 4 Financial projections are dominated by demographic variables in the long run:
 - a fertility
 - b mortality
 - c migration
- 5 Need to account for economic variables in projecting costs in short and medium term periods
 - a Rate of wage growth -- labor force productivity
 - b Rates of labor force participation
 - c Unemployment
 - d Inflation
 - e Interest rates

6 Macroeconomic Accounting Framework

a An accounting framework for analysis and projection of social insurance finances and the economy

b Determinants of national output

$$GDP = \left(\frac{Pop_{wa}}{Pop} \right) * \left(\frac{LF}{Pop_{wa}} \right) * \left(\frac{E}{LF} \right) * \left(\frac{H}{E} \right) * \left(\frac{GDP}{H} \right) * Pop$$

where:

$$\left(\frac{Pop_{wa}}{Pop} \right) = \text{proportion of population of working age}$$

$$\left(\frac{LF}{Pop_{wa}} \right) = \text{labor force participation rate}$$

$$\left(\frac{E}{LF} \right) = \text{employment rate}$$

$$\left(\frac{H}{E} \right) = \text{annual hours of work per person}$$

$$\left(\frac{GDP}{H} \right) = \text{output per worker (productivity)}$$

$$Pop = \text{total population}$$

c Revenues of social insurance system

$$\text{Revenues} = ETR * \left(\frac{\text{CovWage}}{\text{Wage}} \right) * \left(\frac{\text{Wage}}{\text{LabComp}} \right) * \left(\frac{\text{LabComp}}{\text{GDP}} \right) * \text{GDP}$$

where:

$$ETR = \text{Effective Social Insurance Tax Rate}$$

$$\left(\frac{\text{CovWage}}{\text{Wage}} \right) = \text{covered wages / total wages}$$

Depends on labor force structure, social security rules – will be stable if rules are stable.

$$\left(\frac{\text{Wage}}{\text{LabComp}} \right) = \text{share of total labor compensation paid as wages}$$

May be influenced by tax laws, trades unions, structure of benefits and compensation.

$$\left(\frac{\text{LabComp}}{\text{GDP}} \right) = \text{labor compensation share of GDP}$$

Depends on technology of economy. Is stable over the long run.

- d Using reasonable and transparent assumptions, this will provide a framework for projecting:
- i real wage bill
 - ii tax base
 - iii average real wage per worker
 - iv social insurance revenues as share of GDP

O Context: Competing Claims on Real Resources

- 1 Social insurance policy and projections should be considered within context of overall size and growth of economy
- 2 Social insurance system is part of overall economy and social benefits system.
 - a Current benefits are paid out of current national income, along with other claims on society's resources:
 - i health care
 - ii unemployment insurance
 - iii education
 - iv allowances to families and children
 - v social assistance
 - b Many of these are also financed by taxes on wages.

- c Regardless of funding mechanism, current benefits (consumption) must be paid out of current national income (production).
 - d The real determinants of the burden of any social insurance system is the share of total real resources (GDP) transferred to beneficiaries each year and the effects on long run growth of the economy – the total real resources to be shared.
- 3 Social insurance system may affect growth of economy.
 - a Savings and capital accumulation
 - b Labor force behavior
- P Measures of Solvency and Burden of Social Security Systems
 - 1 Cost rate analysis
 - a Applies to PAYGO systems
 - b Cost rate: the percent of the covered wage bill required to finance projected pension expenditures
 - c Cost rate = product of system dependency rate and replacement rate.
 - d Comparison of statutory contribution rate to cost rate indicates actuarial balance of system.
 - 2 Ratio of financial balance (annual surplus/deficit) to GDP
 - 3 Implicit public pension unfunded liabilities (discounted present value of stream of future surpluses/deficits – net liabilities assumed by government)
- Q Rates of Return
 - 1 PAYGO systems
 - a No significant reserve fund
 - b Implicit rate of return on participant's contribution: With stable population growth and constant tax rate, rate of return to average participant is equal to rate of growth of work force plus rate of growth of average real wage = rate of growth of labor income.
 - 2 Funded systems
 - a Funds earn rate of return on instruments in which they are invested.
 - b Total rate of return depends on investment mix.
 - c There is a trade-off between risk and expected return.
 - d Issues of how funds should be invested, what are the investment objectives – to maximize risk-adjusted rate of return, other objectives?
 - e Who bears the risk – the individual or the government?
 - f Different age cohorts have different perspective toward risk. Should all cohorts have same investment mix?
- R Funded vs. Unfunded (PAYGO) Systems
 - 1 Funded system may promote increased saving and accumulation of large stock of capital.
 - 2 Benefits paid in part from interest income
 - 3 Each generation pays for a portion of own retirement through accumulation of stock of capital during work years.
 - 4 Increased capital stock may increase wages of workers, perhaps reducing burden of tax rate.
 - 5 Effectiveness depends on fiscal behavior of rest of government and on response of private saving.
 - 6 Transition problem of moving from PAYGO to funded system: one generation must pay pensions of older generation and accumulate reserve for own pensions.

- 7 Potential solutions to transition problem:
 - a Granting of compensatory pensions in recognition of accrued pension rights from prior service – could be paid out of general revenues.
 - b Use of “recognition bonds,” in recognition of accrued rights from prior service.
 - c Privatization revenues.
 - d General tax revenues.
- S Defined Contribution (DC) vs. Defined Benefit (DB) Programs
 - 1 Defined contribution is funded; defined benefit may or may not be funded.
 - 2 DC may promote national saving, although funded DB system may promote saving as well or better.
 - 3 DC plans provide little redistribution of income.
 - 4 DC requires efficient domestic financial system, if funds are to be invested domestically.
 - 5 Shift investment risk from plan sponsor (public sector or employers) in DB system to individual contributors in DC system.
 - 6 Management costs
 - a Exist for both DB and DC systems.
 - b Differ between the two systems
 - i DB: managing and assuring benefit payments
 - ii Compliance with government regulations
 - Funding
 - Fairness
 - iii DC: managing funds and investments
 - iv Marketing

Figure 4: Comparison of Defined Benefit and Defined Contribution Pension Plans

- T Defined contribution plan as alternative or supplement to PAYGO
 - 1 Fully funded
 - 2 May be mandatory or voluntary (with tax subsidy)
 - 3 Ownership and credibility -- Individual worker may have own account.
 - 4 Diffusion of ownership and control -- Each worker "owns" and may direct the investment of his/her fund. Avoids control of large amount of capital by pension fund manager, which in the case of public social insurance system is the government.
 - 5 No significant redistribution of wealth (greater income risk).
 - 6 Worker may bear greater investment risk.
 - 7 Worker bears risk of unexpected increase in longevity, if annuity conversion rates are not guaranteed.
 - 8 Defined contribution plans alone do not provide social insurance *per se*.
 - a Limited disability and survivors benefits to younger workers.
 - b Limited risk pooling.
 - 9 DC can be combined with minimum pension guarantees backed by government, to provide social insurance characteristics.
 - 10 Mandatory defined contribution programs -- Chile, Singapore

- U Notional Defined Contribution (NDC) systems
 - 1 System may continue to operate on pay-as-you-go basis, but benefit is determined by contributions of worker.
 - 2 No actual fund need be accumulated.
 - 3 Notional account is established in worker's name, to which his/her individual contributions are credited.
 - 4 Account is increased periodically (annually) by a specified rate of return, e.g. rate of growth of total wages.
 - 5 At retirement, benefit is determined by value of account and worker's age, can be adjusted for life expectation.
 - a Benefit could be value of account divided by average life expectation for persons of that age.
 - b If indexed for inflation, this is equivalent to an annuity with a zero real rate of return.
 - 6 Insulates pension system from economic and demographic uncertainties
 - a Varying real wage growth
 - b Increasing life expectation
 - 7 Can insulate system from effects of retirement age – workers who retire at younger ages receive lower benefits.
 - 8 Being implemented in Latvia, Sweden, Poland. Proposed reform in Russia.
- V Mixed Systems -- Two-Tier and Three-Tier Systems
 - 1 First tier -- Pay-As-You-Go defined benefit system -- may be relatively flat benefit with redistributive features.
 - 2 Second tier -- mandatory defined contribution program.
 - 3 Third tier -- voluntary, privately funded systems – may be defined contribution or employment-based defined benefit systems.

Breakout Session 2:

Financing Social Insurance in Egypt – Sources of Financing, Contribution Collection Experience

III Principles of Pension Design

- A Affordability, Sustainability, Stability
 - 1 Affordable to governments, businesses, economy
 - 2 Robust to economic and political risks – social welfare programs must function under worst case scenarios
 - 3 Equitable sharing of burdens and adversity
 - 4 Advantages of automatic and self-correcting mechanisms
- B Efficiency
 - 1 Administrative
 - 2 Targeting
 - 3 Economic
 - 4 Minimize distortions in economic behavior
 - 5 Compliance and enforcement
 - 6 Fraud and abuse

- C Equity – fairness and perceived fairness
 - 1 Individual equity
 - 2 Social equity and adequacy
 - 3 Equity across cohorts and generations
 - 4 Economic concepts of equity
 - a Horizontal
 - b Vertical
 - c Intergenerational
- D Simplicity, Clarity, Transparency
- E Incentives
 - 1 Static
 - 2 Dynamic
 - 3 Efficient and compassionate behavior
 - 4 Efficient economic behavior
- F Individual Accountability and Self-Reliance
- G Security
 - 1 Economic risk
 - 2 Investment risk
 - 3 Solvency risk
 - 4 Political risk
- H Contribution to the economy

Handout: Principles of Pension Reform

IV Features of and Issues with Existing Systems

- A Overview of Egypt’s Social Insurance System

Table : Features of Egypt’s Social Insurance System

- B Experience of Other Countries
 - 1 Overview
 - 2 Case studies
 - a Chile and Argentina
 - b Kazakstan
 - c Latvia
 - d Poland
 - e Bulgaria

Figure: Alternative Pension Reform Approaches

- C Problems of Defined Benefit PAYGO Systems
 - 1 Solvency
 - 2 Demographic challenge of aging populations
 - 3 Savings and capital accumulation
 - 4 Revenue collection
 - 5 Burdensome tax rates and economic distortions
- D Issues with Funded Systems
 - 1 Potential advantages:
 - a Potentially greater capital accumulation – if invested domestically could increase productivity and wages

- b Potentially greater rate of return to capital than to labor
- c Encourage development of capital markets
- d Could increase individual choice, if funds are individually directed
- e Greater reliance on private sector – potentially greater efficiency
- f Improved intergenerational equity
- 2 Potential disadvantages:
 - a Risk
 - b Requirement for efficient capital markets
 - c Perhaps greater potential for fraud and corruption
- 3 Potential disadvantages of funded DC systems:
 - a Limited social insurance elements
 - b Poor disability and survivors protection
 - c No redistribution
 - d Requires greater knowledge and sophistication on the part of participants

Breakout Session 3:

Challenges Facing Egypt's Social Insurance System

V Reform Alternatives

- A Alternative Approaches for Income Protection, Redistribution, and Savings
- B Multi-Tier Strategy
- C Tier 1: Ways to Improve and Strengthen the Current Egypt Social Insurance System for Poverty Alleviation
- D Tier 2: Mandated, Funded, Defined Contribution Plans
- E Tier 3: Voluntary Employment-Related Defined Contribution Plans
- F Preconditions for development of multi-tier system
 - 1 Well-defined set of property rights and legal system to enforce them
 - 2 Access to efficient capital market
 - 3 Capacity to regulate pension plans – laws, regulations, regulatory agencies, skilled staff
 - 4 Capacity to regulate investment funds – laws, regulations, regulatory agencies, skilled staff
 - 5 System of insurance contracts and annuity market
- G Role of the State
 - 1 Maintain social safety net
 - 2 Establish and update laws and regulations
 - 3 Pension plan approval and licensing
 - 4 Pension investment fund approval and licensing
 - 5 Monitoring and regulation
 - a Employers and pension plan providers
 - b Pension funds
 - c Securities industry
 - 6 Guarantees
 - a Acknowledge prior contributions of workers switching to new pension systems
 - b Minimum rate of return to DC accounts

- c Guarantor-of-last-resort of solvency to pension funds and life insurance companies.
- H Role of employers
- I Role of pension plans
- J Role of pension investment funds
- K Role of insurance companies
- L Potential problem areas
 - 1 Financing the transition to new system
 - 2 Institutional requirements for government agencies
 - 3 Lack of skilled staff for new agencies
 - 4 Education of public
 - 5 Providing and financing guarantees and safety net for individuals who have inadequate pensions under new system
 - 6 High administrative costs of individual accounts system
 - 7 Choosing proper degree of regulation
 - a Too lax: leads to imprudent behavior, fraud and abuse.
 - b Too strict: may limit capacity of pension funds to manage investments optimally – “herding effect.”
- M Impact of Multi-Tier Strategy on Pension Benefits
- N Impact of Multi-Tier Strategy on Government Finances
 - 1 Fiscal planning for transition
- O Impact of Multi-Tier Strategy on the Economy
 - 1 Labor Markets
 - 2 Capital Markets
 - 3 Savings and Capital Formation

VI Developing Private Pensions in the Egyptian Context

- A Pension Plan Fundamentals
- B Tax Incentives
- C Types of Pension Plans Appropriate for Egypt
 - 1 Defined Contribution (DC) and Defined Benefit Plans
 - 2 Employer Provided (Occupational) Plans and Individual Plans
 - 3 DC Plans in the United States: 401(k), Keogh Plans, IRAs

Breakout Session 4:

Pre-Conditions for Funded Pensions in Egypt – Current Situation, What Is Needed, Should Egypt Develop Tier II before Tier III or Tier III before Tier II

- D The Role of the Plan Administrator
- E Ownership and Segregation of Assets
- F Plan Funding
- G Reporting and Disclosure
- H Conflicts of Interest
- I Fiduciary Responsibilities

VII Creating an Appropriate Legal and Regulatory Framework

- A The Legal Structure of a Private Pension System

- B Separation of Ownership and Management
- C Fund's Legal Obligations
- D Authorized Institutions
- E One Company, One Fund?
- F One Worker, One Fund?
- G Taxation of Funds
- H Structure of Regulation
- I Regulation of Entry: Licensing
- J Fees and Expenses
- K Disclosure
- L Regulation of Assets
- M Regulation of Liabilities

PRINCIPLES OF PENSION REFORM

Consideration of alternative strategies and policies for reform of the Egyptian pension system should be guided by a set of established and agreed principles. Egyptian policy makers may want to consider the following principles in formulating the pension reform.

Affordability, Sustainability, Stability

The pension system should be affordable and sustainable. It should not impose too great an economic burden on the country, taking into consideration the many other demands on the country=s resources for investment in physical infrastructure, upgrading the productive capital stock, and human development. Education and health care require significant expenditures. Adequate social assistance must be provided for those unable to provide for themselves, who often do not have adequate pensions.

The pension system should impose a minimum burden on the country, individuals, and business organizations, both economically and administratively.

The pension system should impose a minimum fiscal burden on government. Pay-as-you-go pensions represent a mandated charge on workers= incomes to support current consumption of non-workers, whether the pensions are financed by mandatory contributions or by taxes, and whether they are paid from an extra-budgetary fund or from the budget. They compete with the other uses of the government=s fiscal resources.

The pension system should have stability. Pension recipients and workers must be assured that pensions will be paid at adequate levels and on time. The burden on the country and government should be predictable and not subject to significant variation. Pension systems must be prepared for extreme economic fluctuations, for example, high inflation, high unemployment, and contractions in real incomes. Pension systems must be properly indexed for inflation if the purchasing power of pensioners= benefits is to be protected. At the same time, pension systems must be prepared for prolonged declines in real wages. Pensioners must recognize that during a period of declining real wages real pensions must be reduced along with workers= incomes.

Efficiency

Administrative. The pension system should operate at minimum administrative cost, in terms of the costs for personnel and operation and maintenance of the facilities required to operate the system. The costs of efficient pay-as-you-go systems are less than one percent of total expenditures. Paying the costs of operating the pension system from contribution revenue may provide an incentive to operate the system more efficiently.

The pension system should impose a minimum administrative burden on contributors. Paying contributions should be simple and routine. The system should impose a minimum administrative burden on participants. Rules for awarding and paying pensions should be simple, consistent, and clear.

Contribution collection compliance. Contributions should be collected at minimum cost. For this to be achieved, it is necessary to have a high degree of voluntary compliance and collection discipline.

Economic. The pension system should be economically efficient. In a market economy, any system of mandatory taxes or contributions will impose an efficiency loss on the economy because individuals and businesses will take actions to attempt to minimize tax payments, which will reduce the efficiency of the economy. The cost of the tax to the economy is greater than the revenue produced by the tax. The system should be designed to minimize these efficiency losses. One way is to keep the tax as low as possible.

Minimize distortions in economic behavior. By raising the cost of labor, mandatory contributions imposed on wages may distort labor markets, as employers try to reduce the use of labor to reduce the cost. A high pay-as-you-go pension may reduce incentives to save, if workers perceive that their income requirements in retirement or if disabled will be fully met by the pension system. This may reduce saving and distort capital markets. Regulations and restrictions on investment of private pensions may also distort capital markets. Distortions cannot be avoided, but they should be minimized.

Equity (Fairness)

Individual equity. The pension should be fair and should be perceived to be fair to all persons. Benefits should be related to contributions. Individuals should believe that they will get a fair value back for their contributions and that others are contributing a fair amount for the benefits they will get. Individuals who make larger average contributions should get larger pensions.

Social equity and adequacy. The pension system should provide a pension that is adequate for each individual. Some individuals who had low incomes throughout their working careers may not have contributed enough to provide an adequate pension. To address this need, pension systems establish minimum pensions and provide larger benefits relative to contributions to low income contributors than to higher income contributors.

Market economies can produce highly unequal incomes. Governments in all market economies take measures to attempt to reduce and redress the inequality that market outcomes can produce. By tilting the benefit formula in favor of low income contributors (providing benefits that are higher relative to contributions for lower income contributors than for higher income contributors), pension system can improve (help to equalize) the distribution of income.

There can be a conflict between the objectives of individual equity and social equity.

Equity across cohorts and generations. In a pay-as-you-go pension system the contributions of current workers are used to pay the pensions of current retired and disabled persons. Such a system represents a social compact across generations -- one generation pays the pensions for the previous generation, and expects the next generation to pay its pensions. It

is important that each generation perceive that it is being treated fairly by this arrangement, that it is not paying more or less than its fair share.

Use of pensions to compensate for difficult and/or reward meritorious jobs or life experiences. In many former socialist systems, pensions are used to attempt to compensate individuals for difficult, dangerous, unpleasant, or meritorious jobs or life experiences. Many will perceive this as an effort to use the pension system to improve the fairness of society. This use of the pension system was an element of a socialist system where governments generally assumed much greater responsibility for achieving desired social outcomes than is common in market systems. Use of the pension system to attempt to reward or compensate individuals for many different life experiences imposes a very heavy burden on the system. The pension system is used to transfer income from ordinary workers, who may have low wages and low pensions, to the favored individuals. In most market economies, the basic state pension system is designed to achieve only a very simple, but important, set of objectives: to protect workers and their dependents from the major risks of income loss -- old age, invalidity, premature death of the family income provider.

Individual accountability and self-reliance

Self-reliance is considered to be a virtue in many societies and a source of satisfaction to the individual. Pension systems can be designed to provide opportunities and assistance and to encourage participants to take responsibility for their own retirement and the risks of invalidity or premature death. By fostering the notion that individuals contribute to their own invalidity, survivors, and old-age insurance, a public pension system can contribute to the self-respect of the citizens and foster loyalty to the state.

Security

The purpose of a pension system is to provide individual and social economic security, by providing insurance against loss of income due to old age, invalidity, or death of a provider. Participants in a pension system face a variety of risks. Both public pensions and private pensions are subject to both political and economic risks.

Political risk. In a public pension system workers and pensioners face the risk that legislators or other public officials may change the benefits provided. Workers face the risk that contribution rates may change. Real pension benefits may be changed directly by changing the law (such as raising the retirement age or changing the benefit formula), or they may be changed indirectly by failing to adjust pensions sufficiently for inflation. The government may have no choice but to reduce pensions during a period of economic contraction when total incomes and wages are declining. Pensioners also face the risk that pensions will not be paid on time.

Private pensions face the political risk that government may change the tax treatment of contributions or benefit payments. Government may also restrict pension fund investments or seek to direct how pension funds are invested in ways that reduce investment returns or increase the riskiness of fund investments, which may ultimately reduce pension benefit payments.

Investment risk. Funded pension plans depend on the investment earnings of the assets of the fund, as well as the accumulated contributions, to pay pension benefits. Investment risk refers to the risk that the fund investments will earn a lower rate of return than expected, so the fund will pay smaller benefits than expected. Any pension system that depends on a fund of assets to pay benefits faces investment risk. A pay-as-you-go pension system does not face investment risk, because it depends on current contributions to pay benefits (even if there is a reserve fund). Defined contribution pensions and defined benefit pensions face different investment risks. (Defined contribution and defined benefit pensions are discussed in the next section.)

In a *defined benefit* pension plan the benefit formula is specified by the pension provider. If the plan is funded, the provider accumulates a fund to pay the promised benefits. If the fund earns less than expected, the provider still must pay the promised benefits. In a defined benefit plan, the provider bears most of the investment risk. However, the provider may take actions to limit the benefits (such as not adjusting for inflation) or offer lower benefits to current workers.

In a *defined contribution* pension plan the worker and/or the employer contribute a specified amount to a fund in the worker's name. The pension benefits are determined by the value of the worker's fund account at the time of distribution, which will depend on the level and timing of the contributions and the earnings of the fund investments. If the fund earnings are lower than expected, the worker will receive a lower pension. In a defined contribution plan, the worker bears the investment risk.

Solvency risk refers to the risk that the fund will go bankrupt or become insolvent. If a public pay-as-you-go plan depends on the government's power to tax, the solvency risk is small, although if the government's fiscal situation deteriorates pension benefits may be reduced. Defined contribution plans are almost always fully funded. They face little solvency risk, although, as noted above, if the investment earnings are poor the plan may pay benefits lower than expected. A defined benefit plan may not be fully funded. That means that there may not be sufficient funds in the plan to pay the promised benefits if the plan provider goes bankrupt or terminates the plan. Such a plan faces solvency risk. In countries with private defined benefit plans governments attempt to reduce solvency risk by requiring that the pension plans be fully funded, by regulating how the funds are invested, and, in some countries, by establishing a guarantee agency that guarantees or insures the benefits of defined benefit plans.

Contribution to the Economy

Pension plans can contribute to the strength of the economy. Pensions can also weaken the economy by creating distortions, discouraging saving and capital accumulation, and discouraging labor force participation.

Contributions to funded pension plans can provide a large source of savings to increase capital accumulation. Pension plans can provide a vehicle to mobilize individual savings and channel them into productive investments. Poorly regulated plans may serve to channel capital into unproductive or worthless investments. An unfunded pay-as-you-go pension system may

reduce workers' savings by guaranteeing them a retirement or invalidity pension, even though there are no assets held to provide the pension.

Pension plans can be used to improve labor market efficiency. Employers can use properly designed pension plans to retain workers and motivate them to be more productive. Private pension plans can also reduce labor market efficiency if they inefficiently reduce mobility of labor. Pensions may discourage workers from moving to more productive jobs because they will lose some or all of their pension.

Public pension plans with low retirement eligibility ages or lax invalidity standards reduce the efficiency of the economy by encouraging workers to withdraw from the labor force when they could be productive. If workers are encouraged to retire at young ages, pension benefit costs are raised, contributions are reduced, and other tax revenues are reduced as well, and workers' incomes are usually reduced because most public pensions provide benefits which are lower than the amount the worker could be earning.

TYPES OF PENSION ARRANGEMENTS

This section describes the two major types of public and private pension plans and discusses some of their key features.¹ It also describes the pay-as-you-go approach to financing pensions. Countries choose one or a combination of these types and approaches to develop a national pension strategy.

Defined Benefit

In a defined benefit pension plan the benefit formula is specified by the pension provider. The amount of the pension is usually based on age, years of participation in the plan or years of employment, and past earnings. There may or may not be early retirement provisions. A defined benefit pension plan may or may not be funded, that is, the pension provider may or may not accumulate a fund to pay the promised benefits. A defined benefit plan may be partially or fully funded. Fully funded means that, given expectations concerning interest rates and the life expectancy of the participants in the plan, the plan has enough assets to pay all the benefits promised at the time when they are due. Many countries which permit defined benefit plans have strict funding rules. In a defined benefit plan individual benefits need not be proportional to earnings, that is, defined benefit plans can be used to redistribute income.

In most defined benefit plans the provider is legally obligated to pay the promised benefits. In a funded plan, the provider usually accumulates and invests funds to pay the benefits

¹ Many particular and specific types of pension plans have been developed in advanced market economies in response to particular tax laws, labor market institutions, and consumer demand. This paper lists only the major types of plans and does not discuss these particular arrangements.

when they are due. If the fund investments earn a lower rate of return than expected, the plan provider may have to contribute more to pay the benefits. As noted above, in a defined benefit plan, the provider bears the investment risk.

Defined benefit plans are almost always group plans.² Defined benefit plans are commonly offered by an employer to its employees (single-employer plans). Defined benefit plans can also be provided by a trade union to its members (multi-employer plans). Provision of a defined benefit plan by employers may be voluntary or mandatory. Participation in a defined benefit plan may be voluntary or mandatory. Because their benefit provisions and funding provisions can be complicated and are subject to abuse, defined benefit plans are usually highly regulated by government.

Defined Contribution

In a defined contribution pension plan the amount contributed to the plan is specified, but the benefit to be paid is not. Workers and/or employers periodically contribute specified amounts to a fund in each worker's name. The contributions are invested and accumulated. Each worker's pension benefits are determined by the value of the worker's fund at the time of distribution, which will depend on the amount and timing of the contributions and the rate of return on the fund investments. At the time the fund is distributed (usually when the worker retires or becomes disabled) the worker may receive the entire value of the fund as a lump sum, or the assets may be used to purchase an annuity, or payments can be made from the fund periodically until the fund is exhausted. Defined contribution plans are always fully funded. Because each worker's fund is determined by the amount of contributions made in his or her name, there is limited opportunity to use a defined contribution plan to redistribute income. Each worker can be informed at any time about the value of the assets in his or her account. This may give workers a greater sense of ownership of the pension plan and give the plan greater credibility.

Workers may be given the option of directing how the assets in their funds are invested. This may avoid the control of large amounts of funds by a pension fund manager, which in the case of public pension funds is the government. Some have questioned whether workers in defined contribution plans invest their funds as skillfully as professional fund managers could. If workers do not invest as skillfully as professional managers, they will ultimately receive lower pensions than they would have, had their funds been invested by professionals. As noted above, because the amount of the pension depends on the value of the fund at the time of distribution, the worker bears the investment risk. If the fund investments do not earn an adequate return, the worker may receive a low pension.

Defined contribution plans alone do not provide social insurance *per se*. There is limited opportunity for risk pooling in defined contribution plans. Defined contribution plans provide

² It is possible to design a defined benefit plan for an individual, but such plans have limited relevance for Egyptian pension policy.

very limited disability and survivors benefits to younger workers, because not enough funds have accumulated.

Defined contribution plans can be provided to individuals or to a group (such as all the employees of one employer, or all workers in a particular occupation, such as teachers, or all members of a particular trade union). Provision of a defined contribution plan can be voluntary or mandatory. Participation in defined contribution plans can be voluntary or mandatory.

Pay-As-You-Go (PAYGO)

Pay-as-you-go refers to a pension funding approach rather than a type of pension plan. In a pay-as-you-go pension plan benefits to current pensioners are financed out of current contributions. Most pay-as-you-go pension plans are government plans, and most large public pension plans are pay-as-you-go plans. If benefits are financed entirely by taxes on total wages (payroll taxes), the required tax rate equals the *system dependency rate* multiplied by the average *replacement rate*. The system dependency rate equals the ratio of the number of pensioners divided by the number of workers effectively contributing to the pension plan. The replacement rate equals the ratio of the average pension benefit amount divided by the average wage.

Pay-as-you-go pension systems may be funded or unfunded. In a funded pay-as-you-go plan there is a reserve fund that can serve to pay benefits when contributions temporarily fall below promised benefits. Pay-as-you-go plans may be partially or fully funded. In a funded pay-as-you-go plan part of the benefits can be paid by the interest earnings of the fund. The state pension plan of Egypt is a funded pay-as-you-go pension system.

Pay-as-you-go plans can have defined benefit or defined contribution benefit formulae. Most pay-as-you-go plans are defined benefit plans. In most countries the legislature can change the benefit formula in the public pay-as-you-go pension plan, so the benefit promise may not have the same legal force as in private defined benefit plans. Public defined benefit plans can be used to redistribute income from high to low-wage workers. Although the great majority of pay-as-you-go plans are defined benefit, it is possible to design pay-as-you-go plans with a defined contribution type benefit formula. The recently adopted pension reform in Latvia provides a pay-as-you-go plan with a defined contribution type benefit formula as the basic public pension plan.

Macroeconomic Accounting Framework For Analysis and Projection of Social Insurance Finances and the Economy

Determinants of national output:

$$GDP = \left(\frac{Pop_{wa}}{Pop} \right) * \left(\frac{LF}{Pop_{wa}} \right) * \left(\frac{E}{LF} \right) * \left(\frac{H}{E} \right) * \left(\frac{GDP}{H} \right) * Pop$$

where:

$$\left(\frac{Pop_{wa}}{Pop} \right) = \text{proportion of population of working age}$$

$$\left(\frac{LF}{Pop_{wa}} \right) = \text{labor force participation rate}$$

$$\left(\frac{E}{LF} \right) = \text{employment rate}$$

$$\left(\frac{H}{E} \right) = \text{annual hours of work per person}$$

$$\left(\frac{GDP}{H} \right) = \text{output per worker (productivity)}$$

$$Pop = \text{total population}$$

Revenues of social insurance system

$$Revenues = ETR * \left(\frac{CovWage}{Wage} \right) * \left(\frac{Wage}{LabComp} \right) * \left(\frac{LabComp}{GDP} \right) * GDP$$

where:

ETR = *Effective Social Insurance Tax Rate*

$\left(\frac{CovWage}{Wage} \right)$ = *covered wages / total wages*

Depends on labor force structure, social security rules – will be stable if rules are stable.

$\left(\frac{Wage}{LabComp} \right)$ = *share of total labor compensation paid as wages*

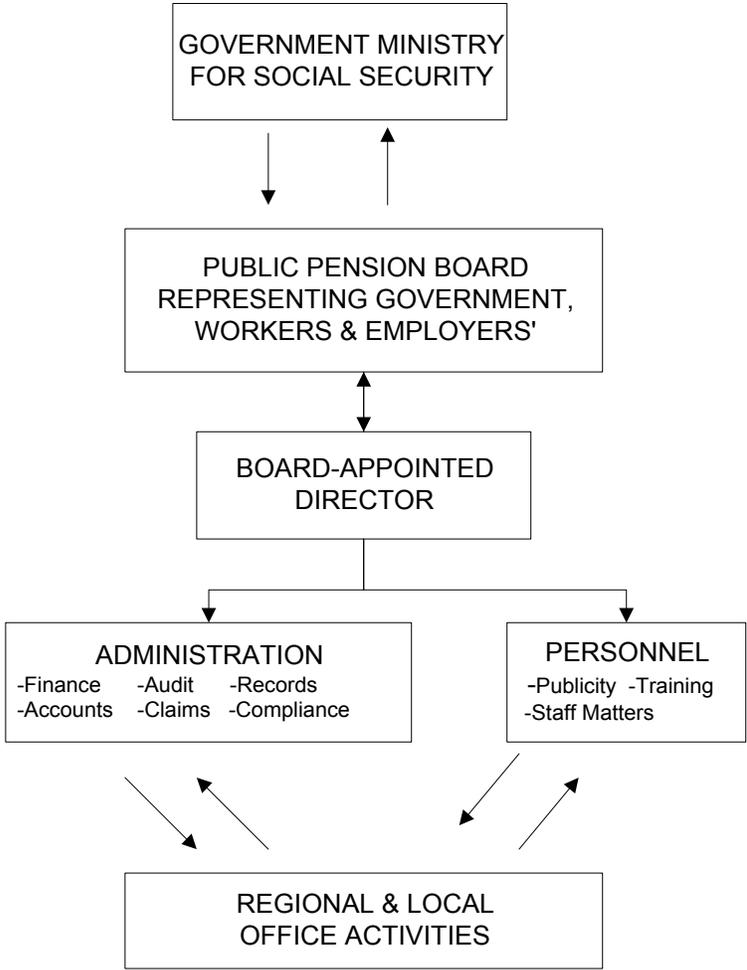
May be influenced by tax laws, trades unions, structure of benefits and compensation.

$\left(\frac{LabComp}{GDP} \right)$ = *labor compensation share of GDP*

Depends on technology of economy. Is stable over the long run.

FIGURE 1

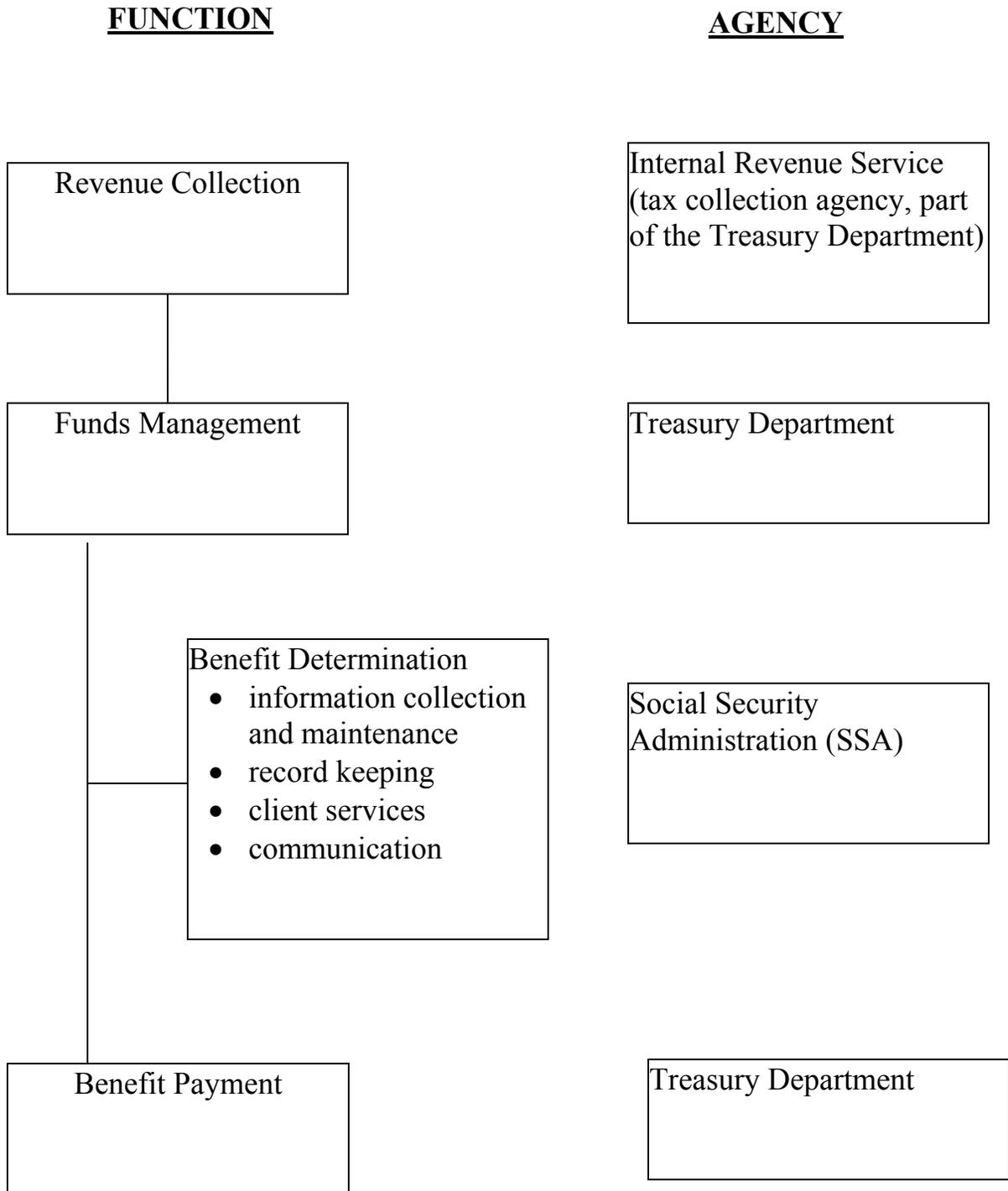
**INSTITUTIONAL FRAMEWORK OF
CENTRALLY-MANAGED PUBLIC PENSION SYSTEMS**



Note: Above diagram represents a structural pattern found in countries where near-universal coverage exists, and a single institution is involved with all aspects of the program, from tax collections to determination of and payment of benefits. Source: Based on a diagram located in the ILO's "Social Security - A Workers' Education Guide," p.84.

FIGURE 2

OVERVIEW OF FUNCTIONS AND ADMINISTRATIVE PROCESSES OF U.S. SOCIAL SECURITY SYSTEM



Required Revenue = Benefit Payments

$$(c * t) * (W * L) = N * B$$

$$(c * t) = \left(\frac{N}{L} \right) * \left(\frac{B}{W} \right)$$

where $c*t$ = effective tax or contribution rate as a percentage of wage

c = contribution compliance rate

t = statutory tax (contribution) rate

N = number of pensioners

L = number of workers covered by social insurance

B = average pension benefit

W = average wage received by covered workers

a *Dependency Rate* $\left(\frac{N}{L} \right)$ determined by eligibility rules (such as retirement age, disability standards) and demographics.

b *Replacement Rate* $\left(\frac{B}{W} \right)$ determined by benefit formula and economic factors.

c Both of these are predictable and subject to policy change.

Revenues of social insurance system

$$Revenues = ETR * \left(\frac{CovWage}{Wage} \right) * \left(\frac{Wage}{LabComp} \right) * \left(\frac{LabComp}{GDP} \right) * GDP$$

where:

ETR = *Effective Social Insurance Tax Rate*

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$$\left(\frac{Wage}{LabComp} \right) = \text{share of total labor compensation paid as wages}$$

May be influenced by tax laws, trades unions, structure of benefits and compensation.

$$\left(\frac{LabComp}{GDP} \right) = \text{labor compensation share of GDP}$$

Depends on technology of economy. Is stable over the long run.

TABLE 1

COMPONENTS OF RETIREMENT, DISABILITY, SURVIVORS INCOME

Component	Voluntary or mandatory	Government role, if any
Of Retirement, Disability, Survival Income Family and Community Support – Informal Private Arrangements	Voluntary	Do not discourage
Family and Community Support B Informal Private Arrangements Voluntary Individual Savings, etc.	Voluntary	Tax Incentives, provide mechanisms
Voluntary Individual Savings B Tax Incentives, Etc. Social Insurance – Formal Public Arrangements	Mandatory	Establish and manage system – collect revenues, pay benefits
Social Security B Formal Public Arrangements Means-Tested Allowances and Benefits Employer-provided Pensions	Mandatory	Establish and manage system – pay benefits usually from general revenues
Means-tested Allowances and Benefits Employer-Provided Pensions	Voluntary or mandatory	Regulations, monitoring, tax incentives, guarantee (?)
Individual-Provided Pensions	Voluntary	Regulations, tax incentives

TABLE 2

SOURCES OF INCOME OF THE OLDER POPULATION IN THE U.S.

Sources of Income of the U.S. Population Ages 65 and Over, Percentage Distribution of Population and Income by Income Source, Mean Income, and Median Income, 1995

	Percentage distribution of income by source	Percentage receiving income by source	Median ^a income	Mean income
Total	100%	100%	\$11,553	\$17,128
Earnings	18	16	9,000	3,044
Retirement Income	61	96	8,917	10,509
OASDI ^a	42	93	7,627	7,237
Private pensions ^c	9	24	4,428	1,539
former workers	8	21	4,593	1,425
survivor	1	3	3,000	114
Public pensions ^c	9	12	10,176	1,556
former worker	8	10	10,488	1,414
survivor	1	2	7,560	142
IRA ^e /Keogh/401(k)	d	1	4,000	66
Annuities	d	1	3,588	55
Other retirement	d	1	5,960	58
Income form Assets	18	69	1,216	3,057
Interest	12	67	726	2,039
Dividends	4	20	1,000	666
Rent, royalties, estates and trusts	2	11	1,200	352
Financial Assistance ^{f,g}	d	d	2,350	12
Nonpension Survivors Benefits	1	1	5,000	116
Disability	d	1	5,496	72
Unemployment Compensation, Workers' Compensation, and Veterans' Benefits	1	4	3,119	228
Public Assistance/SSI ^h	d	d	919	4
Other ⁱ	d	1	2,290	84

Source: Employee Benefit Research Institute tabulations of the March 1996 Current Population Survey.

^aMedian income by source includes only individuals receiving income from the source being measured.

^bOld-Age, Survivors, and Disability Insurance; includes railroad retirement.

^cDoes not include disability benefits.

^dLess than 1 percent.

^eIndividual retirement account.

^fDoes not include survivor or disability payments.

^gIncludes regular financial assistance from friends or relatives not living in the individual's household.

^hSupplemental Security Income.

ⁱIncludes educational assistance, child support, alimony, and other sources of income.

TABLE 3**DEPENDENCY RATIO MEASURES IN SELECTED COUNTRIES: 1995**

Country	System Dependency Ratio	Demographic Old Age Dependency Ratio	Gap	Replacement Rate
Kazakstan	54	19	35	36
Russia	46	31	15	34
Ukraine	50 ^a	35	15	39
Kyrgyzstan	34 ^b	20	14	34
Uzbekistan	34 ^b	15	19	-
Poland	49	28	21	57
Hungary	66 ^c	36	30	38
Czech Republic	49	32	17	49
United States	31	30	1	35 ^d
Switzerland	43	34	9	-

a. 1992

b. 1991

c. 1993

d. Retired workers pension in state social security system (OASI)

Source: Dimitri Vittas and Roland Mechelitsch, Pension Funds in Central Europe and Russia, World Bank Working Paper 1459, 1995

Session 1

ENHANCING EGYPT'S SOCIAL INSURANCE SYSTEM

UNDERSTANDING THE KEY ELEMENTS OF SOCIAL SECURITY SYSTEMS

I Introduction to Social Security Systems

- A Introduction and Overview of the Course
- B Goals of Social Insurance
- C Components of Retirement, Disability, Survivors Income
- D Rationale for Mandatory, Public Social Security Programs
- E Elements of Social Security Systems
- F Benefits
- G Finances

A Introduction and Overview of the Course

B Goals of Social Insurance

1 Provide Replacement for Labor Earnings

a Safety Net – Anti-Poverty

b Consumption Smoothing – Promote Savings During Working Years

c Potential Causes of Loss of Income

i old age

ii premature death of family supporter

iii permanent or long-term invalidity

iv temporary or permanent work injury

v temporary sickness and maternity

vi unemployment

d Types of Social Insurance Benefit Systems

- i Guaranteed minimum level of income (flat benefit) for:
 - retired workers
 - disabled workers
 - surviving dependents of deceased workers
 - unemployed workers
- ii Replacement of target percentage of lost earnings (earnings related benefit)
- iii Minimum benefit with replacement of percentage of lost earnings (most common)

B Goals of Social Insurance (continued)

2 Promote Domestic Saving and Capital Accumulation (Funded Systems)

a Domestic Saving

b Domestic Investment

3 Promote Participation in Formal Economy

C Components of Retirement, Disability, Survivors Income

- 1 Family and Community Support – Informal Private Arrangements
- 2 Voluntary Individual Savings – Tax Incentives, etc.
- 3 Social Insurance – Formal Public Arrangements
- 4 Means-Tested Allowances and Benefits
- 5 Employer-Provided Pensions
- 6 Individual-Provided Pensions

TABLE 1**COMPONENTS OF RETIREMENT, DISABILITY, SURVIVORS INCOME**

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^hSupplemental Security Income.

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D Rationale for Mandatory, Public Social Security Programs

1 Provide safety net for low income persons

a Equity

b Income distribution

D Rationale for Mandatory, Public Social Security Programs (continued)

- 2 Force individuals to save for retirement or disability
 - a Reduce effects of myopia – paternalism
 - b Reduce moral hazard of safety net programs
 - c Annuities market failure

3 It is important to distinguish between these two objectives when considering pension reform alternatives. The relationship between the policy instruments used to prevent poverty among the old or disabled, and forced savings to provide for a smooth transition from work to retirement is the central policy choice in pension system design.

E Elements of Social Security Systems

1 Benefits

a Eligibility

b Benefit Levels

2 Financing

a Revenue Collection

i Social Contribution

ii Tax Revenue

b Interest Earnings on Funds

c Draw-Down of Funds

d Other

i Fines and penalties

ii Earnings on businesses

iii Borrowing from central bank or treasury

3 Funding

- a. Sources of funding
 - i. Surplus of revenues over expenses
 - ii. Other
- b. Fund accumulation
- c. Fund management
- d. Investment allocation and management
- e. Fund drawdown

4 Administration

a Information Collection and Maintenance

- i Record assignment and record keeping
- ii Accounting
- iii Auditing

b Revenue Collection

c Funds Management

d Benefit Determination

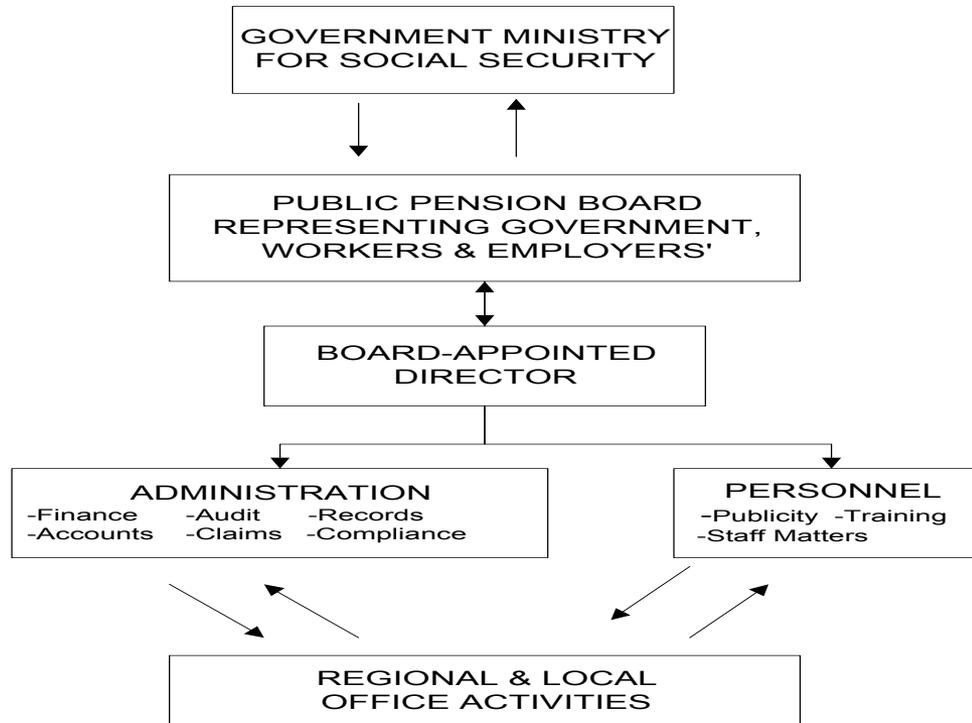
e Benefit Payment

f Client services

- g Communications – Public Information and Public Relations
- h Staff Development and Training
- i Monitoring
- j Management of central and local offices

FIGURE 1

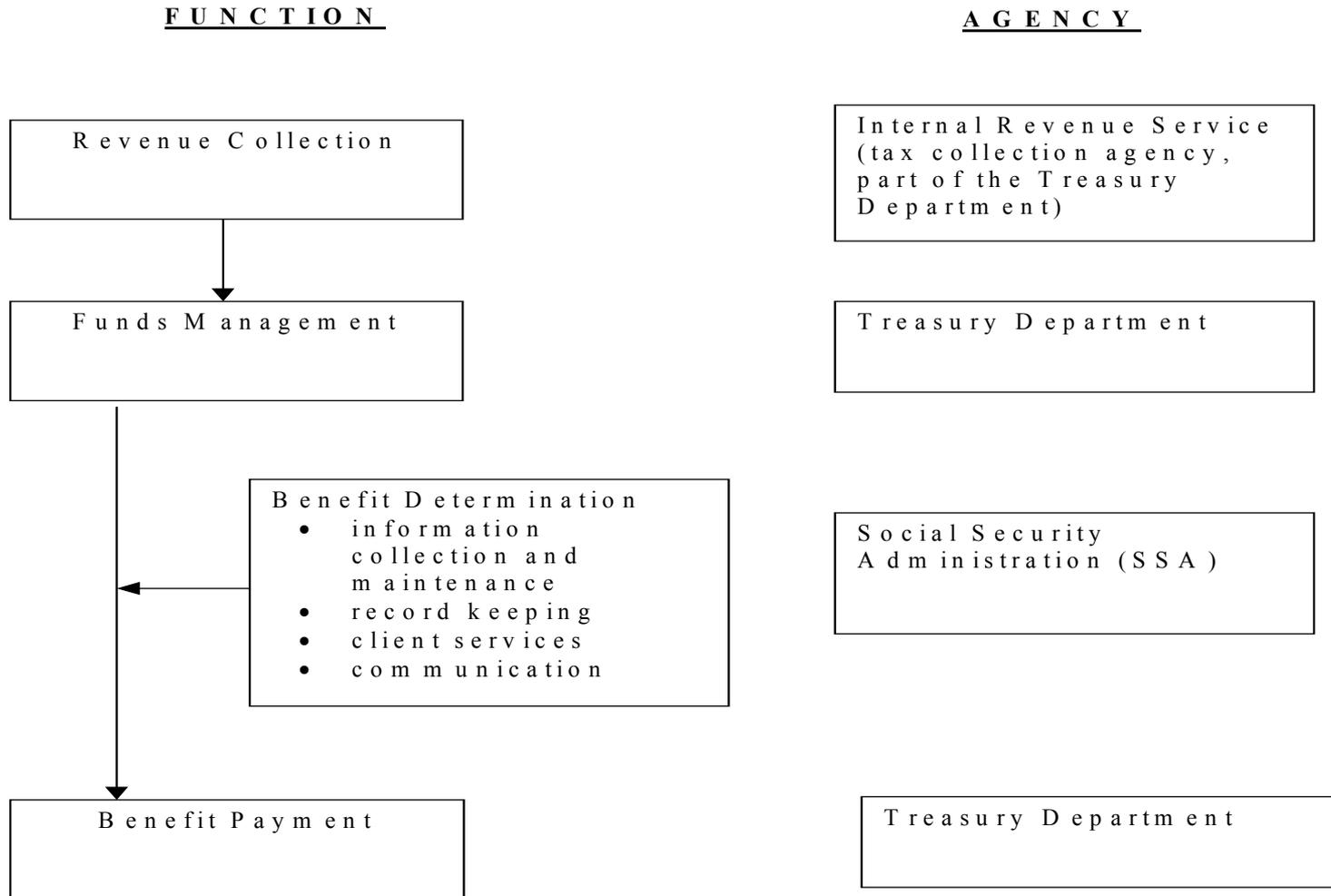
**INSTITUTIONAL FRAMEWORK OF
CENTRALLY-MANAGED PUBLIC PENSION SYSTEMS**



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FIGURE 2

OVERVIEW OF FUNCTIONS AND ADMINISTRATIVE PROCESSES OF U.S. SOCIAL SECURITY SYSTEM



F Benefits

1 Eligibility Criteria

a Work Experience

b Age

c Coverage

d Relationship to Covered Worker

2 Benefit Formula

a Flat Benefit

b Earnings-Related Benefit

i Social Adequacy vs. Individual Equity

ii Example: U.S. Benefit Formula

- c Previous Wages – Reference Wage: the Wage Used to Calculate the Pension
 - i May be final wage, average of last 3-5 years, or average wage over long period.
 - ii Use of final wage leads to “gaming” the system – “Every policeman retires as a captain”.

iii The U.S. and many countries use the average of a long history of past wages and contributions of the worker to calculate the reference wage (U.S. uses 40 years).

- Failure to contribute reduces benefit – including years of zero wages reduces the average wage.
- Increases benefit (implicitly) for longer work history.
- Past wages must be indexed for past price inflation.
- If pensions relative to recent wages are to be maintained, past wages must also be indexed for real wage growth in calculating the reference wage.
- Requires complete record of individual contributions.

d Years of Contribution into Social Insurance System

e Age and Gender

f Relationship to Covered Worker (Primary Individual)

g Minimum and Maximum Pension Benefit

G Finances

- 1 Social insurance is usually financed by (mandatory) contributions of active workers and employers, because it provides insurance to maintain labor income. Source of revenue is the wage base.

2 Coverage

3 Revenue Base

- a Treatment of small farmers
- b Self-employed
- C Special situations

4 Revenue Collection

- a Tax authority
- b Social insurance fund

5 Compliance

a Tax avoidance

i If contribution rates are too high, workers and employers can avoid participating in social insurance system.

- Engage in work not covered by social insurance system

(1) Legally -- by working in non-covered sector or contracting out to businesses exempt from social insurance

(2) Illegally -- by paying workers "off the books" or in the underground economy. Higher tax rate and weak enforcement promote greater illegal uncovered activity.

- Enterprises may pay compensation in form not covered by social insurance tax, such as free meals or other benefits.

ii System may become unstable

- Weak enforcement and tax avoidance increases the tax rate that must be imposed on covered compensation.
- This increases the incentive for tax avoidance, and reduces the size of the covered wage base.

6 Fund Accumulation

7 Fund Investment

a Government securities

b Private securities

c Foreign and international organization securities

Breakout Session 1:

- The Role of Informal and Voluntary Systems in Providing Retirement, Disability, and Survivors Income in Egypt

Session 2

KEY CONCEPTS AND ISSUES FOR
SOCIAL SECURITY AND PENSION
DESIGN: IDENTIFYING FUTURE
CHALLENGES AND
UNDERSTANDING THE
NEED FOR REFORMS

II Analyzing Social Security Systems – Key Principals, Features, Concepts

- A Coverage
- B Dependency Rate
- C Replacement Rate
- D Contribution Rate
- E Defined Benefit (DB) and Defined Contribution (DC) Plans

II Analyzing Social Security Systems – Key Principals, Features, Concepts

F Pay-As-You-Go (PAYGO)

G Demographics

H Financing Problems of PAYGO Systems

I Funding Pensions

J Inflation and Indexation

II Analyzing Social Security Systems – Key Principals, Features, Concepts

- K Effects on Pension of Additional Year of Work
- L Impacts on Government Finances
- M Impacts on Economy
- N Projections
- O Context of Social Security Policy: Competing Claims on Real Resources
- P Measures of Solvency and Burden of Social Security Systems

II Analyzing Social Security Systems – Key Principals, Features, Concepts

- Q Rates of Return
- R Funded vs. Unfunded (PAYGO) Systems
- S Defined Contribution (DC) vs. Defined Benefit (DB) Programs
- T Defined contribution plan as alternative or supplement to PAYGO
- U Notional Defined Contribution (NDC) systems
- V Mixed Systems -- Two-Tier and Three-Tier Systems

A Coverage

Coverage rate: ratio of workers making contributions to the social insurance system to total paid labor force.

B Dependency Rate

1 Old-Age Dependency Rate

2 System Dependency Rate

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C Replacement Rate

- 1 Definition: ratio of monthly benefits to monthly wages expressed as a percentage.
- 2 Macro perspective -- ratio of average monthly pension paid to all pensioners to average (covered) monthly wage of all workers contributing to the social insurance system.

- 3 Micro perspective -- ratio of pension that would be paid to a particular worker if he retired to his current monthly wage, or ratio of his initial benefit to his last wage.
- 4 Macro and micro replacement rates can differ. In general, micro replacement rate will be greater than macro replacement rate, if benefits are not fully indexed for inflation, or if benefits do not reflect real wage growth after retirement.
- 5 Issue: The appropriate wage/income comparison.

D Contribution Rate

1 Statutory contribution rate

2 Effective contribution rate

E Defined Benefit (DB) and Defined Contribution (DC) Plans

1 Defined Benefit

- a Benefit formula is specified by pension provider, usually based on age, years of participation, and past earnings.
- b Pension provider may or may not accumulate a fund to pay the promised benefits.
- c Public defined benefit programs can provide redistribution from high to low-wage workers
- d DB can provide disability and survivors benefits that far exceed value of worker's contribution.

2 Defined Contribution

- a Workers and/or employers contribute regularly specified amount to a fund in each worker's name.
- b Benefits are determined by value of worker's fund (account) at time of distribution, which will depend on the level and timing of contributions and rate of return on the fund investments.
- c Benefits can be lump sum distribution, phased withdrawal, or used to purchase an annuity at retirement.

2 Defined Contribution (continued)

d Little or no redistribution.

e Limited disability or survivors insurance benefits for younger workers.

f DC plans are fully funded (by definition) (although workers may not have separate funds).

i U.S. DC plans

ii German book reserve funding plans

Session 5

F Pay-As-You-Go (PAYGO)

- 1 Benefits to current pensioners financed out of current contributions.
- 2 PAYGO systems are almost always defined benefit, but do not need to be. (See discussion of notional defined contribution systems below.)

- 3 In a payroll tax contribution system, the required contribution rate is a fixed formula: the dependency rate multiplied by average replacement rate.

$$\text{Contribution rate} = \text{Dependency rate} \times \text{Replacement rate}$$

Required Revenue = Benefit Payments

$$(c * t) * (W * L) = N * B$$

$$(c * t) = \left(\frac{N}{L} \right) * \left(\frac{B}{W} \right)$$

where $c*t$ = effective tax or contribution rate as a percentage of wage

c = contribution compliance rate

t = statutory tax (contribution) rate

N = number of pensioners

L = number of workers covered by social insurance

B = average pension benefit

W = average wage received by covered workers

a *Dependency Rate* $\left(\frac{N}{L} \right)$

determined by eligibility rules and demographics.

b *Replacement Rate* $\left(\frac{B}{W} \right)$

determined by benefit formula and economic factors.

- a *Dependency Rate* – determined by eligibility rules (such as retirement age, disability standards) and demographics.

- b *Replacement Rate* – determined by benefit formula and economic factors.

- c Both of these are predictable and subject to policy change.

d Factors that raise the dependency rate and increase required contribution rate:

i population aging

ii reduction in rate of labor force growth

iii maturity of social insurance system

iv increase in prevalence of disability

v increase in unemployment

vi more liberal eligibility rules (e.g. lower retirement age)

e Factors that raise the replacement rate and increase required contribution rate:

i increase in generosity of benefit formula

ii slowing wage growth

f Some of these are easily predictable -- population aging, maturing of social insurance system, reduction in rate of labor force growth (falling fertility).

G Demographics

1 Fertility

2 Mortality

a. Child and young adult

b. Elderly

3 Migration

H Financing problems of PAYGO systems

1 Industrialized countries

- a Slowing of labor force growth
- b Increased average length of life, longer average retirement period
- c Slowdown in labor productivity growth
- d For example: Cost rate of U.S. social security system:

1996 -- 12.5% of covered wages

2030 -- 17-20%

2 Developing and transition countries

- a Poor tax compliance and tax avoidance
- b Benefits distorted by failure to adjust appropriately for inflation
- c Economic dislocation and contraction, falling real wages

I Funding pensions.

- 1 Current and future financial challenges to PAYGO pensions have prompted many authorities to propose funding future pensions.
 - a. Use current contributions to accumulate a fund, which is invested and earns interest.
 - b. Use earnings of fund, and perhaps principal, to pay future benefits.

2 Funding addresses the demographic problem.

a. Changing proportions of workers and dependents.

b. Fully funded system is insulated from demographic change, because each cohort funds own benefits.

3 Funding pensions may increase national capital formation, if increased pension saving is not offset by reductions in other government saving or private saving.

4 Transition problem: if current contributions are used to pay current benefits, current workers must make higher contributions to fund own pensions, or alternative source of finance for current benefits must be found.

J Inflation and Indexation

- 1 Social insurance systems must prepare for extreme economic fluctuations.
- 2 Unless real wages fall, revenues will increase with inflation.
- 3 Real value of benefits must be protected.
- 4 In countries with excessively generous benefits, authorities have reduced real benefits by not adjusting fully for inflation. This is arbitrary, creates inequities and distortions, and destroys public support for the system.

5 Calculation of reference wage -- If several years of past wages or past contributions are used to calculate the reference wage of an individual, those wages/contributions must be indexed for past inflation if the initial benefit is to replace a stable proportion of the worker's wage.

6 Indexation of current benefit -- After initial benefit, subsequent benefits must be indexed for inflation if the purchasing power of the pension is to be maintained.

7 Price indexation

- a Past wages and/or current benefits are adjusted for the change in average price level.

- b Implies gradual decline in cost rate for pensioners. Pensioners do not benefit from growth in average real wages after they retire or become disabled.

- c Problem if prices grow faster than wages (decline in real wages).

8 Wage indexation

- a Past wages and/or current benefits are adjusted for the change in average wages.

- b Wage indexation adjusts the reference wage and/or benefits for real wage growth as well as for inflation.

- c Wage indexation of benefits permits current pension beneficiaries to benefit from current productivity growth.

9 Mixed indexing methods

- a U.S. uses wage indexation to adjust past wages in calculation of reference wage, and price indexation to adjust benefits after beginning of benefit receipt.

- b Swiss use average of price index and wage index to index benefits.

10 Some countries adjust benefits by indexing them to a reference value set by the government, such as the minimum wage.

a This constrains and confounds both labor market policy and pension policy.

b If possible, pensions should be adjusted automatically for inflation, annually, using an objectively calculated price or wage index.

K Effects on pension of additional year of work

- 1 Treatment of working pensioners – reduction of pension benefit payment for earnings provides incentive to retire.
- 2 Changes in pension benefit for retirement at ages younger or older than "normal" retirement age.

- 3 Early or delayed retirement benefit adjustment should be actuarially fair.
 - a Actuarially fair adjustment: expected present value of lifetime benefits is the same at a reference age, regardless of when individual retires.
 - b Retirement age choice does not affect system finances.
 - c System does not provide incentive for early or later retirement.

d U.S. system is approximately actuarially fair. Retirement pension benefit is reduced $5/9$ percent per month ($6\frac{2}{3}$ percent per year) that individual retires earlier than normal retirement age (65). Benefit is increased for each month that individual delays retirement to later age.

e Benefit reduction must be permanent.

L Impacts on Government Finances

- 1 On-budget and off-budget accounting arrangements
- 2 Competing demands on government resources
- 3 Surplus/ debt management
- 4 Contingent liabilities – including Implicit Pension Debt (IPD)

M Impacts on Economy

1 Labor Markets

a Labor costs and factor proportions

- i If social insurance contribution imposed on wages is perceived to be a tax, it imposes a “wedge” between the wage employers pay and the wage workers receive.

- ii Payroll taxes raise the cost of labor relative to capital in the covered sector and prompt employers to substitute capital for labor.

b Retirement Behavior

- i Pensions may provide reliable source of non-wage income available at specified age.
- ii Effect on retirement ages depends on several factors:
 - Value of pension workers can claim at specified retirement ages in comparison to current wages
 - Change in future pension if workers delay claiming pension
 - Effect of receiving pension on ability to engage in paid work and effective wage -- retirement earnings test

iii Conditions favoring younger retirement:

- Earliest age of eligibility is low
- Initial pension is high
- Increase in pension resulting from delay in claiming pension is small
- Pension acceptance significantly reduces effective wage

- c Work behavior before retirement
 - i Encourages workers to obtain the minimum credits needed for pension eligibility.
 - ii Reduces workers' willingness to participate in the social insurance covered sector if contribution requirements are too high and are perceived to be a tax.
 - Employers pay higher compensation costs than workers receive – a “wedge” between price paid and price received for labor.
 - Workers may perceive that costs exceed expected future benefits.

2 Capital Markets

a Quantity of savings

i Personal saving

- Social insurance systems provide workers with reliable source of income in retirement or disability.
- This may reduce workers' incentives to save for retirement or covered contingencies.

i Personal Saving (continued)

- Public social insurance systems may reduce employers' incentives to establish pension plans, or reduce their ability to do so by raising compensation costs.
- Tax subsidies and/or government-mandated pensions may offset employer disincentives to provide pensions.
- If establishment of public pensions encourages workers to retire, it may increase retirement saving.

ii Governments can offset reductions in private saving.

- Accumulate reserves in social insurance system
- Mandate contributions to private, funded pension program

b Efficiency of investment

3 International competitiveness

- a. High payroll taxes may increase labor costs and increase prices of tradable goods in international markets, especially for labor-intensive products.

N Projections

1 Revenue

- a Payroll tax financed systems – revenue depends on:
 - i Size of labor force
 - ii Average wage
 - iii Coverage and effective contribution rate
 - iv Structure and state of economy
- b Other sources of tax revenue

2 Expenditure

a Benefit payments – depend on:

i. Size of beneficiary population

- average retirement age

- age structure and mortality

ii. Average benefit

b Administrative expenses

3 Fund Balances

a Size of fund balances

Fund at end year $t =$

Fund beginning year $t +$

Revenues – expenditures in year $t +$

Interest earnings in year t

b Rates of return

4 Financial projections are dominated by demographic variables in the long run:

a fertility

b mortality

c migration

- 5 Need to account for economic variables in projecting costs in short and medium term periods
 - a Rate of wage growth -- labor force productivity
 - b Rates of labor force participation
 - c Unemployment
 - d Inflation
 - e Interest rates

6 Macroeconomic Accounting Framework

- a An accounting framework for analysis and projection of social insurance finances and the economy
- b Determinants of national output
- c Revenues of social insurance system

Macroeconomic Accounting Framework For Analysis and Projection of Social Insurance Finances and the Economy

Determinants of national output:

$$GDP = \left(\frac{Pop_{wa}}{Pop} \right) * \left(\frac{LF}{Pop_{wa}} \right) * \left(\frac{E}{LF} \right) * \left(\frac{H}{E} \right) * \left(\frac{GDP}{H} \right) * Pop$$

where:

$\left(\frac{Pop_{wa}}{Pop} \right)$ = proportion of population of working age

$\left(\frac{LF}{Pop_{wa}} \right)$ = labor force participation rate

$$\left(\frac{E}{LF} \right) = \text{employment rate}$$

$$\left(\frac{H}{E} \right) = \text{annual hours of work per person}$$

$$\left(\frac{GDP}{H} \right) = \text{output per worker (productivity)}$$

Pop = total population

Revenues of social insurance system

$$\text{Revenues} = ETR * \left(\frac{\text{CovWage}}{\text{Wage}} \right) * \left(\frac{\text{Wage}}{\text{LabComp}} \right) * \left(\frac{\text{LabComp}}{\text{GDP}} \right) * \text{GDP}$$

where:

ETR = *Effective Social Insurance Tax Rate*

$\left(\frac{\text{CovWage}}{\text{Wage}} \right)$ = *covered wages / total wages*

Depends on labor force structure, social security rules – will be stable if rules are stable.

$$\left(\frac{Wage}{LabComp} \right) = \textit{share of total labor compensation paid as wages}$$

May be influenced by tax laws, trades unions, structure of benefits and compensation.

$$\left(\frac{LabComp}{GDP} \right) = \textit{labor compensation share of GDP}$$

Depends on technology of economy. Is stable over the long run.

- d Using reasonable and transparent assumptions, this will provide a framework for projecting:
 - i real wage bill
 - ii tax base
 - iii average real wage per worker
 - iv social insurance revenues as share of GDP

O Context of Social Security Policy: Competing Claims on Real Resources

- 1 Social insurance policy and projections should be considered within context of overall size and growth of economy

- 2 Social insurance system is part of overall economy and social benefits system.
 - a Current benefits are paid out of current national income, along with other claims on society's resources:
 - i health care
 - ii unemployment insurance
 - iii education
 - iv allowances to families and children
 - v social assistance
 - b Many of these are also financed by taxes on wages.

c Regardless of funding mechanism, current benefits (consumption) must be paid out of current national income (production).

d The real determinants of the burden of any social insurance system are the share of total real resources (GDP) transferred to beneficiaries each year and the effects on long run growth of the economy – the total real resources to be shared.

3 Social insurance system may affect growth of economy.

a Savings and capital accumulation

b Labor force behavior

P Measures of Solvency and Burden of Social Security Systems

1 Cost rate analysis

- a Applies to PAYGO systems
- b Cost rate: the percent of the covered wage bill required to finance projected pension expenditures
- c $\text{Cost rate} = \text{product of system dependency rate and replacement rate.}$
- d Comparison of statutory contribution rate to cost rate indicates actuarial balance of system.

- 2 Ratio of financial balance (annual surplus/deficit) to GDP

- 3 Implicit public pension unfunded liabilities (discounted present value of stream of future surpluses/deficits – net liabilities assumed by government)

Q Rates of Return

1 PAYGO systems

- a No significant reserve fund
- b Implicit rate of return on participant's contribution:
With stable population growth and constant tax rate, rate of return to average participant is equal to rate of growth of work force plus rate of growth of average real wage = rate of growth of labor income.

2 Funded systems

- a Funds earn rate of return on instruments in which they are invested.
- b Total rate of return depends on investment mix.
- c There is a trade-off between risk and expected return.

- d Issues of how funds should be invested, what are the investment objectives – to maximize risk-adjusted rate of return, other objectives?
- e Who bears the risk – the individual or the government?
- f Different age cohorts have different perspective toward risk. Should all cohorts have same investment mix?

R Funded vs. Unfunded (PAYGO) Systems

- 1 Funded system may promote increased saving and accumulation of large stock of capital.
- 2 Benefits paid in part from interest income
- 3 Each generation pays for a portion of own retirement through accumulation of stock of capital during work years.

- 4 Increased capital stock may increase wages of workers, perhaps reducing burden of tax rate.

- 5 Effectiveness depends on fiscal behavior of rest of government and on response of private saving.

- 6 Transition problem of moving from PAYGO to funded system: one generation must pay pensions of older generation and accumulate reserve for own pensions.

7 Potential solutions to transition problem:

- a. Granting of compensatory pensions in recognition of accrued pension rights from prior service – could be paid out of general revenues.
- b. Use of “recognition bonds,” in recognition of accrued rights from prior service.
- c. Privatization revenues.
- d. General tax revenues.

S Defined Contribution (DC) vs. Defined Benefit (DB) Programs

- 1 Defined contribution is funded; defined benefit may or may not be funded.
- 2 DC may promote national saving, although funded DB system may promote saving as well or better.
- 3 DC plans provide little redistribution of income.

- 4 DC requires efficient domestic financial system, if funds are to be invested domestically.

- 5 Shift investment risk from plan sponsor (public sector or employers) in DB system to individual contributors in DC system.

6 Management costs

- a. Exist for both DB and DC systems
- b. Differ between the two systems
 - i. DB: managing and assuring benefit payments
 - ii. Compliance with government regulations
 - Funding
 - Fairness
 - iii. DC: managing funds and investments
 - iv. Marketing

T Defined contribution plan as alternative or supplement to PAYGO

- 1 Fully funded
- 2 May be mandatory or voluntary (with tax subsidy)
- 3 Ownership and credibility -- Individual worker may have own account.
- 4 Diffusion of ownership and control -- Each worker "owns" and may direct the investment of his/her fund. Avoids control of large amount of capital by pension fund manager, which in the case of public social insurance system is the government.

- 5 No significant redistribution of wealth. (Greater income risk.)
- 6 Worker may bear greater investment risk.
- 7 Worker bears risk of unexpected increase in longevity, if annuity conversion rates are not guaranteed.

- 8 Defined contribution plans alone do not provide social insurance *per se* -- limited disability and survivors benefits to younger workers, limited risk pooling.

- 9 DC can be combined with minimum pension guarantees backed by government, to provide social insurance characteristics.

- 10 Mandatory defined contribution programs -- Chile, Singapore

U Notional Defined Contribution (NDC) systems

- 1 System may continue to operate on pay-as-you-go basis, but benefit is determined by contributions of worker.
- 2 No actual fund need be accumulated.
- 3 Notional account is established in worker's name, to which his/her individual contributions are credited.
- 4 Account is increased periodically (annually) by a specified rate of return, e.g. rate of growth of total wages.

- 5 At retirement, benefit is determined by value of account and worker's age, can be adjusted for life expectation.
- a. Benefit could be value of account divided by life expectation for persons of that age.
 - b. If indexed for inflation this is equivalent to an annuity with a zero real rate of return.

- 6 Insulates pension system from economic and demographic uncertainties
 - a Varying real wage growth
 - b Increasing life expectation

- 7 Can insulate system from effects of retirement age – workers who retire at younger ages receive lower benefits.

- 8 Being implemented in Latvia, Sweden, Poland. Proposed reform in Russia.

V Mixed Systems -- Two-Tier and Three-Tier Systems

- 1 First tier -- Pay-As-You-Go defined benefit system -
- may be relatively flat benefit with redistributinal features.
- 2 Second tier -- mandatory defined contribution program.
- 3 Third tier -- voluntary, privately funded systems –
may be defined contribution or employment-based defined benefit systems.

- *Breakout Session 2:*
Financing Social Insurance in Egypt –
Sources of Financing, Contribution
Collection Experience