

Enhancing Egypt's Social Insurance System

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**Technical Assistance to Support the Reform Activities of the Government of Egypt
and Provide Management Activities**

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Abbreviations and Acronyms

DB	Defined Benefit
DC	Defined Contribution
EISA	Egyptian Insurance Supervisory Authority
ETI	Economically Targeted Investing
GDP	Gross Domestic Product
ILO	International Labor Organization
IP3	Institute for Public-Private Partnerships
ITC	Investment Technical Committee
LE	Egyptian pounds
MENA	Middle East and North Africa
MOSI	Ministry of Social Insurance
NASI	National Authority of Social Insurance
NDC	Notional Defined Contribution accounts
NIB	National Investment Bank
OECD	Organization for Economic Co-Operation and Development
PAYG	Pay As You Go
PBGC	Pension Benefit Guarantee Corporation
P/E	Price-Earnings ratio
PIO	Pension Insurance Organization
SIFGE	Social Insurance Fund of Government Employees
SIFPPSE	Social Insurance Fund of Private and Public Sector Employees
SIO	Social Insurance Organization
SIS	Social Insurance System

TAPR Technical Assistance to Support the Reform Activities of the Government of Egypt and Provide Management Activities

USAID United States Agency for International Development

This Report is dedicated to the memory of our friend and colleague, Tom Tift, who died on February 10, 1999, in Cairo, while working on this assignment.

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Executive Summary

Egypt's Social Insurance System (SIS) is one of the most advanced in the world, based upon its extensive coverage of groups that are often excluded in other countries. The object of enhancing Egypt's SIS is to safeguard the positive aspects of its system while preparing to meet the demographic challenges of the 21st century. A well designed set of improvements to the current system hold out the prospects of providing better retirement security and linking pension savings to the capital markets. Such improvements would help to promote higher savings, higher returns on savings, economic growth, and job creation.

As with most countries in the world, Egypt's SIS is based on a pay as you go, defined-benefit (PAYG DB) system. PAYG DB systems are systems:

where retirement benefits are determined by a formula, usually based on years of work and salary, but not directly based on the individual's own financial contribution and investment return;

where the contributions made by the workforce pay for the benefits of the retired, but leave future retirees uncertain about their own benefits; and

that are usually not funded and therefore may become financially unstable as demographics shift.

As other countries are discovering, PAYG DB systems are highly susceptible to the demographic changes that accompany economic growth. These changes imply longer life spans for pensioners and thus greater benefit payments, and a smaller population growth rate with fewer workers to make contributions, placing unsustainable stress on the system. The resulting deterioration and deficit of the social security system can have devastating consequences for public finance, the economy, overtaxed workers, and the welfare of pensioners.

In addition, international experience shows that PAYG DB systems can have serious economic inefficiencies: high payroll taxes with negative effects on employment; lower national saving; low returns on publicly managed pension savings; and misallocation of public resources. They often have flaws in design and implementation, such as overly generous benefit formulas, unreasonably early retirement provisions, and lax oversight in the award of disability pensions. As the experience of other countries shows, PAYG DB systems also tend to promote inequities, such as better treatment of high income groups, low ceilings on taxable earnings (implying a regressive tax), and redistribution to early participants in the system from later participants in the system.

There is usually also a large opportunity cost associated with PAYG DB systems. Most contributions in PAYG DB systems are invested in government paper, often used to finance consumption. However, contributions for retirement can represent large pools of

long-term savings that can, given the right vehicles and channels, be productively invested in the economy through equities, corporate bonds, and other financial instruments. Given the long-term horizon of pension savings, investing a portion of it in equities is particularly sensible. Channeling pension savings into productive investment not only promotes economic growth but also provides for higher returns for pensioners.

Experience from many countries strongly suggests that it is precisely at the point when things seem to be going well for social security (it is running a surplus) that initiatives need to be taken to prepare to resolve the inherent deficiencies of PAYG DB systems. The desire to postpone the inevitable is strong - reform of such a vital part of the average person's expectations for the future is bound to cause anxiety and controversy. However, the failure to act in a timely fashion to improve retirement security will be much more traumatic for the economy and society. It requires leadership and courage, therefore, to begin to face up to the problem, rather than avoid it and let the next generation inherit it and face the unfortunate consequences full force.

Worldwide experience with social security and pension reform is now nearly two decades old. The 1990s have been an especially fertile time for change as many countries have started to come to grips with the need to redesign and strengthen their systems to provide secure old-age retirement and related social services.

From these experiences has grown a body of international best practices that Egypt can draw on. This experience points to the gains in economic efficiency and social equity from enhancing social security insurance systems to meet these coming challenges. Successful changes feature the creation of multi-tier systems that include personal defined contribution plans that tie a worker's retirement benefits directly to his or her contributions, plus investment return.

Of course, every country has a unique set of historical, cultural, social, economic and other circumstances that must be taken into account in dealing with such an important issue. International best practices offers useful guides to countries to enhance social insurance systems in order to meet the three basic goals of old-age retirement security—providing a social safety net, savings and wage replacement, and insurance against risks encountered in retirement.

International best practices also point to the fact that retirement rests more securely if it is supported by several tiers, enabling each one to focus on one of the goals of retirement. Multiple tiers provide diversification of income and other benefits to reduce the risk—and potentially increase returns—in converting pension savings to retirement benefits.

Creating defined contribution plans as a part of the multiple tiers is a key measure to enhance the current system. In defined contribution plans (DCPs), benefits are equal to contributions plus investment return. The direct link between contribution and benefits provides an incentive to work and avoid early retirement. It also provides for a strong link to capital markets because equities and other corporate securities will be attractive long-term investments. With the potential for higher returns in the DCPs of Tiers 2 and

3, contributions to Tier 1 can be reduced. Since DCPs are by definition fully funded, they avoid the fiscal and financial imbalances inherent in a PAYG DB system.

This report recommends that Egypt consider a carefully planned, time-phased transition to a multi-tier system to enhance Egypt's SIS to improve retirement security for pensioners, and to provide sound linkages to the capital markets to benefit both the economy and pensioners. Egypt's Ministry of Social Insurance (MOSI) can and should play a leading role in enhancing the system.

PURPOSE OF THIS REPORT

This report is presented as a part of the social insurance system assessment activity under USAID's Technical Assistance for Policy Reform (TAPR) project. The specific purpose of this activity, as stated in the scope of work developed by USAID and MOSI, is to develop a time-phased plan to invest more of Egypt's pension funds in the private sector and attain a better rate of return on capital. The deliverable for this activity is the present report. It encompasses the findings, recommendations, and action plans called for in the activities' tasks, summarized as follows:

Overview Egypt's SIS. This task involves analyzing the risks of MOSI investing social insurance funds in the capital markets, developing recommendations to economically invest the social insurance funds, and estimating the impact of these recommendations on the economy, pensioners, and the MOSI.

Based on the findings and recommendations in the first task, construct a time-phased action plan based on a three- to five-year period to identify policy actions aimed at investing more social insurance funds in the private sector and attaining better returns on capital.

Identify ways to improve MOSI's capacity to implement the recommendations in the time-phased plan to enhance Egypt's SIS.

In order to develop skills and an understanding of the issues of enhancing the current system and providing secure retirements, and the linkages among pension savings, capital markets, and economic growth, the project team developed and presented a series of training seminars for the staff of MOSI's Investment Department. Ten training sessions have been held at the Ministry. A core group of 22 people from MOSI regularly attended these sessions, complemented by others from time to time. The training materials are provided as an appendix to this report.

ORGANIZATION OF THIS REPORT

The report provides the main findings, recommendations and action plan called for in the scope of work. The first task has a particularly large weight in the overall study, since

the findings and recommendations from this task drive the other tasks in the scope of work.

Because of the importance of the first task, it has been broken down into the first five chapters of the present report for ease and unity of exposition.

This report is organized as follows:

Chapter 1 presents an overview of the social insurance sector in Egypt, including MOSI and the two pension funds—the Social Insurance Fund of Government Employees (SIFGE) and the Social Insurance Fund of Private and Public Sector Employees (SIFPPSE)—that it oversees.

Chapter 2 presents an overview of the Egyptian stock market, which is the destination of LE 900 million through the three MOSI investment funds established in September 1998. This chapter provides background information to understand some of the benefits and risks of investing the MOSI surplus in the stock market.

Chapter 3 presents an assessment of the risks of MOSI investing social insurance contributions it receives in the Egyptian stock market. The findings of this section have important implications for the recommendations and action plans developed by the report. Therefore, the risks of this present practice are discussed and assessed at some length.

Chapter 4 presents, in light of the findings of Chapter 3, a strategy for channeling pension savings into capital markets through a multi-tier approach that can address the challenges that will face Egypt's SIS, and provide for a more secure retirement and promote economic growth and capital market development. This chapter also discusses the impact on the economy, pensioners, and MOSI of implementing the recommended strategy for a multi-tier approach.

Chapter 5 discusses the legal and regulatory framework for such a multi-tier approach.

Chapter 6 presents a time-phased plan to implement the recommended strategy to develop a multi-tier system to invest more pension savings in the private sector through decentralized, defined contribution accounts, to increase retirement security while attaining better returns on capital.

Chapter 7 discusses the desirable capacity building for MOSI central staff so that it can focus on poverty alleviation and safeguarding the interest of pensioners by providing a minimum pension guarantee as Tier 1 of the multi-tier system, and play a role in the regulation of Tiers 2 and 3. It recommends training and related capacity building activities so that MOSI can play a leading role in enhancing the current system. It will also be essential to develop the capacity of MOSI's regional and district staff who will be vital in implementing the public information and consumer awareness elements of the enhanced SIS program.

FINDINGS AND RECOMMENDATIONS

Egypt's Social Insurance System

Because of the expansion of coverage of the system in the 1970s and 1980s through a series of laws, more than 80 percent of the population participate in the system, which is a far higher rate than other countries at a similar level of per capita GDP.

Egypt's social insurance system (SIS), as noted earlier, is a pay as you go, defined-benefit (PAYG DB) system. At present, Egypt has a young population, with many more working age people than pensioners. As a result, the contributions made by the employees and employers exceed the benefits paid. The largest portion of the benefits it pays is for old age pensions. Other benefits include disability, survivors' benefits, sickness and maternity, workman's compensation, and unemployment.

The assets of Egypt's social insurance system (i.e., of the SIFGE and the SIFPPSE) at the end of fiscal year 1997/98 totaled LE 114 billion, or about \$33.4 billion (at an exchange rate of 3.4 LE per dollar). This pool of assets was equal to more than 40 percent of Egypt's gross domestic product (GDP) for 1997/98.

Of these assets, LE 100 billion consisted of financial investments. Over the years, about 90 percent of the financial investments have been loans to the National Investment Bank (NIB). By June 1998, the total outstanding loans to the NIB stood at almost LE 92 billion. The NIB, which uses these funds to finance government projects, pays a notional rate of interest on these deposits.

Based on current economic and financial conditions, Egypt's SIS will come under increasing financial strain as people live longer and have fewer children, implying growing pension benefits and fewer workers to support them. The current system also faces other problems:

The existing contribution rates affect low-wage earners harder than others and may serve as a disincentive for them to participate in formal sector employment.

The current system may also encourage early retirement, evasion of contributions, and manipulation of benefits.

The current system could be modified to encourage a greater link between pension savings and the capital markets that could strengthen the pension system, promote economic growth, and create sustainable employment.

Without a new strategy to safeguard the positive features of Egypt's SIS, Egypt's gains in stabilization and growth could be jeopardized:

NIB's debt to the SIS, as noted above, is currently about LE 92 billion, or \$27 billion. To

put that amount in perspective, Egypt's foreign debt is about \$28 billion.

In 1998, benefit payments represented nearly 3% of GDP and 12% of total government spending. Pension spending has been increasing at a much faster rate than GDP in recent years, a trend that is likely to accelerate during the next decade as demographics shift.

Currently, the system has a net inflow (contributions minus benefits) over LE 2 billion. By 2010, depending on the growth rates of benefits and contributions, the system could have a net outflow of LE 40 to 50 billion.

To project the exact pattern of pension spending one would need to review the ongoing actuarial studies of SIFGE and SIFPPSE. The graph below gives an estimate, illustrating the likely ranges of increases in pension spending as a percentage of GDP through the year 2015. Assuming the current GDP growth rate continues (9% a year, including inflation), our findings indicate that even viewed conservatively, SIS payments over the next decade and a half will expand disproportionately.

By 2010, pension spending as a percentage of government expenditure could increase to 35 to 40 percent (assuming the ratio of government spending to GDP remains roughly constant.)

The economic and fiscal implications of this scenario for Egypt could be severe even at low growth rates of SIS payments, could produce budget deficits, inflation, and reduced domestic savings, and could affect the exchange rate. Though the cause was different, the results could be similar to, and probably far worse than, the Asian economic crisis in 1997/98, a situation that Egypt avoided thanks to its stabilization policies.

To improve the financial position of the social insurance funds, the GOE and MOSI launched three investment funds in September 1998. These three funds are managed by private sector, Egyptian investment firms, and invest social insurance funds in the Egyptian stock market. The total amount committed to these three investment funds was LE 900 million, or less than 1 percent of the total social insurance surplus.

However, the "free float" of shares, that is, the portion of market capitalization that is available for trading, is considerably less, perhaps 15 billion. Therefore, these three investment funds account for roughly 6 percent of free market float, which is significantly higher than that of any institutional investor in the United States stock market. This implies that MOSI already enjoys significant clout in the market as a major player, a position that would only be strengthened if more funds were channeled to MOSI to invest in the market.

Linking Pension Savings with Capital Markets

Our analysis concludes that Egypt's capital markets, especially the Egyptian Stock Exchange, are suitable for investing pension savings, provided economic reform policies continue, and the stock market's infrastructure and regulatory framework continue to develop. Specifically, our analysis found:

Egypt's stock market has a high capitalization, currently about \$25 billion.

70 companies are actively traded, and 15-20 have good liquidity.

Egypt's stock market indices show that the market has kept pace with economic growth in Egypt. The privatization and liberalization programs have helped encourage stock market growth.

A portion of pension fund savings should be invested internationally to diversify and reduce risks for pensioners.

Risks of Government Investing in the Stock Market

One of the main tasks in the activity was to assess the risks of government investing social insurance funds in the Egyptian stock market, and of possibly extending this practice in the hope of realizing higher returns. The interest in improving the financial position of the social insurance funds is understandably strong.

Our analysis of the risks of government serving as the vehicle to invest pension savings (rather than through defined contribution plans in Tiers 2 and 3) concludes that the risks are too high to recommend that this practice be extended. Although government investing of social insurance assets in the private sector may produce higher returns than investment through the NIB, Egyptian policy makers should consider the significant new risks of this approach.

Many of these risks are difficult to quantify. However, experience elsewhere suggests that they should be given serious consideration since the risks have ramifications not just for the old age security of Egypt's citizens, but also for Egypt's ongoing shift from state to private ownership, and the development of Egypt's capital markets and corporate governance systems.

As examined in Chapter 3, the risks of under-performance of government investment have been well documented in a number of empirical studies. These studies, based on experience in the United States and the United Kingdom, show that public pension funds that invest in the private sector perform on average several hundred basis points worse than their private sector counterparts. The reason for this substantial under-performance is that the investing process becomes politicized to the detriment of pension beneficiaries and taxpayers. These studies show that the risks of under-performance are not a function of whether the investing is done in house or contracted out, but instead seem to depend on whether it is public or private funds that are being invested.

A sizeable body of research also suggests that the risks from government investing pension assets are not limited to likely under-performance and a concomitant funding shortfall to be made up by taxpayers. In Egypt, other risks include possible effects on corporate governance and the risks to the country's privatization program from what may in effect be a renationalization of its industrial and commercial sectors. If the government becomes a substantial shareholder in most of Egypt's largest and most economically

attractive newly privatized companies, there will be the possibility of undoing the progress Egypt has made in privatizing the economy. Thus, not only does the plan to invest social insurance assets in the private sector risk that the investments themselves will underperform, but there is also the risk that Egypt's capital markets and the economy would suffer as well.

Interestingly, the debate on whether government should invest social security funds in the stock market is currently going on in the United States. Alan Greenspan's sound stewardship of US monetary policy as chairman of the US Federal Reserve System is widely credited with providing a propitious economic and investing environment that has helped the remarkable performance of the US stock market. In this debate, Greenspan has weighed in solidly against the government investing social security funds in the stock market. Greenspan has noted that investing social security funds in the stock market in order to get higher returns poses "very far-reaching dangers for the free American economy and the free American society." When asked if the risks of politically motivated investment could be avoided by limiting the decision-making authority of the fund trustees, he has replied that, "I've been around long enough to realize that that's just not credible, not possible."

Recommendations to Economically Invest Pension Savings: Develop a Tier 2 and expand Tier 3

Signaling the risk of government investing in the capital markets is not to reject the concept of investing pension savings through the capital markets. On the contrary, improving the investment returns of the current surplus of the social insurance and pension system is one of the key components of Egypt's program of adjustment to promote economic growth and create jobs.

The potential advantages of investing pension savings through the capital markets include, first and foremost, helping to alleviate the inevitable shortfall in a PAYG DB system and providing a more secure retirement. Other advantages include increasing savings, increasing the demand for and supply of labor, and increasing the productivity of capital and labor. These factors, in turn, will promote economic growth and create new jobs.

What is crucial is the vehicle by which pension savings are invested in the capital markets. Doing so through the government presents many risks, and is not the best way to provide secure retirement and obtain a better return on the invested savings.

The recommended strategy—consistent with international best practices in social security and pension reform—is for Egypt to begin to develop a multi-tier approach to old age retirement security. The approach features three tiers to buttress security for old age retirement, while creating the appropriate vehicle to link pension savings to capital markets.

The multi-tier strategy is based on a rational division of effort and diversification of risk

in meeting the three goals of a secure old age retirement. The three goals are alleviating poverty and providing a social safety net in old-age retirement; providing for savings and replacing income from wages once retirement begins; and insuring against a variety of risks in retirement, such as longevity in excess of savings.

Tier 1 consists of a public mandatory system focused on poverty alleviation through a minimum pension guarantee for pensioners. In Egypt, it would make sense for MOSI to focus on this role. Subject to review of contributions and the current practice of basing contributions on basic and variable wages, this first tier could be built on the current contributions based on the basic wage. (Basic and variable wages are explained in Chapter 1.)

An early step in the process of building a multi-tier system could be to establish Notional Defined Contribution (NDC) accounts as a part of Tier 1. The NDC approach is a first step in converting a single tier PAYG DB system into a multi-tier system. When coupled with the initiation of activity to create Tiers 2 and 3, the NDC approach can be a politically feasible way to move toward a defined contribution system.

The NDC account is a modification of existing PAYG systems. Workers have individual accounts that are credited based on their earnings and interest rates set by the government. NDC accounts more effectively link contributions and benefits than existing PAYG schemes, are less likely to be viewed as a tax on labor and are thus less likely to act as a disincentive to work than ordinary PAYG systems.

It is important to remember that the NDC approach is an important step in the development of a multi-tier approach, especially the second tier. NDCs by themselves cannot substitute for Tier 2, because NDCs alone would still retain most of the deficiencies of the PAYG DB system.

An issue would be whether Tier 1 would be fully funded. In order to obtain high returns on these savings, Tier 1 could work toward at least partial funding by investing internationally. This would provide further diversification for pension savings and retirement benefits.

Tier 2, which currently does not exist in Egypt, would be a key vehicle to link pension savings to the capital markets. Tier 2 would consist of decentralized, mandatory, personal, defined-contribution plans, subject to regulation to protect workers and pensioners. Managers of these accounts would invest in Egyptian securities, including the stock market, subject to suitable regulations. The managers should also be permitted to invest a certain percentage of funds internationally to provide diversification. Fund management is fairly well developed in Egypt.

An expanded Tier 3 would supplement Tier 2. Tier 3, consisting of voluntary occupational plans, already exists in Egypt. All of the current private sector occupational pension plans are defined-benefit plans. To complement them, defined-contribution plans should be created, primarily by amending existing tax regulations. An expanded

Tier 3 would also provide a suitable vehicle to link pension savings to the capital markets.

Impact of Implementing These Recommendations on the Economy and Pensioners

The Economy Evidence from other countries that have implemented improvements in their pension systems by creating defined-contribution plans (DCPs) suggest that the impact on the economy in Egypt should be positive, promoting growth.

Developing DCPs can promote economic growth by increasing the quantities of capital and labor supplied, or the productivity of labor and capital, or both.

In general, studies from other countries suggest that pension improvement helps increase the savings rate. Provided that there are suitable investment opportunities, this can lead to an increase in capital stock, promoting economic growth

Studies also indicate that the effects of creating DCPs to improve pensions is quite beneficial to labor. The close linkage between benefits and contributions in a DCP helps to increase the quantity of labor and end unreasonably early retirement. Workers see contributions based on their efforts flowing directly to their well being in retirement, and not as a tax, as they do in a PAYG DB system. Reducing the contribution rates in PAYG DB systems can also increase the demand for labor. In Egypt, which needs to create many new jobs a year to absorb entrants into the labor market, this impact of pension improvement is particularly important.

The increase in the productivity of capital and labor is perhaps the most important benefit of pension improvement. Private pension plans help to improve productivity through financial deepening and the development of capital markets. Efficient capital markets help to direct savings to companies and investment projects with the highest returns. Empirical evidence indicates that capital market development promotes economic growth.

Pensioners The impact on pensioners of adopting the recommendations to develop a multi-tier system would also be beneficial. Part of the benefits flow directly from the impact of pension impact on the Egyptian economy. Economic growth helps to raise the income of less well to do workers. DCPs also gives the less well off the chance to benefit from long-term investments in capital markets to improve their pension benefits in retirement.

Evidence from other countries indicates that creating the DCPs of Tiers 2 and 3 has the potential to improve returns to provide for higher benefits in retirement while reducing risk. Two types of diversification in a multi-tier system help to reduce risk to pensioners. The first type of diversification would occur when three stronger tiers are created, eliminating the reliance on only one tier. The second type of diversification of risk would come about from the greater variety of financial instruments that pension savings could be invested in, rather than nearly exclusive investment in government bonds or

government institutions, which in most countries have proven to provide low and even negative returns.

THE LEGAL AND REGULATORY FRAMEWORK FOR AN ENHANCED SIS

To create a multi-tier system featuring Tiers 2 and 3 with DCPs, Egyptian policy makers will need to address a number of challenging legal and regulatory issues to successfully implement the strategy and ensure that assets are protected and public confidence is affirmed. Failure to create an appropriate regulatory structure and enact the required legislation could lead to the loss of pension savings, which in turn could have negative ramifications for Egypt's SIS and its retirees, workers, and taxpayers. In view of the importance of safeguarding their interests, it will be important for MOSI to play a role in the regulation and oversight of Tiers 2 and 3.

The key legal and regulatory issues include the separation and ownership of pension funds, the funds' legal obligations, the authorization of entities to offer pension funds, the number of funds a management company should be permitted to offer, taxation of pension funds, the structure of regulation, choosing between a dedicated regulator, a functional approach, and possibly a hybrid, and regulation of assets and liabilities.

In developing the legal and regulatory framework, the GOE should consider strengthening the legal and regulatory institutions that currently exist and function well, such as the Capital Market Authority, and design and support new institutions to regulate the new elements of the pension system, such as defined-contribution plans.

Once established, the framework can accommodate changes in the program and new products developed over time. However, a rigid, restrictive, or weak framework can create avoidable risks to the program and may stifle progress and undermine the goals of enhancing the program to begin with. Most of the tasks involved in establishing the enhanced legal and regulatory framework can be completed in a relatively short time. Moreover, many of the initial enhancements may require only ministerial or presidential decrees. In the implementation phase, MOSI and its technical team (including the high committee) should develop the legal strategy and determine which changes and tasks can be completed by decree and whether the development of an umbrella law on pensions is required to further establish the new program.

A TIME-PHASED PLAN ACTION PLAN FOR SOCIAL INSURANCE AND PENSION IMPROVEMENTS

The scope of work for this activity calls for a time-phased action plan over a three to five year period aimed at investing more funds in the private sector and attaining better returns on capital.

As discussed above, efforts to increase returns by having the government channel pension savings into the capital markets is fraught with risk. International best practice indicates that the most efficient way to increase returns to pension savings, and to increase old-age

retirement security, is to develop a diversified, multi-tier system, as discussed in the previous section.

For the GOE to implement such a system, it must be prepared to face a challenging set of tasks over the next three to five years. Implementing the system will involve four principal tasks: consensus building among the stakeholders; transitional and institutional strategies for each of the tiers; addressing the implications, needs, and staffing for each tier; and addressing the legal and administrative needs to enact the new strategy.

Consensus Building

Experience in fomenting institutional change in a social insurance system clearly indicates that it is a significant undertaking.

Achieving a broad understanding of the need to improve the current system is the first step. An important part of the time-phased plan will be to build a consensus among the major stakeholders in social insurance. These stakeholders include MOSI (and the SIFGE and SIFPPSE), the Ministry of Finance, the Ministry of Economy, the Capital Market Authority, the National Investment Bank, and other ministries and agencies involved in the social insurance system. It will also be important to explain clearly to the Egyptian public the objectives and benefits of such changes.

Several tested ways to bring about such a consensus on objectives and means of implementation should be utilized. Initial training of key staff members is essential. Experience demonstrates that much time and effort can be saved if staff is introduced and quickly made aware of the principles and lessons learned from other countries early in implementation.

Training can be reinforced by suitable site visits to countries that have implemented such reforms. As part of a carefully designed program, the opportunity for Egyptian officials to meet with other policy makers who have gone through the process of pension improvement would be invaluable.

Training and site visits can also be complemented by conferences and the creation of steering committees to coordinate and help to ensure the needed cooperation of all the relevant bodies.

The most important stakeholders are Egyptian workers and pensioners. Developing a public awareness campaign to explain to the Egyptian population the purpose and goals of improving pension security and developing a multi-tier system is crucial to the success of the plan.

Transitional and Institutional Strategies

It will be necessary to identify in detail and address a number of transitional issues in moving from the current prevailing Tier 1 system to a multi-tier system. Some of the

transitional issues include:

Review, or undertake, or both as required, an actuarial study to determine the financial position of the MOSI funds;

Analyze the cash flow from the NIB payments of interest and repayments of principal that can reasonably be expected to be paid;

Analyze and decide upon the targeted replacement wage to be provided from Tiers 1 and 2;

Analyze ways to reduce the current contribution rates;

Decide how the current contribution streams will be allocated between Tier 1 and Tier 2 (unless Tier 1 is financed out of general revenues);

Decide upon switching strategies for workers between the old and new systems; and

Develop a plan to regulate and supervise Tiers 2 and 3. The needs of this plan are discussed at greater length below.

It will also be important to develop and implement a plan to link pension reform with the reforms the government has initiated in the insurance sector. Although old age retirement contributions and benefits dominate the current social insurance system, MOSI also provides a bundle of insurance products that need to be “unbundled” and opened to private sector provision and competition. These insurance products include annuities, life insurance, disability insurance, health insurance, and workman’s compensation. Developing a competitive market structure and sound regulation and supervision for the insurance industry will be a long-term task, but, as it will also play a crucial role in Egypt’s future growth path, it is important to maintain and build on the momentum already generated.

Implications and Needs for Tiers 1, 2, 3

Tier 1. The essence of activities under Tier 1 is for MOSI to begin to enhance its capacity to provide for a social security net and poverty alleviation in old age retirement.

A number of issues need to be assessed in detail about the benefit formulas for Tier 1, and the means to finance the benefits. Options for benefit formulas include, for example, a minimum pension guarantee, a universal flat benefit, an employment-related flat benefit, and a means-tested or asset-tested benefit. Each of these approaches has advantages and disadvantages. They will need to be analyzed in detail to determine what is most appropriate for Egypt.

Another key issue is whether the Tier 1 benefits will be financed out of general tax

revenues, or through a payroll tax, or possibly both. Financing benefits out of general revenues may be a less regressive tax on workers than a payroll tax (which is usually capped at low levels) and therefore more equitable. On the other hand, the importance of safety net benefits suggests that payroll contributions be segregated from other general revenues to reduce the risk that the needed level of funds not be available, or arbitrarily reduced.

If a payroll tax continues to be used, at least in part for Tier 1, it will be necessary to determine how to allocate contribution percentages between Tiers 1 and 2. Current contributions are based on the basic wage and variable wage, consisting of bonuses and incentives. The basic wage tends to be two to three times smaller than the variable wage. One straightforward way to allocate contributions would be for Tier 1 (MOSI) to receive contributions based on the basic wage, and for Tier 2 to receive contributions based on the variable wage.

However, the present calculations of contributions based on the basic and variable wages are complex, as indicated in Chapter 1. The low wage levels at which both are presently capped imply a very regressive tax on low wage labor. There is a need to reduce the total contribution levels that act as a tax and disincentive to hire laborers. They need to be rationalized and streamlined.

If Tier 1 is to be financed at least partially through a payroll tax, then it should consider plans to invest some of the contributions internationally to provide for diversification of risk.

Once the contribution streams for Tiers 1 and 2 are decided upon, Tier 1 can begin to introduce Notional Defined Contributions accounts.

Tier 2. In tandem with the refocusing of Tier 1 on the social safety net and poverty alleviation, Tier 2 needs to be created through new legislation.

It will be necessary to develop a regulatory framework and supervisory capacity for Tier 2. The regulatory institution should be a newly created body.

A Pilot-Rollout strategy should be adopted to refocus Tier 1 and implement Tier 2. The introduction of Tier 2 should begin on a small-scale, ideally with volunteers who wish to switch to the new system. This will permit the many new administrative and computational details to be worked out without overloading the system. Once procedures have been refined, the system can develop gradually to ensure a smooth transition.

Tier 3. As part of the detailed design to develop Tier 3, it will be necessary to create an enabling body for defined contribution plans by amending tax laws as required

As with Tier 2, there will be need to develop a suitable regulatory structure to protect the interests of pensioners under Tier 3.

A Management Approach to Implementing the Action Plan

The Action Plan's recommendations focus on enhancing the security of existing benefits under Tier 1, developing voluntary defined-contribution plans (DCP's) to enhance savings and shift risk from the government under a Tier 3, and developing, over time, a mandatory defined contribution program under the proposed Tier 2. The result of this improved structure for social insurance in Egypt will be a more secure old-age retirement and an enhanced, financially sound system. The enhanced structure will provide reasonable benefits, promote greater savings, improve security for all Egyptians regardless of income, and contribute to greater overall economic and financial stability.

Implementing the comprehensive change of the current system will require several management actions on multiple levels, including:

- Designing new pension plans and enhancing current programs;
- Drafting new legislation to establish the new programs;
- Developing a new regulatory body to oversee defined contribution plans and fund managers;
- Improving the capacity within MOSI to monitor the overall Social Insurance System;
- Launching a comprehensive training and public awareness program to ensure success;
- and
- Establishing an "enhancement management team" under MOSI's supervision to design and implement the overall program

The Action Plan lays out the priority tasks that need to be completed. Additionally, it provides a recommended "sequencing" of tasks in a step-by-step manner to ensure effective implementation and account for adequate consensus building and stakeholder consultation on the "detailed design" elements of the overall program.

The Action Plan is designed to be carried out over a three-year period. Although much of the planning, design, and implementation of the Action Plan can be led by MOSI, there are several key actors in the sector that need to participate. These actors include both national agencies such as the Ministry of Economy, Capital Market Authority, National Investment Bank, etc., and organizations under MOSI such as SIFGE, SIFPPSE and private fund managers. It is also essential that labor and the public at large participate in the planning and implementation of the Action Plan to ensure a consensual approach. The action plan is structured to feature the leadership of MOSI with the active participation of other essential agencies and beneficiaries.

The Action Plan reflects the reality of the complex tasks of developing a viable strategy and achieving consensus within government on the plan itself. Essentially, there are two primary activities that must take place: a) developing the basic structure of the plan and building support for the plan; and b) detailed design of all elements of the plan and the adoption of the enabling legislation and regulatory framework supporting the plan. Since these two sets of activities are more or less sequential, the Action Plan is designed with

Two Tracks.

Track A focuses on key tasks that must be performed at the outset. They include the development of the basic strategy, public education and outreach, stakeholder consultation, and the drafting of the preliminary requisite legislation. These tasks must be completed satisfactorily before any major implementation tasks can be started or new institutions created. Track A tasks are scheduled over a twelve month period. It is believed that substantial progress in the development and acceptance of the plan can be realized in the first twelve months.

Track B focuses on tasks that establish and “operationalize” the overall improvement plan. Specifically, Track B features tasks that include detailed design and establishment of the improved Tier 1, the expansion and creation of defined contribution plans under Tiers 2 and 3, the development of the new regulatory body to oversee defined contribution plans, and lastly, the overall implementation of the enhanced Social Insurance System.

It is proposed that the Action Plan would be implemented by MOSI’s technical unit, referred to as the Enhancement Management Team (EMT). Additionally, significant training and public education tasks need to be completed to accelerate decision-making as well as build capacity and confidence within the public and private sector for longer-term implementation.

Once a viable and stable Tier 1 and 3 are in place with a supportive regulatory framework, the principal objectives of the Action Plan will have been achieved, and the financial solvency of the system assured. Tier 2 mandatory defined-contribution plans, while important, will be additive to Tier 1 and 3 sources of savings. These accomplishments will provide pensioners the security of a minimum pension benefit under Tier 1 and the opportunity to expand retirement savings by voluntarily contributing tax advantaged resources under Tier 3.

THE SOCIAL INSURANCE SYSTEM IN EGYPT

In order to place the purpose and objective of this report in context, this chapter describes and assesses the current social insurance system (SIS) in Egypt. The chapter will assist readers in understanding better the system's strengths and the challenges it will face. It first presents an institutional and historical background of Egypt's SIS. It then discusses the types of contributions and benefits under the SIS and how they are calculated. The financial operations of the SIS are then examined. Finally, the overall situation of the SIS is assessed.

The conclusion reached is that Egypt's SIS is quite advanced for an emerging market country at its current level of income. However, the nature of the inherent deficiencies of a pay as you go, defined benefit (PAYG DB) system means that Egypt, like virtually all other countries, will face significant challenges to its SIS. The assessment of these challenges indicates that the purpose of this project activity, and the goal of Egypt's recent initiatives, correctly place an emphasis on improving the return on pension savings by linking them to the capital markets.

Institutional and Historical Background

The social insurance system in Egypt was established on December 26, 1854, by a decree defining the country's pension policy at that time. It was financed by public revenue, and benefited a small and select group of permanent civil servants.

After July 1952, the Free Officers and new government began to extend social insurance coverage to all civil servants, as well as public and private sector workers. The funds allocated for social insurance were made independently of the state's general budget.

The Pension Insurance Organization (PIO) was established in 1963 for government employees. Previously, government sector employees had been insured through the Ministry of Finance.

Private sector employees were first made a part of the social insurance system in 1956 through the Saving and Insurance Establishment, which was changed to the General Insurance Establishment in 1959. This in turn was changed to the Social Insurance Organization (SIO), established in 1964, for employees in state owned enterprises and the private sector. These two pension organizations or funds administered the system for their respective groups of workers and pensioners, collecting contributions and distributing benefits.

During the 1970s, great emphasis was placed on expanding the SIS. A number of laws related to social insurance were issued. These laws attempted to extend the scope of coverage to nearly all Egyptians, to set up procedures and an institutional structure to develop and implement policies, and to make adjustments in contribution and benefit rates.

This effort ultimately resulted in Egypt having one of the highest coverage ratios (workers covered by SIS as a percentage of the labor force) of any emerging market country.

The Ministry of Social Insurance (MOSI) was established by Republican Decree No. 889/1973. MOSI was charged with overseeing the PIO and the SIO, and supporting the rights of citizens in the insurance system and social protection.

Two years later, Law No. 79/1975 established a unified social insurance system to cover all regular employees in the public and private sectors. It extended the coverage of social insurance for old age, disability, and survivors. It also provided shorter-term benefits such as sickness and maternity leave (health), unemployment, workman’s compensation and job-exit indemnity.

A year later, in 1976, Law No. 108/1976 extended benefits to sole proprietors and self-employed workers. This law covers approximately 1.8 million Egyptians. In 1978, Law No. 50/1978 extended social insurance to Egyptians working abroad (which today number about 22,000). An extra article was added later to the same law requiring the SIO to invest in the National Investment Bank (NIB) and other suitable channels of investment.

In 1980 Law No. 112/1980 was issued extending social insurance to agriculture, construction and casual (temporary) workers. It also required the PIO to invest surplus contributions in the NIB. Law No. 112/1980, article number 5, established the Sadat pension plan. It focused on casual workers who had no previous coverage under any other social scheme. This article covered 450,000 Egyptians.

In 1994 Law No. 207/1994, established the National Authority of Social Insurance (NASI) to succeed the PIO and the SIO. The PIO was replaced by the Social Insurance Fund of Governmental Employees (SIFGE), and SIO by Social Insurance Fund of the Private and Public Sector Employees (SIFPPSE.) These two funds collect contributions, pay benefits, and cover their expenses. Each of these funds has its own technical, financial and administrative sections.

By June 30, 1998, the social insurance program covered nearly 17 million workers as illustrated in the following table.

Table 1.1
Coverage of Egypt’s Social Insurance System

Law No.	No. of Egyptians Covered
79/1975	9.3 million
108/1976	1.8 million
50/1978	22,000
112/1980	5.8 million

Total	16.9 million
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Table 1.2 presents in greater detail the scope and legislative coverage of Egypt's SIS. Table 1.3 illustrates the number of individuals covered by the MOSI between the year 1991 and 1998.

As a result of this expansion of coverage over the last two decades, the percentage of the working population covered by social insurance had reached about 83% (the *coverage ratio*) by 1995, a high percentage for a country at Egypt's current level of per capita gross domestic product (GDP).

In 1998, Ministerial Decree No. 8/1998 established the Investment Technical Committee (ITC). The ITC was created as part of the GOE's decision to invest some of the current surplus in the Egyptian stock exchange through three newly created investment funds. The role of the ITC is to define the investment policies of the MOSI.

Table 1.2
Summary of Scope and Coverage of Egypt's Social Insurance System

	Legislation	Administration	Number of Legislative Coverage (in 1000)	Contribution Rates	Benefit Provisions			
					Old-age, Invalidity, Survivors	Work Injury	Sickness and Maternity	Unemployment
Employees			9,341		*	*	*	
Government	Law 79/1975	SIFGE	3,808	35% (B)/30% (V)	*	*	*	
Public enterprises	Law 79/1975	SIFPPSE	1,109	36% (B)/31% (V)	*	*	*	*
Private sector	-	SIFPPSE	4,424	-				
Regular Contributors	Law 79/1975	-	(2,110)	40% (B)/35% (V)	*	*	*	*
Transportation	Decree	-	(1,068)	35% (B)	*	*		*
Contractor Workers	Decree	-	(1,210)	33% (B)	*	*		
Bakery	Decree	-	(36)	40% (B)	*	*	*	*
Alternative Schemes	Law 64/1980	8 enterprises	6	-	*	*	*	
Self-employed	Law 108/1976	SIFPPSE	1,756	15%	*			
Egyptian working abroad	Law 50/1978	SIFPPSE	22	22.5%	*			
Casual workers	Law 112/1980	SIFPPSE	5,837	LE 1 per month	*			
TOTAL			16,956					

Source: Ministry of Social Insurance

B: Basic Salary
V: Variable Salary

Table 1.3

Individuals Insured by MOSI (LE 000's)

	<u>1991-92</u>	<u>1992-93</u>	<u>1993-94</u>	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>	<u>1997-98</u>
Regular Workers	8,533	8,768	8,976	8,702	9,072	9,232	9,341
Sole Proprietors & Self-employed	1,382	1,440	1,502	1,576	1,650	1,716	1,756
Egyptians Abroad	41	48	56	68	20	21	22
Casual Workers	<u>5,043</u>	<u>5,204</u>	<u>5,355</u>	<u>5,537</u>	<u>5,707</u>	<u>5,834</u>	<u>5,837</u>
Total	14,999	15,460	15,889	15,883	16,449	16,803	16,956
<i>Number of Insured Regular Workers by Sector (000's)</i>							
	<u>1991-92</u>	<u>1992-93</u>	<u>1993-94</u>	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>	<u>1997/98</u>
Government	3,409	3,544	3,621	3,693	3,743	3,782	3,808
Public Business	1,892	1,865	1,849	1,371	1,354	1,260	1,109
Private Business	<u>3,232</u>	<u>3,359</u>	<u>3,506</u>	<u>3,638</u>	<u>3,975</u>	<u>4,190</u>	<u>4,424</u>
Total	8,533	8,768	8,976	8,702	9,072	9,232	9,341
<i>Number of Insured Private Sector Workers (000's)</i>							
	<u>1991-92</u>	<u>1992-93</u>	<u>1993-94</u>	<u>1994-95</u>	<u>1995-96</u>	<u>1996-97</u>	<u>1997/98</u>
Regular Contributors	1,260	1,318	1,400	1,491	1,759	1,917	2,110
Transportation	794	838	879	934	988	1,034	1,068
Contract Workers	1,113	1,137	1,159	1,177	1,190	1,203	1,210
Bakery	<u>65</u>	<u>66</u>	<u>68</u>	<u>36</u>	<u>38</u>	<u>36</u>	<u>36</u>
Total	3,232	3,359	3,506	3,638	3,975	4,190	4,424

In the same year, Ministerial Decree No. 57/1998 was issued. It appoints the Minister of the MOSI as the chairman of the NASI. It also establishes a high committee, chaired by the Minister, for social insurance sector policy and planning.

The laws and decrees relevant to Egypt's SIS are summarized in Table 1.4.

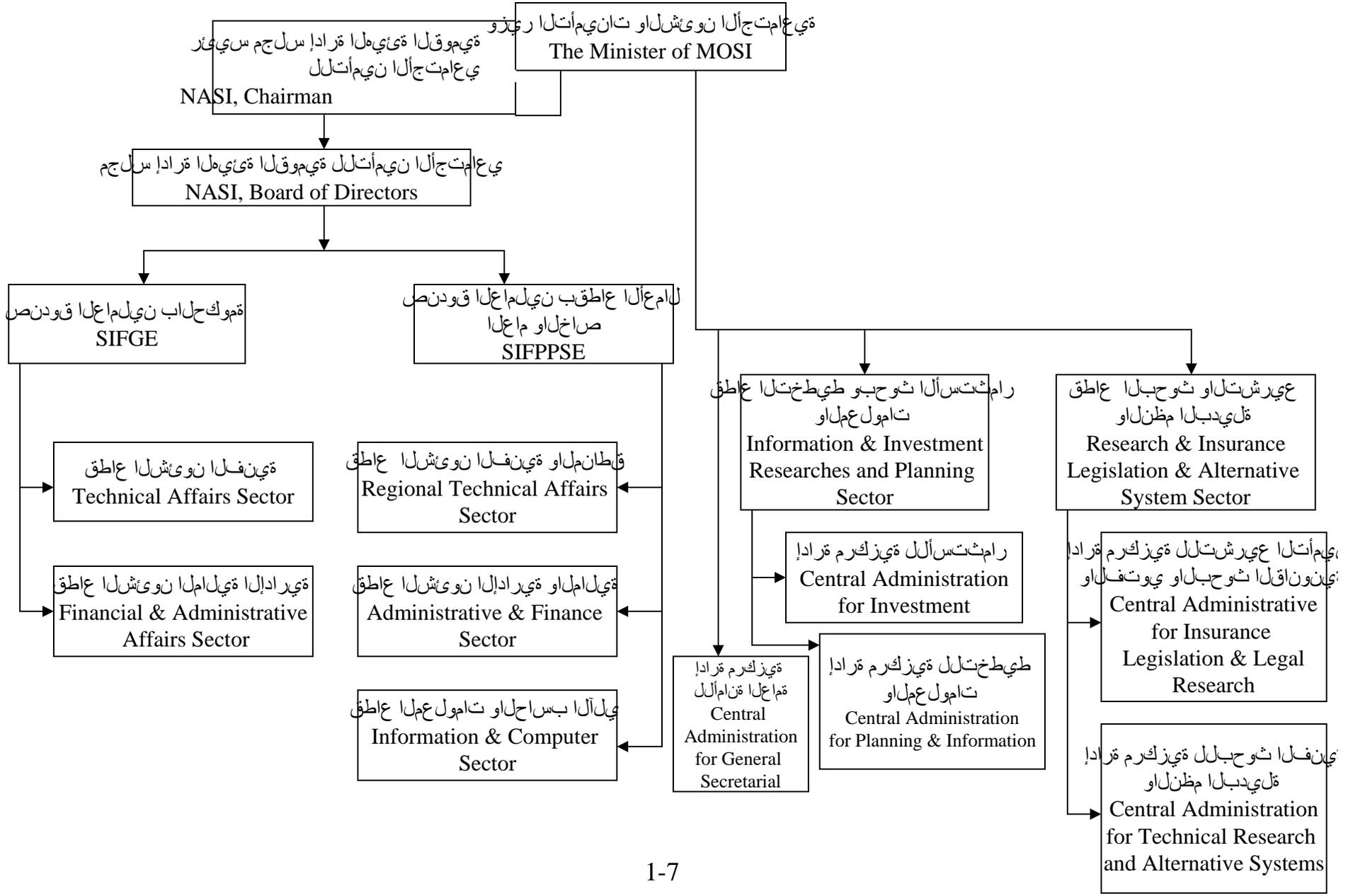
Table 1.4
Summary of Laws and Decrees Relating to Egypt's SIS

No.	Law	Scope
1	Law No. 79/1975. The General Insurance Scheme (The General Law).	This Law applies to civil servants and workers in both the public and private sector and is the primary law affecting social security.
2	Law No. 108/1976. The Social Insurance Scheme for Employers and the Self-Employed.	This Law covers persons working on their own account in commercial, industrial or agricultural activity. It includes the self-employed and owners of property.
3	Law No. 50/1978. Social Insurance for Egyptians Working Abroad.	This Law applies to all Egyptians between 18 and 60 years old working abroad, other than those subject to the provisions of other Social Insurance Laws.
4	Law No. 112/1980. Workers in the Casual Employment Sector.	This Law includes casual workers not covered by other Social Insurance laws, such as temporary workers in agriculture, fishing, domestic service, self-employed, and those with no determined working place.
5	Law No. 119/1980.	Established the National Investment Bank, which replaced the Deposit and Social Insurance Fund. It also required that the two funds' surpluses be transferred to NIB.
6	Law No. 207/1994.	Established NASI. The PIO was replaced by SIFGE, and the SIO by SIFPPSE.
7	Ministerial Decree No.889/1973	Established the MOSI.
8	Ministerial Decree No. 8/1998.	Established MOSI Investment Technical Committee for Social Insurance Investments with MOSI defining investment policies.
9	Ministerial Decree No. 57/1998.	Appointed Minister of MOSI as chair of NASI and established a High Committee, chaired by the Minister, for Social Insurance Sector Policy and Planning, etc.

Source: Ministry of Social Insurance

The current organizational chart of MOSI is presented on the following page.

Organizational Chart of MOSI, NASI, SIFGE & SIFPPSE



The SIFGE has 8,667 employees. It serves approximately 1.5 pensioners and has 3.8 million contributors, all of whom are government employees. It has 31 regional and 23 local district offices in Egypt’s governorates. (See Table 1.5)

The SIFPPSE has 23,020 employees. It serves approximately 4.9 million pensioners and has over 13.1 million contributors in both public and private sectors, in addition to workers who are insured on an independent basis. It maintains 30 regional offices and 385 district offices. The former establishes and maintains records of those who are self-employed, and those working abroad. The district (local) offices’ main concern is the collection of contribution and distributions of benefits in their areas.

Table 1.5
Regional and Local District Offices of SIFGE and SIFPPSE

Name of the Fund	No. of Regional Offices	No. of Local District Offices
SIFGE	31	23
SIFPPSE	30	385

How Contributions and Benefits are Calculated

Contributions

To explain the basis for contributions paid by the employee, it is important to understand the concept of “basic” and “variable” wages and salaries in Egypt.

In the 1960s and 1970s government policy virtually guaranteed that workers could not be laid off or fired. Further, there were limits on the extent to which an employee’s wage or salary could be cut for poor performance. In the 1980s, in order to provide an incentive for better performance, a “variable” wage was introduced. The variable wage consisted of incentives, commissions, allowances, and bonuses. The practice of the basic wage and the variable wage became institutionalized in practice, and came to serve as the basis for contributions to the SIS.

The basic salary of a government and or public sector employee is based on his or her rank. In accordance with employment law, each rank is entitled to a specific basic salary. A private sector employee's basic salary is indicated in his or her work contract.

Social insurance contribution payments are capped at LE 525 per month of basic wage or salary. The variable salary for governmental, public and private sector employees is the amount paid to the employee above the basic salary. The maximum amount of variable salary subject to social insurance contribution payments does not exceed LE 500 a month. Therefore the maximum amount subject to contribution payments per month is LE 1025.

The exact percentages subject to this payroll tax vary by sector of employment, and vary between 36 to 41 percent for the basic wage, and 31 to 36 percent for the variable wage.

The calculation of contributions to be paid on the basic and variable salary can be complex. As an illustration, consider a university professor at one of the major state-owned universities in Egypt who receives a basic salary of LE 1000 and a variable salary of LE 600. His rates are calculated according to those for a government employee. He will have to pay a contribution based on the first LE 525 of his basic salary and a contribution based on the first LE 500 of his variable salary. The contributions he has to pay will be for old age, disability and survivors' benefits, as well as workman's compensation, health and job-exit indemnity. (In this case, as a government employee, he makes no contribution for, nor will he receive unemployment benefits. Workers in the private sector, however, make a contribution toward unemployment benefits.) The percentages and amounts that he, his employer, and the government have to pay as contributions are indicated in Table 1.6. The total contribution tax in this case is LE 400 on a salary of LE 1600, or 25 percent. If some one earned exactly the maximum levels at which the contributions on the basic and variable wage are levied—LE 525 for the basic wage and LE 500 for the variable wage—the total contribution paid would be the same as the professor pays, LE 400. As a proportion of the total wage of LE 1025, however, the contribution of LE 400 is higher, 39 percent. Thus, the contribution (or payroll) tax is *regressive*, that is, higher effective rates are applied at lower levels of earnings.

The calculations of contribution rates are different for employees who are contract workers, bakery workers, the self-employed, Egyptians working abroad, and casual workers. Casual workers pay only LE 1 per month. (These special rates are indicated in Table 1.2)

Table 1.6
Example of Contribution Rates Under Egypt's SIS

Contribution	Worker's Share		Employer's Share		Government Share	
	%	Amount	%	Amount	%	Amount
Old Age & Disability	10%		15%		1%	
Basic		LE 52.50		LE 78.75		LE 5.25
Variable		LE 50.00		LE 75.00		LE 5.00
Work Injuries	-		3%		-	
Basic		LE 0		LE 15.75		LE 0
Variable		LE 0		LE 15.00		LE 0
Health	1%		4%			
Basic		LE 5.25		LE 21.00		LE 0
Variable		LE 5.00		LE 20.00		LE 0
Unemployment	-		-		-	
Basic		LE 0		LE 0		LE 0

Variable		LE 0		LE 0		LE 0
Job Exit Indemnity	3%		2%		-	
Basic		LE 15.75		LE 10.50		LE 0
Variable		LE 15.00		LE 10.00		LE 0
Total		LE 143.50		LE 246.00		LE 10.25

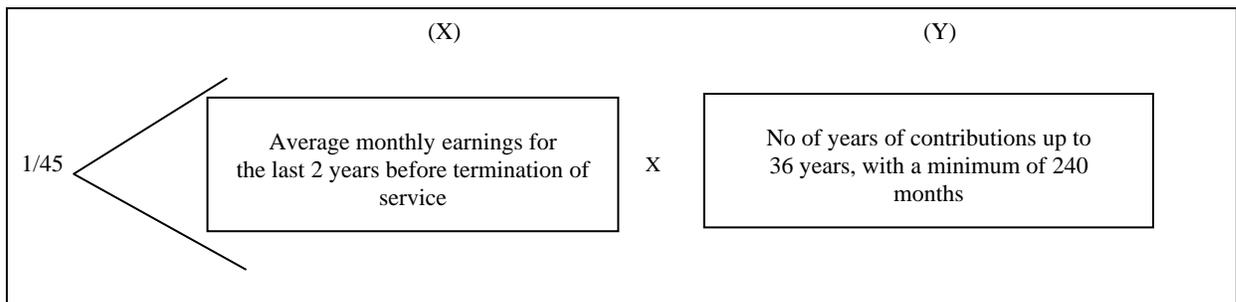
Benefits

The social insurance system in Egypt includes long- and short-term benefit payments. The long-term payments are for old age, disability, and survivors' benefits. Short-term payments are for unemployment, sickness or maternity, work injury, and job-exit indemnity.

The first type of long-term payment, and the most important in terms of total amounts paid by MOSI, is the old age pension. The mandatory retirement age of 60 (in rare cases 65) is the same for women as men. (Under some of the privatization programs instituted in Egypt since 1990, optional programs were offered for early retirement, which many SOE employees accepted.) The beneficiaries receive either a pension or a lump sum, depending on the number of months of contribution.

The second type of long-term payment is pensions provided for disability. The principal requirement for receiving a disability benefit is loss of productive capacity after a minimum period of work. The third type of long-term payment is the pension paid to dependents of insured workers who die. Short-term payments are also made for sickness and maternity, work injuries, unemployment, and job-exit indemnity.

The basic old age pension is calculated as 1/45 of average monthly earnings for the last two years before termination of service multiplied by the number of years of contribution, up to a maximum of 36 years (with a minimum of 240 months.) Its maximum is 80% of average earnings. The amount can increase to 100% if average earnings are less than LE 70 a month.



As an example, the university professor mentioned earlier receives LE 1000 as a basic salary and LE 600 as a variable salary. This is his salary for the final two years he

works. After working for 36 years, he decides to retire. The maximum amount of basic salary subject to social insurance contribution is LE 525, and the maximum amount of variable salary subject to social insurance benefit is LE 500. His benefit is calculated as follows:

$$1/45 \text{ of LE } 1025 \times 36 = \text{LE } 820$$

The amount of LE 820 is 80% of the maximum wage of LE 1025 upon which contributions are levied. Thus, the *replacement rate*—the pension benefit paid in retirement as a percentage of covered wages--would be equal to 80% for someone who worked for at least 36 years, assuming that he or she earned no more than the maximum basic and variable wages on which contributions are levied. In the case of the professor, since his salary rises above the caps, his pension as a percentage of overall salary in the last two years worked is LE 820 divided by 1600, or 51%.

Financial Statements of MOSI (SIFGE AND SIFPPSE)

The three main sources of income for SIFGE and SIFPPSE, the two pension funds under MOSI, are contributions from workers and employers, transfers from the Treasury, and interest on investments. They differ in terms of their liquidity.

Contributions are collected from workers' payrolls, and are equivalent to cash. The state subsidy, or transfer from the Treasury, comes from general tax revenues. This subsidy is paid by the Treasury as cost of living adjustments to help pensioners maintain the real value of their pensions in the face of inflation. The subsidy recognizes that the contributions the beneficiary paid during his or her working life do not cover this cost of living adjustment. These adjustments have been applied yearly since 1987. In 1987 it was 20%; and from 1988 to 1991 it was 15%; in 1992 it was 20%; from 1993 to 1998 it was 10%.

The Treasury has not fully paid the subsidy for the cost of living adjustments during the last ten years, and the de facto debt of the Treasury to the two funds has accumulated. (No interest is paid to the two funds on this debt.) In the case of the SIFGE, there is sufficient income from contributions to cover expenditures on pension benefits. Therefore, SIFGE does not at present face a liquidity problem if the Treasury does not pay the subsidy in cash.

For the SIFPPSE, however, income from contributions from workers is slightly less than total expenditure on benefits, and the government subsidies now must be paid at least in part in cash to finance the pensioners' cost of living adjustments.

A similar but more significant liquidity situation exists with the surplus funds deposited at the National Investment Bank (NIB). About 90 percent of the surplus of the two funds are deposited at the NIB. The NIB invests these funds in various development projects. The NIB does not actually make cash interest payments to SIFGE or SIFPPSE. Rather, it "reinvests" the interest payable to the social insurance accounts in the NIB account. The debt of NIB to the social insurance system grows, therefore, from new

contributions and from the reinvested interest. Thus, the overall de facto liquidity to pay benefits to pensioners is not very high.

The budget of the MOSI is covered by the State. The SIFGE and SIFPPSE cover their staff and other expenses through the contributions collected from insured workers.

Income Statement of SIFGE

During the fiscal year 1997/98, the SIFGE had a total income of LE 12.2 billion. Total income consisted of LE 5.4 billion in contributions to the fund by insured workers, employers and the government, LE 4.8 billion of accrued interest on the investments of its reserve with NIB, and LE 0.2 billion of other income. The fund also received a LE 1.9 billion subsidy from the government treasury for cost of living adjustments. (See Figure 1.1 and Table 1.7)

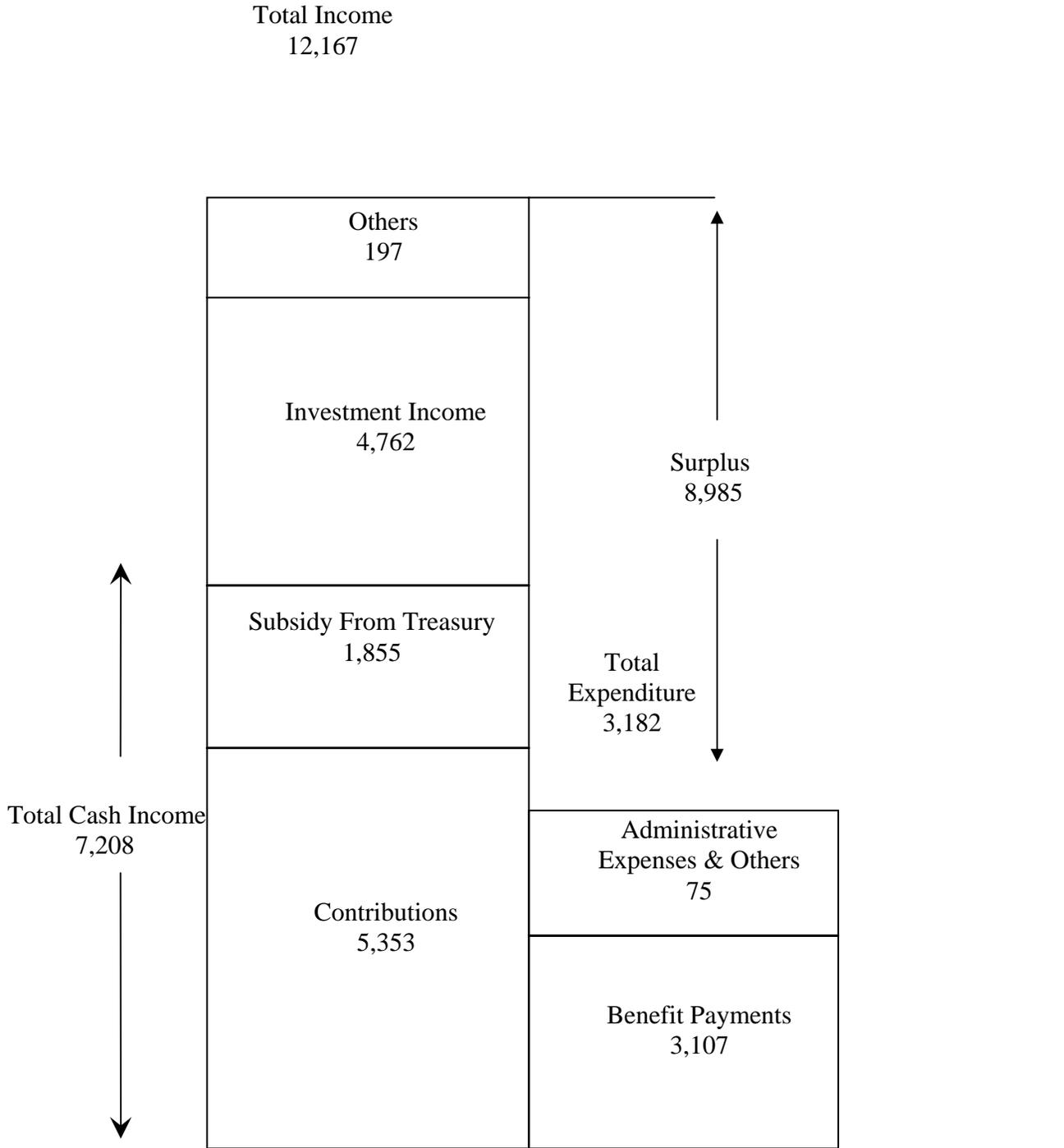
Table 1.7

*Historical Development of Income and Expenditure
of Social Insurance Scheme, 1993-97*

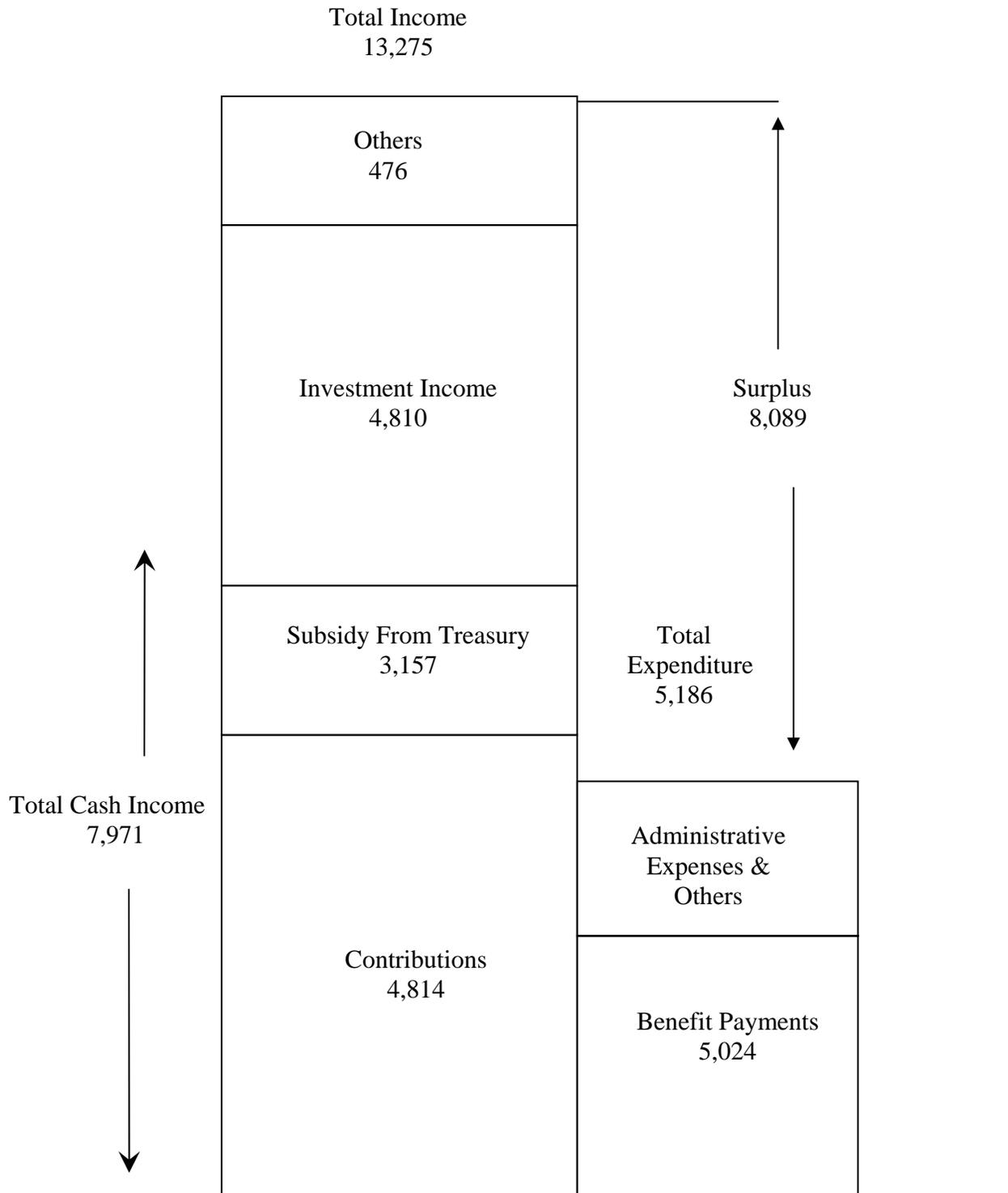
Fiscal Year	1993/94	1994/95	1995/96	1996/97	1997/98
SIFGE					
(A) Income	6,483	7,541	9,080	10,721	12,167
- Contributions	3,072	3,636	4,273	4,886	5,353
- Subsidy from Treasury	975	1,124	1,287	1,469	1,855
- Investment Income	2,072	2,637	3,369	4,200	4,762
- Others	363	144	150	166	197
(B) Expenditure	1,791	2,069	2,390	2,757	3,182
- Benefits	1,747	2,020	2,330	2,687	3,107
- Administrative	44	49	80	71	75
- Others	-	-	-	-	-
(C) Surplus: (A)-(B)	4,692	5,471	6,890	7,795	8,985
SIFPPSE					
(A) Income	7,310	8,722	10,080	11,665	13,275
- Contributions	3,024	3,481	3,832	4,225	4,814
- Subsidy from Treasury	1,578	1,884	2,210	2,628	3,157
- Investment Income	2,370	2,948	3,637	4,387	4,810
- Others	338	410	401	448	494
(B) Expenditure	2,573	3,113	3,596	4,276	5,186
- Benefits	2,574	3,013	3,477	4,110	5,024
- Administrative	99	100	120	188	162
- Others	-	-	-	-	-
(C) Surplus: (A)-(B)	4,638	5,809	6,484	7,390	8,089

Source: Ministry of Social Insurance

Figure 1.1
Income and Expenditures of the SIFGE 1998 (LE Millions)



*Figure 1.2
Income and Expenditures of the SIFPPSE 1998 (LE Millions)*



There were sufficient contributions to cover total expenditure. The expenditure of the Fund during the same year totaled LE 3.2 billion, comprising LE 3.1 billion of benefit payments and LE 0.075 billion of administrative expenses (including staff salaries) and other costs. Consequently, the Fund had a surplus of LE 9.0 billion.

Income Statement of SIFPPSE

In the same period, the SIFPPSE had a total income of LE 13.3 billion. Total income consisted of LE 4.8 billion of contributions to the fund by insured workers and employers, LE 3.2 billion as a transfer from the government treasury for cost of living adjustments, LE 4.8 billion from interest on the investment of the reserve, and LE 0.5 billion of other income. (See Figure 1.2 and Table 1.7)

Total expenditure exceeded income from contributions by a slight margin. The expenditure of the Fund during the same year totaled LE 5.2 billion, consisting of LE 5.0 billion in benefit payments and LE 0.2 billion in administrative expenses (including staff salaries) and other costs. Consequently, the Fund had a surplus of LE 8.1 billion.

Balance Sheets of SIFGE and SIFPPSE

The balance sheets of the SIFGE and the SIFPPSE are illustrated in Tables 1.8 and 1.11.

Table 1.8

SIFGE Balance Sheet (LE 000)

Item	6/30/94	6/30/95	6/30/96	6/30/97	6/30/98
Total Assets /Liabilities	26,419,465	31,861,136	38,531,878	46,238,078	55,225,869
<u>Assets</u>					
Financial Investments	25,261,345	30,326,724	36,189,176	43,120,689	50,679,156
Accounts Receivable	1,087,473	1,460,879	2,265,790	3,039,675	4,443,719
Cash on Hand and Bank	8,058	4,521	2,369	4,025	3,963
Fixed Assets	62,231	68,272	73,616	86,711	98,325
Inventory	358	740	927	769	706
<u>Liabilities</u>					
Projected Benefit Obligations	26,286,774	31,704,027	38,354,540	45,928,341	54,774,881
Other Allowance	13,890	21,953	24,141	128,764	141,606
Accounts Payable	113,086	126,943	138,293	154,547	272,437

Other Reserves	5,715	8,213	14,904	26,426	36,945
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Source: Ministry of Social Insurance

Assets Because income has exceeded expenditures for many years, the two funds have built up large levels of surpluses. Of SIFGE's total assets of 55.2 billion, 50.7 billion were in financial investments as of June 30, 1998, as Table 1.9 illustrates. Of these investments, nearly 90 percent were with the NIB.

Table 1.9

Financial Investments of SIFGE (LE 000)

Loans to NIB	45,493,371	89.8%
Loans to Ministry of Finance	1,649,757	3.3%
Securities & Shares	351,930	0.7%
Pension Commutation	127,852	0.3%
Time Deposit	2,875,676	5.7%
Governmental Bonds	179,750	0.4%
Real Estate	820	-
Total	50,679,156	100%

Source: Ministry of Social Insurance

Table 1.10 illustrates the composition of SIFGE's financial investment from 1994 through 1998. The percentage of financial investments in NIB has grown from 86.5% to 89.8%. Part of this increase can be explained by the fact that the NIB now pays 13 percent interest on new deposits and reinvested interest from SIS. This interest rate, as note above, is notional.

Table 1.10

Financial Investments of SIFGE (LE 000)

Items	6/30/94	%	6/30/95	%	6/30/96	%	6/30/97	%	6/30/98	%
Loans to NIB	21,841,634	86.5%	26,350,741	86.9%	31,939,245	88.3%	38,405,149	89.1%	45,493,371	89.8%
Loans to Ministry of Finance	1,650,081	6.5%	1,650,006	5.4%	1,649,926	4.6%	1,649,843	3.8%	1,649,757	3.3%
Securities & Shares	17,812	0.1%	19,202	0.1%	20,530	0.1%	30,491	0.1%	351,930	0.7%
Pension Commutation	135,103	0.5%	127,984	0.4%	141,466	0.4%	133,477	0.3%	127,852	0.3%
Time Deposit	1,601,387	6.3%	2,115,203	7.0%	2,367,650	6.5%	2,708,175	6.3%	2,875,676	5.7%
Government Bonds	15,328	0.1%	63,588	0.2%	70,358	0.2%	179,763	0.4%	179,750	0.4%
Real Estate	—	—	—	—	—	—	—	—	820	0.0%

Total	25,261,345	100.0%	30,326,724	100.0%	36,189,175	100.0%	43,106,898	100.0%	50,679,156	100.0%
Source: Ministry of Social Insurance										

There has been a large increase in percentage terms between 1994 and 1998 in securities and shares, although the overall amount as a percentage of the SIS financial investments in 1998 remained less than 1 percent. As a part of this increase, SIFGE made direct purchases of shares in several companies: LE 38,250,000 in Sidi Krir Petro Chemical, LE 87,013,485 in Al Amrya Cement, LE 71,250,000 in Misr Aluminum, and LE 2,250,000 in Alexandria Petroleum Products. SIFGE also invested LE 100,000,000 in The International Fund and LE 1,434,235 in American Express in 1997.

Time deposits placed mainly in Banque de Caire, Misr Bank, and the National Bank of Egypt, have increased by 179% between 1994 and 1998, though they remain a small amount as a percentage of overall financial investments. Investment in governmental bonds has increased by 1,172% between 1994 and 1998 due to the Treasury subsidy. Real estate investing started in 1998.

Table 1.11

SIFPPSE Balance Sheet

Item	6/30/94	6/30/95	6/30/96	6/30/97	6/30/98
Total Assets /Liabilities	31,263,634	36,846,456	43,216,874	50,540,604	58,535,160
<u>Assets</u>					
Financial Investments	28,489,321	33,357,525	38,716,673	44,137,133	49,671,601
Accounts Receivable	2,544,621	3,296,031	4,339,461	6,177,206	8,634,498
Cash on Hand and Bank	153,050	106,466	63,750	128,022	118,534
Fixed Assets	76,393	86,137	96,938	98,200	1,104,955
Inventory	249	297	52	43	32
<u>Liabilities</u>					
Projected Benefit Obligations	30,668,331	36,079,303	41,994,133	49,203,103	57,084,668
Other Allowance	336,317	461,269	882,456	984,470	1,086,716
Accounts Payable	131,841	178,507	212,554	222,589	230,166
Other Reserves	127,145	127,377	127,731	130,442	133,610

Source: Ministry of Social Insurance

SIFPPSE's financial investments stood at LE 49.7 billion in 1998, distributed as follows:

Table 1.12

Financial Investments of SIFPPSE (LE 000)

Loans to NIB	46,263,619	93.10%
Loans to Ministry of Finance	1,379,103	2.80%
Securities & Shares	359,144	0.72%

Pension Commutation	37,859	0.08%
Time Deposit	1,517,220	3.05%
Governmental Bonds	114,656	0.23%
Total	49,671,601	100%

Source: Ministry of Social Insurance

Table 1.13 indicates that since 1994, the percentage of SIFPPSE's financial investments in NIB has grown from 90.7 % to 93.1 %. As with the case of SIFGE, this increase is due in part to the high, albeit notional, rate of interest paid on new deposits from the Fund and reinvested interest.

Table 1.13

Financial Investments of SIFPPSE (LE 000)

Item	6/30/94	%	6/30/95	%	6/30/96	%	6/30/97	%	6/30/98	%
Loans to NIB	25,831,781	90.7%	30,599,697	91.7%	35,745,437	92.3%	40,950,192	92.8%	46,263,619	93.1%
Loans to Ministry of Finance	1,379,103	4.8%	1,379,103	4.1%	1,379,103	3.6%	1,379,103	3.1%	1,379,103	2.8%
Securities & Shares	25,602	0.1%	28,416	0.1%	28,447	0.1%	36,643	0.1%	359,144	0.7%
Pension Commutation	42,149	0.1%	40,464	0.1%	38,961	0.1%	38,423	0.1%	37,859	0.1%
Time Deposit	985,401	3.5%	1,274,316	3.8%	1,489,131	3.8%	1,616,682	3.7%	1,517,220	3.1%
Government Bonds	225,285	0.8%	35,529	0.1%	35,594	0.1%	116,090	0.3%	114,656	0.2%
Total	28,489,321	100.0%	33,357,525	100.0%	38,716,673	100.0%	44,137,133	100.0%	49,671,601	100.0%

Source: Ministry of Social Insurance

Securities and shares have increased by 1,402% between 1994 and 1998, although from a low base. As with SIFGE, the percentage of investments in securities and shares remains low as a percentage of overall financial investments. In 1998, there were large purchases in shares: LE 87,013,485 for Al Ahliya Spinning, L.E 17,054,047 for Electrical Cables, LE 38,250,000 for Sidi Krir Petro Chemicals, and LE 2,250,000 for Alexandria Petroleum Products. SIFPPSE also purchased LE 100,000,000 in the International Fund and LE 1,434,235 in the American Express Fund.

Time deposits increased by 153.9% between 1994 and 1998. They are invested in the same banks as SIFGE, which are Banque de Caire, Bank Misr, and the National Bank of Egypt. Investment in government bonds has decreased by 50.89% between 1994 and 1998. SIFPPSE has not invested in real estate.

In October 1998 the SIFGE and the SIFPPSE invested an additional L.E 900 million in securities and shares through three investment funds. The shareholders are SIFGE with LE

300 million, SIFPPSE with LE 300 million, and NIB with LE 300 million discounted from two loan funds. Three investment management companies manage these funds: EFG Hermes, Concord International Investment, and H.C. Securities.

Liabilities The liabilities of SIFGE and SIFPPSE are the present value of future benefit payments to contributors once they have retired, and other benefits provided by the SIS.

According to Article No. 8 of Social Insurance Law No. 79/1975, an actuarial valuation is to be performed every five years. The last valuations looked at the status of SIFGE and SIFPPSE as of June 30, 1992. The current valuation has June 30, 1997, as its reference date, and is ongoing. The actuarial valuation focuses on two objectives: determining the present value of the fund commitments, and determining the adequacy of contributions.

The last actuarial valuation for SIFGE was performed by Bacon & Wood-Raw for 1992. Information on the valuation results is not available.

The following table presents the results of previous valuations of SIFPPSE (and its predecessor organization, the PIO):

Table 1.14

Results of Actuarial Valuation for SIFPPSE

No. of Valuation	Date	Result	Amount in LE
First valuation	6/30/63	Surplus	7,361,805
Second valuation	6/30/68	Deficit	8,030,054
Third valuation	6/30/72	Deficit	174,615,634
Fourth valuation	6/30/77	Deficit	864,844,696
Fifth valuation	6/30/82	Deficit	1,022,371,077
Sixth valuation	6/30/87	Deficit	114,000,000
Seventh valuation	6/30/92	Surplus	5,506,344

The results of the valuations are entered into the funds' liabilities as the net present value of future benefit obligations. In the case of a deficit, the government makes up the difference by issuing a bond to the fund. Since the actuarial valuation is undertaken only every five years, in the years between valuation, the funds' liabilities for the present value of future benefit obligations are increased each year by the surplus generated by the funds, minus some additional expenses.

Alternative Schemes

There are eight alternative schemes to Egypt's SIS. These schemes were established during the phase of the open-door policy in the 1970s and 1980s. This period was

characterized by shifting the economy from socialism to capitalism. Egyptian banks with strong international affiliations operate most of these alternative schemes.

Table 1.15 lists the firms participating in these alternative social insurance funds.

Table 1.15
Alternative Schemes

Serial	Establishments
1	Arab Union Maritime Transport Company
2	Suez Canal Bank
3	Misr & Iran Development Bank
4	International Arab & African Bank
5	International Commercial Bank
6	Engineer Bank
7	Misr International Bank
8	Egyptian American Bank

Assessment of Egypt's Social Insurance System

Egypt's social insurance system is one of the most advanced in the developing world, as indicated by its coverage ratio—insured workers as a percentage of the labor force—of over 80 percent. This ratio is due to the steady expansion of the system in the 1970s and 1980s (discussed above) to include under its umbrella large groups of workers that are often left out of social insurance protection in other countries.

Egypt's SIS is a mandatory, state-run, pay-as-you-go, defined benefit (PAYG DB) system where contributions from both employers and working employees pay for the retirement pensions and other benefits under the SIS.

In Egypt, as in all countries, the social insurance system is one of its most important institutions. It plays both a critical economic and social role. The economic impact comes from the manner in which contributions are made, how pension savings are invested, how the returns are generated, and the effect on the supply and demand for labor. The social impact comes from the security and level of benefits provided to pensioners upon retirement. If the

economic effect is favorable, then this can also have a positive social effect by providing jobs and increasing incomes.

International experience indicates that not every SIS necessarily has a favorable impact. In fact, depending on the design of an SIS, it can have a negative impact, creating a disincentive for labor, lower savings, unproductive investment of pension savings, and fiscal problems. These factors contribute to lower economic growth. This adverse economic impact can in turn negate many of the system's favorable social goals.

By contrast, continued improvements in the design of the social insurance system can have the opposite effect, providing an incentive to labor, with increased savings, improved productivity of labor and capital, stronger capital markets, and a better fiscal stance. These factors contribute to higher economic growth, which has many favorable social consequences, including job creation.

The challenge facing Egypt's SIS is to maintain the positive features of its system, such as its high level of coverage, while preparing to face the inherent problems and limitations of a public, PAYG DB system.

These problems are not unique to Egypt—almost every other country faces, or will shortly face, them—since virtually every country inaugurated social insurance with a PAYG DB system.

The universal problems of PAYG DB systems include their lack of financial viability as demographic changes occur, non-transparent, often inequitable, transfers between generations, and the low rates of return to later participants in the system. They also tend to lower savings rates, often lead to unproductive investment of pension savings, and act as a disincentive to labor, resulting in lower economic growth. Other problems with PAYG DB plans that are fairly common across countries include benefit formulas that are too generous, usually regressive payroll taxes that act as a disincentive to labor, and incentives for early retirement that are not in the economy's interest.

The typical life cycle of a PAYG DB system involves an early surplus when contributors are more numerous than pensioners and the country's demographics feature a young population. As life expectancies increase and birth rates decrease, the surplus slowly contracts, as retirees live longer and the number of people entering the workforce begins to contract.

Finally, countries face a period when their PAYG DB systems face deficits as the population increasingly ages, and there are fewer workers to support retirees. The deficit can reach a high percentage of the budget, squeezing out other sectors, and even lead to fiscal imbalances. (By contrast, if the system were only a defined contribution system, it would always be in balance--neither a surplus nor a deficit--because contributions and benefits

would be made on an individual basis, and benefits would equal contributions plus investment income.)

Egypt's SIS and the Economy. Egypt's SIS, like that in other countries, has an important impact on the economy. If we combine the financial operations of SIFGE and SIFPPSE, and state some of the main elements of the system as percentages of GDP, we can get an idea, as illustrated in Table 1.16, of the weight of the SIS in the economy.

As Table 1.16 indicates, the Egyptian SIS is running an annual surplus (income from contributions, transfer from Treasury, and investment income minus benefit payments and other expenditures), that ranged from 3.6 percent of GDP in 1991/92 and reached a high of 6.0 percent of GDP by the end of the most recent fiscal year, 1997/98. During the same period the accumulated surplus ranged from 29 percent of GDP in 1991/1992 to more than 40 percent of GDP in 1997/98. The accumulated surpluses of SIFGE and SIFPPSE potentially represent a huge pool of savings.

Table 1.16

Egypt's Social Insurance System and the Economy
(SIFGE and SIFPPSE Combined)(Percent of GDP)

Year	Contributions	Benefits	Transfer from Treasury	Annual Surplus	Accumulated Surplus
1985/86	5.1	2.5	1.2	5.8	38.2
1986/87	4.4	2.3	1.0	5.1	36.6
1987/88	4.3	2.3	0.9	5.6	36.2
1988/89	4.0	2.2	1.0	4.8	33.9
1989/90	3.6	2.0	0.9	4.6	31.7
1990/91	3.5	2.1	1.0	4.5	31.9
1991/92	3.1	2.1	1.1	3.6	29.0
1992/93	3.3	2.2	1.3	4.5	30.2
1993/94	3.5	2.5	1.5	5.4	32.5
1994/95	3.5	2.5	1.5	5.3	33.1
1996/97	3.6	2.7	1.6	5.9	37.2
1997/98	3.6	2.9	1.8	6.0	40.6

Source: Ministry of Social Insurance; Central Bank of Egypt; World Bank; TAPR calculations.
Note that the surplus does not equal contributions plus transfer from Treasury minus benefits because of other income and expenditure items that are not shown. Please see the previous section for a discussion of income and expenditures for SIFGE and SIFPPSE.

The vast body of international experience with PAYG DB systems demonstrates that this surplus will not last indefinitely. In fact, the system is already beginning to face some initial indications of strain even at this still relatively early stage in a PAYG DB system.

Table 1.17 compares some of the main characteristics of Egypt's SIS with other countries for the most recent years for which data are available. This table illustrates that Egypt's SIS is similar in ways to a young system—that is, one with a young demographic structure—but that it also shares characteristics of systems with more mature demographics.

The youthfulness of Egypt's system is demonstrated by its old-age dependency ratio of 14.4 percent in 1995, that is, the ratio of its old population (60 and above) to its young population (20-59). This is in line with other emerging market countries in Latin America, the Middle East and North Africa, Asia, and Africa. The OECD countries in 1990, by contrast, had an old-age dependency ratio of 34.0 percent, pointing to a shift in demographic structure to an older population with fewer contributors to support retirees.

Table 1.17

Comparative Statistics on Social Insurance Systems

Countries (year)	A	B	C	D	E	F
Latin America (1990)	21.0%	30.8%	39.3%	18.0%	2.0%	
OECD (1990)	39.2%	84.1%	93.9%	34.0%	9.2%	
MENA (1995)	27.5%	57.5%	41.3%	13.5%	2.8%	
Asia (1995)	11.4%	22.3%	23.5%	13.5%	0.5%	
Africa (1995)	8.5%	24.0%	6.4%	12.5%	1.9%	
Low income countries			10.2%		0.7%	3.9%
Lower middle income			27.9%		2.9%	10.1%
Upper middle income			50.7%		6.7%	23.8%
High income countries			95.8%		8.2%	23.1%
Egypt (1995)	37.7%	146.3%	83.1%	14.4%	2.5%	
Egypt (1998)	37.9%				2.9%	11.6%
A : Ratio of pensioners to contributors (SIS dependency ratio)						
B : Ratio of pensioners to old population (60 years and above)						
C : Ratio of contributors to labor force (Coverage ratio)						
D : Ratio of old population to young population (20-59 years) (old-age dependency ratio)						
E : Ratio of pension spending to GDP						
F : Ratio of pension spending to government spending						

Source: Schmidt-Hebble (1995), World Bank (1994), World Bank (1998), TAPR calculations

Egypt's current pension spending is also typical of a young system. Pension spending was a relatively low 2.5% of GDP in 1995, although it grew to 2.9% of GDP by 1998. The average figures for the group of upper-middle income countries is 6.7%, for the high-income group of countries 8.2 %, and for OECD countries 9.2%.

As Egypt's demographics shift to an older-age structure, and the dependency ratio increases, Egypt's SIS spending will increase from its 2.9% of GDP in 1998. Egypt's old-age dependency ratio of 14.4% compared to 34.0% for OECD countries suggests that as life expectancy increases and the aging of the population goes on, expenditures on benefits will increase at a growing rate. The economic and fiscal implications of this phenomenon are discussed below.

Coverage and Contributions. Egypt could try to increase the number of contributors, contribution rates, or both to improve the financing of the system as expenditures begin to rise. Scope for either of these possibilities, however, is limited, as a closer look at the coverage and contributions of the present system suggests.

Egypt's SIS has characteristics that are closer to more demographically mature systems as far as coverage and contributions go. This is clearly indicated in the coverage ratio, that is, the ratio of contributors to the labor force, of 83 percent in 1995. This figure is considerably above the figure for upper-middle-income countries, and close to the OECD figure of nearly 94 percent for 1990. Thus, the ability to increase contribution payments by increasing the contribution ratio is limited.

As noted above, this high figure reflects Egypt's steady expansion of the SIS system in the 1970s and 1980s to include more groups of workers, including those in the informal sector. It also reflects the desire to provide poverty alleviation. The country's 5.8 million casual (occasional) workers pay only LE 1 per month and will be guaranteed a minimum pension benefit of LE 70 per month (which will be raised to LE 80 per month in July 1999) in retirement.

The system's currently high contribution rates also point up the limited possibilities of raising the system's revenues by increasing the rates any further. In 1998, contributions by employers and employees represented 3.7% of GDP and 23.6 % of domestic saving. Meanwhile, the payroll tax places a steep burden on the working generation, which leads to lower disposable income. The social insurance law and its amendments require more than one third of most people's wages to be taxed away as a contribution to pension and social insurance funds. The employee's contribution to pension and insurance funds is 14% of his or her basic wage and 11% of the variable wage regardless of the type of employer. The employer's contribution varies (as a percentage of the wage) depending on where the worker works—government, public sector enterprises, or private sector enterprises. The sum of the contributions ranges from 36% to 41% from the basic wage and from 31% to 36% from the variable wage.

There is very little leeway to increase these contributions. The contribution rates for Egypt are high in comparison with a sample of 123 countries studied by Hemeda (1998), who found that contributions as a percentage of wages average about 25% (10% from employees and 15% from employers on the average). Egypt's rate places it in a group with nine other countries with contributions of 25% and more.

High contribution rates in a system lead to unnecessarily high costs of labor and distortions in the labor market. The increased total cost of labor causes the unemployment rate to increase. Evidence from other countries indicates that the high contribution rate creates the incentive to evade payment by: (a) shifting to the informal sector; (b) understating covered wages; and (c) substituting in-kind benefits for money wages. It also may reduce the supply of labor, especially experienced labor, in the formal sector.

The possibility of tax evasion exists in any country, and Egypt is no exception. Although it is difficult in government and large, private sector companies, underreporting of wages reportedly occurs in smaller firms. Evasion helps both the employer, who pays a smaller share of taxes, and the employee, who sees his or her take home pay increase. In contrast during the last two years before retirement, the temptation is to overstate wages so that, in accordance with the benefits formula, a worker can enjoy a higher retirement pension. Thus, current practice can tend to lower contributions during much of a contributor's working life, and then exact higher benefits in retirement. This can begin to place a strain on the resources of the system even before adverse demographic factors come into play.

The implication is that attempts to increase contribution rates would most likely result in a flight to the informal sector and other attempts to reduce contributions to the system. Attempts to increase contribution rates would also be politically unpopular.

Benefits. Another area in which Egypt's system reveals a similarity with more mature systems is in its replacement rate of covered wages. As discussed above, the replacement rate for someone earning LE 1025 per month would be 80 percent of this wage. This replacement rate is in line with that of the OECD countries, where it averages from 60 to 80 percent. Egypt's replacement wage is much higher than the minimum replacement wage of 40 percent for a retired couple recommended by the International Labor Organization (ILO).

Egypt's system dependency ratio of over 37 percent, that is, the ratio of pensioners to contributors, is also closer to OECD countries than to emerging market countries. This ratio seems fairly high given the young demographic structure of Egypt's population. Some insight into this apparent anomaly is provided by the ratio of pensioners to the old-age population (60 years and above). Despite low pension spending in Egypt, the ratio of pensioners to the old-age population (60 years and older) is very high, reaching 146.3% in 1995, compared to 84.1% in the OECD countries, and is far larger than in any other country

or group of countries. This points up the fact that nearly 1 out of every 3 pensioners is in fact below the retirement age. Secondly these pensioners receive pensions either for disability or as survivors. Assuming this ratio held in 1998, then of the total population of pensioners of 6.4 million, about 2.1 million would be receiving disability or survivor pensions.

The fact that this figure is so high compared to other countries merits further research and analysis. One possibility that suggests itself is that with the extension of the system to much of the informal sector, and the presumed lower life expectancy of people in that group, there may be a large number of survivors receiving pensions. Another possibility is the early retirement that was offered to workers in Egypt's state-owned enterprises as a part of the privatization program. Finally, there may be room for greater stringency in the system to prevent benefits going to those who may not in fact be entitled to or deserve them.

Economic and Fiscal Implications. As a result of the foregoing trends affecting contribution and benefit payments, the current surplus will not last for long. SIFPPSE, as noted in the previous section, is already experiencing strains as the contributions it receives

are less than the benefits it pays out. Its income exceeds expenditures only because of the cash transfer from the Treasury to cover inflation adjustment payments.

Spending on pension benefits has been increasing at a much faster rate than GDP and contributions to Egypt's SIS in recent years. This trend is likely to accelerate during the next decade as demographics shift, as Table 1.18 illustrates. In 1994/95, pension benefits grew by 16.5 percent over the previous year. By 1997/98, pension benefits grew by 19.6 percent over the previous year. The corresponding figures for the growth of GDP and contributions were, respectively, 16.6 percent and 9.4%, and 16.7 percent and 11.6 percent.

Table 1.18
Egypt's SIS Benefits, GDP, and Contributions (LE Millions)

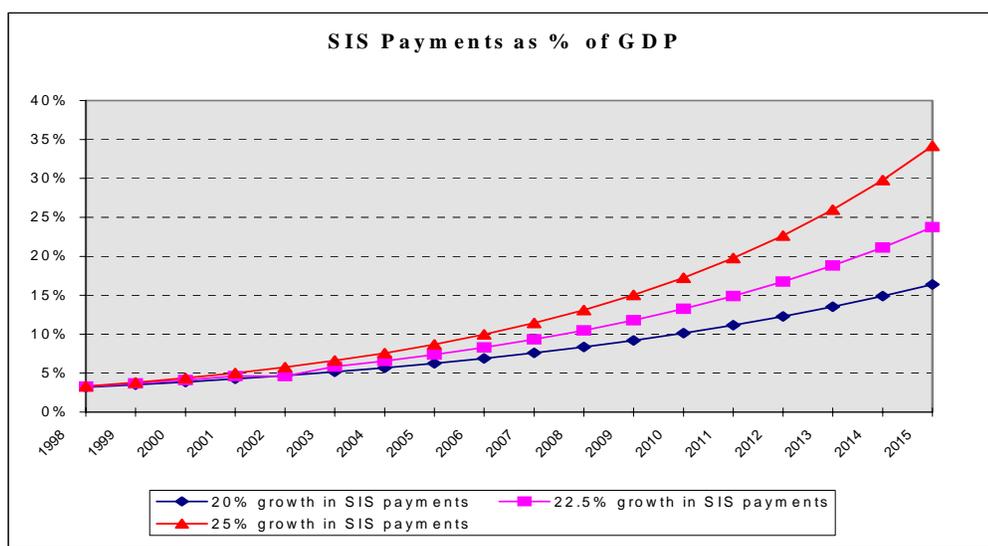
	1993/94	1994/95	1995/96	1996/97	1997/98
Benefits	4,321	5,033	5,807	6,797	8,131
% Change		16.5%	15.4%	17.0%	19.6%
GDP	175,000	204,000	229,000	256,000	280,000
% Change		16.6%	12.3%	11.8%	9.4%
Contributions	6,069	7,117	8,105	9,111	10,167
% Change		16.7%	13.9%	12.4%	11.6%

Source: Derived from data from Ministry of Social Insurance

Currently, the system has a net inflow (contributions minus benefits) of over LE 2 billion. By 2010, depending on the growth rates of benefits and contributions, the system could have a net outflow of LE 40 to 50 billion.

To project the exact pattern of pension spending one would need to review the ongoing actuarial studies of SIFGE and SIFPPSE. The graph below gives an estimate, illustrating the likely ranges of increases in pension spending as a percentage of GDP through the year 2015. Assuming the current GDP growth rate continues (9% including inflation), our findings indicate that even viewed conservatively, SIS payments over the next decade and a half will expand disproportionately.

Figure 1.3



Egypt's spending on pension benefits as a percentage of government spending was nearly 12 percent at the end of fiscal year 1998. If Egypt's pension spending in the years to come were to rise to 10 percent of GDP, and government spending as a percentage of GDP stayed constant, then pension spending as a percentage of government spending could rise to about 35-40 percent. This would imply a drastic squeeze on other items of government spending. The only other alternative would be to run a deficit, with likely adverse effects on inflation, domestic saving, the current account and the exchange rate.

The economic and fiscal implications of this scenario for Egypt could be severe even at lower growth rates of SIS payments and could produce budget deficits, inflation, reduced domestic savings, and a depreciating exchange rate. Although the causes maybe different, the results could be even more severe than the Asian economic crisis of 1997/98, a situation Egypt avoided thanks to its stabilization policies.

One effort to secure and improve the financial position of SIFGE and SIFPPSE has been to increase the interest rate notionally paid by NIB on SIS deposits. During the period 1980-90, NIB paid interest on SIS deposits at 5 to 6 percent per year, which was considerably less than the rate of inflation of 18 percent per year. The World Bank estimated that the reduction in the value of reserves over the ten-year period between 1980 and 1990 was equivalent to more than seven years of (1995) benefit payments.

In 1992, NIB raised the interest rate on incremental social security funds (including reinvested reserves) to 13 percent. Although it is important to pay a market interest rate, the larger issue facing pensioners and public finance is the financial stamina of the NIB to repay its loans to MOSI once the current surplus turns to a deficit in the 21st century. If this stamina is limited, then the difference in interest rates is of secondary importance.

The current deposits of MOSI with the NIB at the end of fiscal 1998 were LE 91.8 billion, about \$27 billion at an exchange rate of LE 3.4 per dollar. To put this amount in perspective, Egypt's total external debt is approximately \$28.1 billion.

Conclusion

In spite of the considerable progress made over the last three decades in extending social insurance coverage in Egypt, the system itself stands at a crossroads. This is not because of the objective that guided its growth, which was socially progressive, but rather because of the inherent deficiencies of PAYG DB systems, which are affecting almost every country.

To remedy these shortcomings, a way needs to be found to correct them while preserving the unique, admirable attention of Egypt to widespread SIS coverage. Chapter 4 discusses a strategy to enhance Egypt's SIS. The elements of this strategy include ways to:

- increase returns from pension savings
- reduce the fiscal burden to Egypt of providing these benefits
- reduce the heavy contribution tax that discourages employment
- link contributions and benefits in a way that is fair and encourages work
- link pension savings to promote capital markets and economic growth
- and, most importantly, provide for secure old age pensions for Egyptians.

The recent interest of the GOE in investing at least a part of this surplus in Egypt's emerging capital market is driven by a desire for higher returns on this invested savings. It may also be a way to make the old-age pensions of all Egyptians more secure. In the following Chapter 2 we look at the potential for linking pension savings with Egypt's capital markets.

INVESTING PENSION SAVINGS IN EGYPT'S CAPITAL MARKETS

The purpose of this chapter is to explore the prospects for investing pension funds in the Egyptian capital markets. Our main focus is to determine whether the Egyptian capital markets are suitable for investing long-term pension funds. We examine this for two coincident and complementary pension schemes. First, we examine the suitability of the capital markets for the present system where three private portfolio fund managers are investing pension funds in the capital markets under a defined-benefit pension system under the supervision of the Ministry of Social Insurance (MOSI). These portfolios are comprised of listed equities that trade on the Cairo and Alexandria Stock Exchange.

Second, this chapter also examines the suitability of the capital markets for mandatory, decentralized, personal, defined contribution plans (DCPs). (Such a system is not currently in place in Egypt, but Chapter 4 of this report provides recommendations for this approach.) If adopted, would investing in the Egyptian capital markets be appropriate for these funds? In both cases, the goal is to determine whether the Egyptian capital markets are suitable for investing pension funds, and whether pension funds can be invested in these markets more effectively to earn higher returns at acceptable risk levels for the pensioners.

In determining whether the capital markets in Egypt are suitable for investing pension funds, we focus on the number of “investable” securities as measured by market capitalization, trading activity, liquidity and the number of shares available for trading in the private sector. We also examine whether sufficient diversification can be achieved by investing in companies from a wide range of different industry sectors.

To a lesser extent, this chapter also examines the other side of the coin: what impact would investing pension funds have on the breadth, depth, and liquidity of investments in the Egyptian capital markets? What would be the impact of DCPs on the capital markets in Egypt? Would a synergy result where the investment of pension funds serves as an important catalyst in the development of Egypt's capital markets?

Finally, what recommendations can we make for investing pension funds in Egypt to ensure attractive long-term returns without incurring undue risk exposure? What asset classes would it make to invest in, and in what proportion? A major focus of this chapter is to examine whether pension funds in Egypt should be invested in equity securities, and if so, to what extent. We also discuss whether pension fund investments should be internationally diversified.

We begin with a discussion of the macroeconomic climate for investing in the Egyptian capital markets. We then proceed to an analysis of Egyptian equity and bond investments. In the latter parts of this chapter, the focus shifts to portfolio management and asset allocation for pension funds. The portfolio implications and diversification benefits of investing in securities in the Egyptian capital markets are also explored. Of primary interest

is the determination of the optimal asset allocation (asset mix) for a pension fund. In these sections, both the expected returns and risks of the portfolio are discussed in a portfolio risk-return context.

The Egyptian Capital Markets: Economic Climate

We begin our analysis with an assessment of the macroeconomic environment for investing in the capital markets in Egypt. The following analysis begins with a brief historical overview, and then proceeds to an analysis of the current situation and the prospects for the near term.

Historical Overview

Following Nasser's death in 1970, Egypt moved away from the socialist policies of the previous two decades and turned toward greater economic openness. Sadat's Open Door Policy of 1974 was designed to encourage private sector activity and sought to lure foreign investment into the country through new company laws, tax incentives, and the creation of free zones.

But by the end of 1986, Egypt found itself in a difficult financial position. The decline in oil prices in the mid-1980s led to a huge accumulation of foreign debt. External debt had increased to \$46 billion, which caused a marked decrease in foreign confidence and, subsequently, capital inflows. Inflation and unemployment increased dramatically, while the growth rate declined.

In 1987, President Mubarak began negotiating with Egypt's creditors to reschedule \$6.5 billion of the nation's external debt. The success of these actions was enhanced in 1991 by contributions amounting to \$5.5 billion from the Gulf States for Egypt's assistance in the Gulf War. At the same time, the US relieved the country of \$7 billion in military debts. In 1993, the Paris Club entered into three years of negotiations with the government, which eventually resulted in a \$20.2 billion debt reduction. In fiscal 1998, Egypt's domestic and external debt stood at \$47.02 billion and \$28.08 billion, respectively.

The government also initiated an aggressive economic structural adjustment program in 1991, which significantly stabilized Egypt's macroeconomic environment. The key features included:

- Prices were slowly liberalized, and most subsidies were eliminated for the first time in several industries.
- Foreign exchange controls and capital controls were increased.
- Quantitative restrictions on trade were abolished, lower tariffs were applied, and exporting, particularly of raw cotton, was facilitated.
- The government planned the privatization of Egypt's 314 public sector companies.

- Interest rate ceilings were lifted, state-directed and subsidized credits were reduced and a shift was made toward indirect tools of monetary policy.
- The local capital market, including mutual funds, alternative financial institutions, and the stock market, was resuscitated.
- The government began actively encouraging direct foreign investment by streamlining approval processes, lifting the 49% entry requirement for foreign stakes, and allowing foreign-controlled banks to operate in Egyptian pounds.
- Law 95/1992 was passed to regulate stock market activities.

Current Economic Outlook

At present Egypt's economy is evenly split between production and services. On the production side of the economy, industry accounts for about 27% of GDP, agriculture for about 16%, and construction for about 5%. On the service side of the economy, trade accounts for about 17% of GDP, government services 8%, personal services 7%, transportation and communications 7%, and tourism is estimated at about 5% of GDP. The private sector has been growing under the economic reform program and now accounts for more than 66% of GDP.

The economic outlook for Egypt appears promising, as evidenced by the following assessments of key economic conditions:

- From 1993 to present, annual GDP growth has ranged from about 3.9 percent to 5.3 percent. Per capita income has increased modestly from \$1,167 in 1993 to \$1,281 in 1997. The government estimates the unemployment rate at 9.3 percent.
- The Egyptian exchange rate has been (informally) pegged at LE 3.4 per US\$ since 1993. With steady capital inflows, a strong reserve position of about \$20 billion, and falling inflation, the prospects for maintaining a stable exchange rate appear strong. With strict and prudent lending regulations imposed on the Egyptian banking sector, limited short-term foreign currency debts, and sufficient interest rate differentials to prevent capital outflow, the weak economic fundamentals that caused currency crises in so many developing countries do not appear to be present in Egypt.
- While Egypt has consistently run a deficit in the balance of goods and services, its current account has for the most part been in balance due to transfers (worker remittances, aid, and official grants). Egypt's capital account balance has consistently run at a slight surplus in the 1990s.
- Interest rates and inflation have been declining steadily over the past five years. The inflation rate for 1997 was 6.2 percent and the yield on 90-day Treasury bills by 1997 year end was 8.8 percent. The austere fiscal and monetary measures enacted by the

Egyptian government in the earlier part of the 1990s are largely credited for these successes.

- Egypt's external debt service obligations of about \$1.7 billion do not appear excessive. Short-term debt is a mere 2% of GDP. About half of external obligations represents rescheduled Paris-club debt owed to the US, France, Germany, and Japan. With its strong foreign currency assets (\$20 billion in official reserves and \$11 billion of foreign assets in banks), the external debt should not pose any liquidity problems.
- The banking system appears healthy. Egyptian banks are required to maintain a minimum 8% risk ratio to maintain capital adequacy, and all banks are required to comply with International Accounting Standards (IAS). The deposit-lending spread at 1997 year end was about -3.8%, down from -5.1% in 1995. Further progress in the privatization of Egyptian banks should lead to higher levels of service, more effective intermediation, and increased competition in the next few years.

Overview of Egyptian Capital Markets

The Cairo and Alexandria Stock Exchanges have been revitalized in the 1990s after decades of languishing under Nasser's nationalization program. In 1992 the Capital Markets Law (Law 95) streamlined regulations and served as a catalyst for the capital markets. The Cairo and Alexandria stock exchanges were unified into a single market in 1994, and are hereafter referred to as the Egyptian Stock Exchange.

The core provisions of the 1992 Capital Markets Law (Law 95) include:

- lifting of foreign restrictions on foreign ownership
- elimination of capital gains taxes and taxes on dividends
- recourse to arbitration to resolve legal disputes
- creation of specialized capital market service companies
- reorganization and enhanced role of the Capital Market Authority

The Capital Market Authority (CMA) was created as an independent regulatory institution responsible for enforcing regulations and compliance, and observing market performance. The CMA licenses all market participants. Violations of capital market regulations are subject to strict civil and criminal penalties.

Companies Listed on the Exchange

At the end of 1998, there were 863 companies listed on the Egyptian Stock Exchange. Only about 70 of these companies, however, are actively traded: many of the other companies are listed only for tax reasons. Overall market capitalization at the end of 1998

was about LE 83.5 billion (\$24.5 billion). The market capitalization of the actively traded companies was approximately LE 45 billion (\$13.2 billion).

The 863 listed companies on the Egyptian Stock Exchange comprise about 20 different sectors. The most widely represented sectors include building and contracting, building materials, engineering, financial services, housing, food and beverage, trade, and travel and tourism.

The largest industry sectors in terms of market capitalization include cement (19% of total market capitalization) and finance (18% of total market capitalization). The breakdown of sector weightings by market capitalization based on firms listed on the Egyptian Stock Exchange is shown in Figure 2-1.

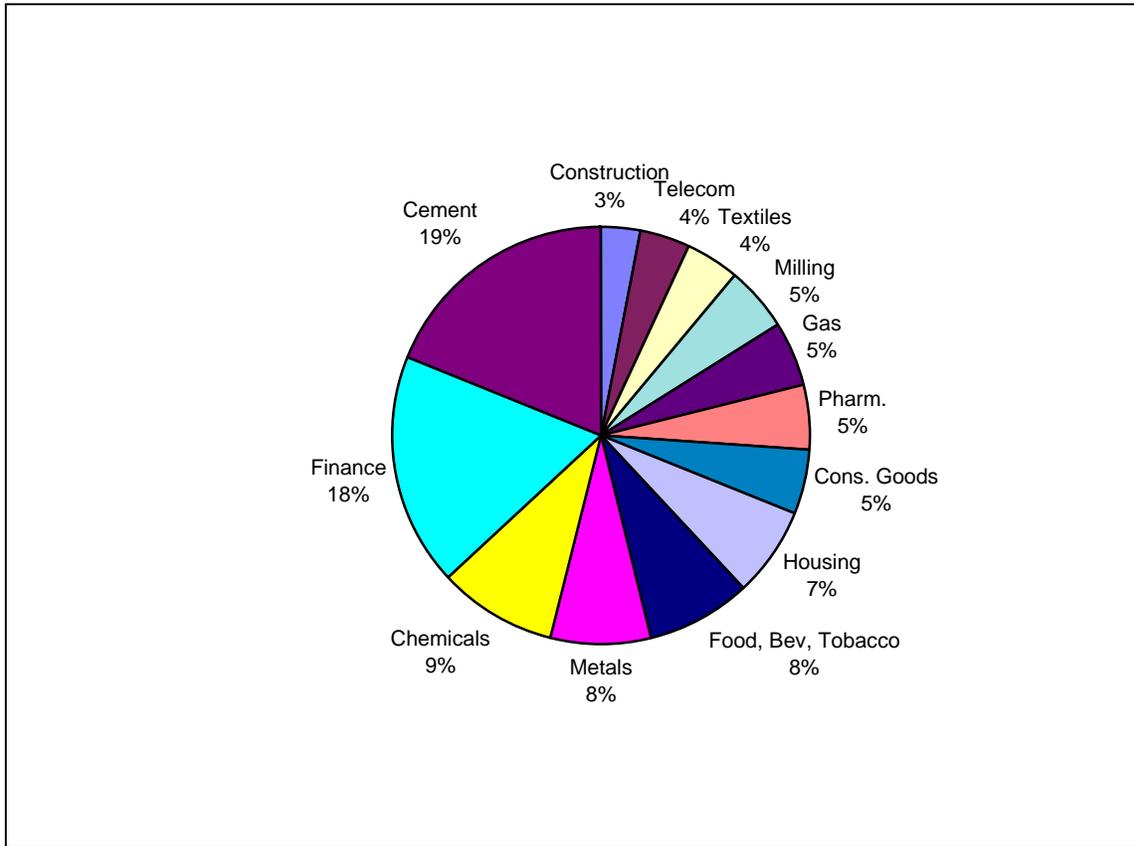
Market Indices

The values of stocks trading on the Egyptian Stock Exchange are tracked by several market indices including the Hermes Financial Index (HFI) and the EFG Index (EFGI). The Hermes Financial Index (HFI) is a broad-based index tracking the most actively traded companies (62 firms). As such, the index is useful for tracking general market trends. The EFG Index is a large cap index that includes only actively traded companies with a market capitalization of LE 900 million and larger. Both the HFI and EFGI are revised quarterly and are published daily by Reuters, Bloomberg, and Datastream.¹

¹ The Capital Market Authority also reports an index that includes all 800-plus companies listed on the exchange. Since most of these stocks are not actively traded, it is not considered an investable index.

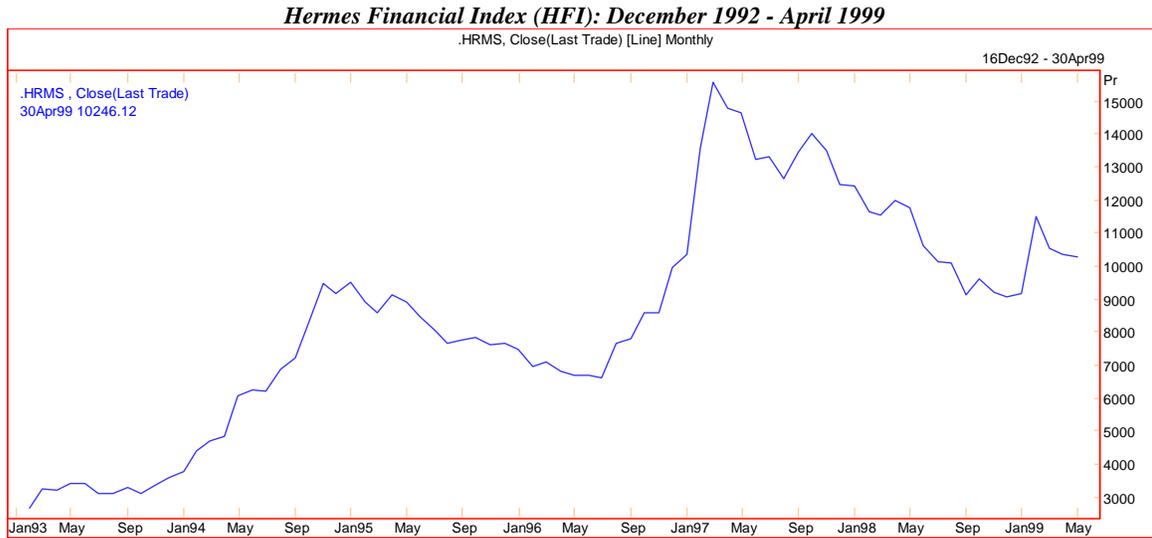
Figure 2.1

Sector Weightings of Firms Listed on Egyptian Stock Exchange



The value of the HFI index from December 1992 through April 1999 is shown in Figure 2-2. Note that the Hermes index rose to its highest point in February 1997, and then gradually declined throughout the rest of 1997 and all of 1998, experiencing slight highs and lows related to various events, including the September 1997 Euromoney Conference and the November 1997 Luxor incident.

Figure 2.2



Selected Stock Market Data

Table 2-1 gives selected Egyptian stock market data for the 1992-1998 period including the number of listed companies, market capitalization, number of transactions, and the volume and value of shares traded each year.

Table 2.1

Relevant Stock Market Data

	1992	1993	1994	1995	1996	1997	1998
Number of Listed Companies	656	674	700	746	646	650	834
Market Capitalization (LE bn)	11	13	14	27	48	71	79
Number of Transactions (m)	13	12	94	469	2,316	1,225	636
Volume of Shares Traded (m)	30	18	60	72	208	373	457
Value of Shares Traded (LE m)	597	569	2,557	3,849	10,968	24,219	19,491

Source: IBTCI – figures good through Dec. 1, 1998, and InterCapital figures. Price related ratios are based on April 7, 1999 prices.

It is interesting to note the phenomenal growth of the Egyptian capital markets: total market capitalization of stocks on the Egyptian Stock Exchange has increased from LE 11 billion in 1992 to LE 79 billion by December 1, 1998. The large increase in market capitalization is due both to per share increases in company market values and to new listings on the exchange.

Trading Activity

Trading activity has also increased dramatically, as measured by the number of transactions and the volume and value of shares traded. The trading activity has been highly correlated with the value of the stock market indices and privatization activity. At the height of the privatization program in 1996 and early 1997, the number of transactions was abnormally high. If we ignore these abnormal years, we see that volume rose steadily over the period from 30 million in 1992 to 457 million in 1998. Similarly, the value of shares traded rose from LE 597 million in 1992 to LE 19.5 billion in 1998.

Mutual Funds

There is also a growing number of investment management and mutual funds in Egypt. There are currently about 132 brokerage firms offering services in Egypt. Table 2-2 provides information on the 18 local mutual funds managed by 9 different investment firms and available to investors in mid-1998. There are a variety of open-end and closed-end funds with investment objectives including income, income and growth, and growth funds. There are also seven offshore funds devoted primarily to Egyptian securities; the offshore funds are listed in London, Dublin, Luxembourg, and Saudi Arabia.

Emerging Market Comparisons

It is also interesting to compare the performance of the Egyptian stock market to other stock markets in emerging-market countries. Table 2-3 compares the equity returns in many emerging markets for 1996, 1997, and most of 1998. The 38.3 percent increase in 1997 and the nearly 27 percent decline in 1998 in the Egyptian stock market – as measured by the Hermes Financial Index – is not out of line with other increases and decreases worldwide in emerging-market countries during 1997-98.

Table 2.2

Mutual Funds in Egypt

Fund	Manager	Type	Start-up	Par Value	Size
				(LE m)	(LE m)
Allied Investors	Egyptian-Anglo	Growth	Aug. 95	500	100
AMEX	Hermes Fund Mgmt.	Income/Growth	Apr. 97	100	300
Bank of Alexandria	Egyptian Fund Mgmt.	Growth	Dec. 94	100	200
Banque du Caire	Hermes Fund Mgmt.	Growth	Nov. 95	100	100
Banque Misr 1	Concord Intl. Inv.	Income	Feb. 95	100	500
Banque Misr 2	Concord Intl. Inv.	Growth	Sept. 95	66.67	400
Delta International Bank	Hermes Fund Mgmt.	Income/Growth/Closed	Aug. 96	100	50
EAB	Egyptian Fund Mgmt.	Growth	Oct. 94	100	200
Egyptian Gulf Bank	Hermes Fund Mgmt.	Income/Growth	May. 96	100	100
Egypt International Fund	Concord Intl. Inv.	Growth/Closed	Dec. 97	1000	500
Export Development Bank	Cairo Portfolio Mgmt.	Income	Oct. 96	100	100
MIBank	Concord Intl. Inv.	Growth	Mar. 98	100	250
Misr Exterior Bank	Lazard Asset Mgmt.	Income/Growth	Jan. 98	1000	100
Misr Iran Devp. Bank	Lazard Asset Mgmt.	Income/Growth	Jul. 98	100	100
National Bank of Egypt 1	National Fund Mgmt	Growth	Sept. 94	500	200
National Bank of Egypt 2	National Fund Mgmt	Income	Oct. 95	100	300
Orient Trust	Egyptian Invest.	Growth/Closed	Jan. 97	1000	50
SAIB 1	Prime Securities	Growth	Jun. 96	500	150
SAIB 2	Prime Securities	Income/Growth	Sept. 97	100	50
SAIB 3	Prime Securities	Income/Growth	Dec. 98	100	50
Suez Canal Bank	Egyptian-Anglo	Income/Growth	Dec. 96	500	100

Source: Intercapital

Table 2.3

Equity Market Returns of Selected Emerging Stock Markets

Equity Market Returns	1996	1997	1/98-11/98
Egypt	-	38.29	-26.97
China	40.1	-16.4	-32
Indonesia	12.8	-73.5	-40.3
Malaysia	23.3	-68.4	-27.1
Philippines	-20.6	32.1	-69.3
Thailand	-38.4	-78.9	37.6
Argentina	15.5	25.8	-15.7
Brazil	40.3	29.2	-34.2
Mexico	11	49.2	-26.8
Czech Republic	36.7	-32.2	-12.3
Hungary	170.4	93.5	-25.6
Poland	70.9	-17.9	-1.4
Russia	133.5	104.9	-84.8
Greece	14.6	35.4	59.3
Israel	1.2	37.9	-3
Turkey	51	91.5	-51
South Africa	-15.3	-15.7	-20.7

Source: ING Barings' Global Emerging Markets Strategy (6 Nov. 1998)

Table 2-4 reports average price-earnings ratios for the same period for selected emerging stock markets. Here we note that Egypt's price-earnings ratio for 1998 and the price-earnings ratio projected for 1999 are lower than most of its counterparts. Price-earnings ratios, typically a proxy for expected future growth, are perhaps suggesting lower growth for Egyptian companies than in many of these other markets. If not, then Egyptian stocks may be undervalued relative to stocks in these other markets.

Table 2.4

Market Price-Earnings Ratios for Selected Emerging Markets

Countries	Market P/E ²		
	1997	1998	1999e
Egypt	13.00	10.02	8.51
Greece	24	16.9	15.5
Israel	28.8	4.2	-
Turkey	9.1	12.5	11.6
Morocco	-	19	15
South Africa	14.9	12.5	11.6
Hungary	18.6	12.3	9.2
Poland	10.4	10.2	8.7
Russia	11.8	0.2	0.2
Czech Republic	19.8	13.5	12.8
China	6.6	7.0	7.3
Malaysia	15	37.5	11.7
Indonesia	37.5	-	-
Philippines	15	15.5	13.8
Argentina	14.1	10.4	8.8
Mexico	18.9	15.3	11.9
Brazil	12.7	9.9	9

Source: Intercapital

Most companies trading on the Egyptian Stock Exchange have P/E ratios that range from about 6 to 13. These P/E ratios are much lower than in the previous few years due to the decline in the Egyptian stock market. The average P/E ratio for the market, as calculated by EFG-Hermes, was about 10 as of August 1998.³ The market P/E ratio peaked at 18.4 in February 1997.

Dividend Yields

With the recent fall in stock prices, dividend yields have become more attractive. Historically, firms' dividend payout ratios have commonly ranged from 50% to 90% of net profit after taxes. As of August 1998, the average dividend yield on the exchange was 6.7%.

² Sources: ABN Amro Emerging Europe August 1998, EIU Egypt Country Report 3Q98, Central Bank of Egypt Monthly Bulletin September 1998, Hilfe-Morocco, October 9, 1998, ING Barings Global Economics Report 4Q98, November 1998, Arab Stock Markets Review October 1997, ING Barings Global Emerging Markets Strategy(27 November 1998), Stock Exchange Monthly Bulletin (September 1-30, 1998), ING Barings Global Economics Monthly Update (December 1998), Finaccess Company (Morocco), ING Barings Global Economics First Quarter 1999.

³ This market P/E ratio excludes firms in the housing sector. They typically have much higher P/E ratios than average.

But with the depressed prices of some stocks on the exchange, some dividend yields range as high as 10% to 15%.

Fixed Income Investments

Trading in bonds has increased significantly in recent years. Bonds, as a percentage of total market turnover, grew from an average of 2% in 1997 to nearly 7% in the first eight months of 1998. The total value of bond trading reached LE 390.6 million in 1997, and reached LE 734.7 million in the first eight months of 1998.

Egyptian Treasury bills are traded interbank. Maturities of 91 days and 182 days are available. Interest rates on both maturities have remained stable at about 8.8% over the past year. Rates are not expected to change much in the near future unless there is a change in dollar interest rates.

The government has recently begun to issue long-term bonds. Priority in these issues has been given to small investors and funds. However, the limited number of government bond issues to date has resulted in low liquidity in the secondary market. Liquidity should improve as the government issues more long-term bonds in the future. Data on government bond issues to date are shown in Table 2-5:

*Table 2.5
Government Bond Issues*

Issue	Amount (LE m)	Coupon Rate	Issue Date	Maturity Date
May 2000	3	12	May 95	May 00
October 2003	4	11	Oct 96	Oct 03
August 2005	0.5	10	Aug 98	Aug 05
September 2005	0.5	10	Sep 98	Sep 05

Source: EFG Hermes

The corporate bond market has recently been the most rapidly growing segment of the fixed income market. Data on the most significant corporate bond issues are given in Table 2-6:

Table 2.6

Corporate Bond Issues

Issuer	Amount (LE m)	Coupon Rate	Issue Date	Maturity Date
Hoescht Orient	30	182 Day T-Bill + 0.5%	May 94	May 99
Victoria United Hotels	70	182 Day T-Bill + 0.75%	Apr 95	Apr 02
Credit Froncier	10	12	Dec 95	Dec 00
Citibank	200	91 Day T-Bill	Mar 96	Mar 01
Egyptian American Bank	200	10.75%	Jun 96	Jun 01
Arab Land Bank	90	Discount - 1.5%	Sep 96	Sep 03
American Express Bank	300	91 Day T-Bill	Dec 96	Dec 01
Egyptian British Bank	100	91 Day T-Bill	Dec 96	Dec 01
Hoescht Orient	30	182 Day T-Bill + 0.25%	Dec 96	Dec 01
Arab African Int'l Bank	300	91 Day T-Bill + 0.25%	Mar 97	Mar 02
Credit Foncier	40	10.50%	Apr 97	Apr 04
Industrial Dev Bank	150	91 Day T-Bill + 0.375%	May 97	May 02
Commercial Int'l Bank	300	182 Day T-Bill + 0.125%	May 97	May 02
Nat'l Societe Gen. Bank	150	91 Day T-Bill + 0.25%	Jun 97	Jun 02
Egy. Arab African Bank	125	91 Day T-Bill + 0.375%	Oct 97	Oct 02
JAC	50	91 Day T-Bill + 1%	Jan 98	Jan 03
Mostafa Ali Lighting	50	10.50%	Jan 98	Jan 05
Egyptian Eng. R.E. Invest	40	10%	Feb 98	Feb 01
Egyptian Finance Co.	125	91 Day T-Bill + 0.75%	Jun 98	Jun 03
OPTD	80	182 Day T-Bill + 1%	Jul 98	Jul 03
Arab Steel	250	11%	Sep 98	Sep 05

Source: EFG Hermes

Investment Considerations: Pension Funds in Egypt

In this section, we take a closer look at actual investment considerations and the prospects for achieving a wide degree of diversification by investing in the Egyptian capital markets. At issue here is the array of different sectors and companies available for investment, and the liquidity of these issues.

The 863 listed companies on the Egyptian Stock Exchange comprise about 20 different sectors. The most widely represented sectors include building and contracting, building materials, engineering, financial services, housing, food and beverage, trade, and travel and tourism. The largest industry sectors in terms of market capitalization include the cement and finance sectors.

To achieve effective diversification, it is essential that the stocks included in a portfolio represent varying degrees of business risk. In other words, their revenues and earnings (and, of course, stock prices) should not move closely in tandem with each other through the Egyptian business cycles. When stocks move together through the business cycles, significant diversification benefits are not achieved.

In the Egyptian economy, we find considerable clustering of sectors (building and contracting, building and materials, engineering, and housing) that will limit diversification potential. It is also likely that the banking and finance sector is highly correlated with these other sectors since the demand for loans and banking services is probably highly dependent on these construction-related sectors. Thus, the high concentration (clustering) of sectors limits prospects for achieving a wide degree of diversification.

The prospects for effective diversification are further diminished when we consider the liquidity of stocks listed on the Egyptian Stock Exchange. Tables 2-7 and 2-8 report liquidity measures for the 20 most heavily-traded stocks.⁴ In Table 2-7, liquidity is measured in terms of volume traded; in Table 2-8, liquidity is measured in terms of value traded. As shown in Table 2-7, of the 20 most actively traded common stocks in terms of volume traded, 6 are flour mill, 4 are cement, and 3 are bank and development companies. Similar clustering within these sectors is also obtained when we measure liquidity in terms of value traded, as shown in Table 2-8.

⁴ Financial Securities, the monthly bulletin of the Cairo and Alexandria Stock Exchanges.

Table 2.7

*Liquidity of the 20 Most Heavily Traded Stocks:
Volume of Shares Traded, November 1-26, 1998*

Name of Company	Volume Traded	Market Volume Traded* (%)	Market Capitalization**	Turnover Ratio*** (%)	Average Volume Traded / Day (L.E.)****
Egyptian Marine Supply	8,349,503	21.48	17,429,381	47.90	417,475
Commercial International Bank (CIB)	4,315,465	11.10	1,782,300,000	0.24	215,773
Orascom Holding Hotels	3,160,570	8.13	192,592,200	1.64	158,029
Mobinil	2,017,451	5.19	871,795,200	0.23	100,873
South Cairo and Giza Flour Mills	1,044,970	2.69	35,070,000	2.98	52,249
Middle and West Delta Flour Mills	923,630	2.38	204,225,000	0.45	46,182
Six of October Development and Investment	839,825	2.16	263,400,000	0.32	41,991
United Arab Spinning and Weaving	737,381	1.90	207,853,760	0.35	36,869
Arabian International for Construction	736,570	1.90	6,000,000	12.28	36,829
Helwan Cement	727,478	1.87	1,215,426,248	0.06	36,374
East Delta Flour Mills	721,192	1.86	138,000,000	0.52	36,060
Upper Egypt Flour Mills	681,377	1.75	232,260,000	0.29	34,069
Tourah Cement	659,256	1.70	1,379,701,818	0.05	32,963
Industrial and Engineering Projects	650,995	1.68	298,560,000	0.22	32,550
Suez Cement	587,857	1.51	2,518,803,205	0.02	29,393
Amreyah Cement	580,884	1.49	1,005,800,000	0.06	29,044
Telemist	578,587	1.48	31,200,000	1.85	28,929
Alexandria Flour Mills	567,606	1.46	121,680,000	0.47	28,380
Mist International Bank (MIBank)	534,251	1.37	1,397,700,000	0.04	26,713
North Cairo Flour Mills	514,300	1.32	208,260,000	0.25	25,715
TOTAL	28,929,148	63.52%	12,128,036.812		1,446,457

Source: Financial Securities (monthly bulletin of Cairo and Alexandria Stock Exchanges), Vol. 1. No. 4.

- * Traded Volume of the Company / Traded Volume of the Market
- ** Based on November 26 Prices
- *** Traded Volume of the Company/Market Capitalization of the Company
- **** Based on 20 Trading Days

Table 2.8

*Liquidity of the 20 Most Heavily Traded Stocks:
Value of Shares Traded, November 1-26, 1998*

Name of Company	Value Traded (L.E.)	Market Value* Traded (%)	Market Capitalization**	Turnover Ratio (%)***	Average Value Traded / Day (L.E.)****
Commercial International Bank (CIB)	121,637,665	11.16	1,782,300,000	6.82	6,081,883
Alexandria Iron and Steel	43,158,313	3.96	1,070,330,000	4.03	2,157,916
Mobinil	38,663,408	3.55	871,795,200	4.43	1,933,170
Tourah Cement	37,448,079	3.44	1,379,701,818	2.71	1,872,404
Medinet Nasr Housing	35,783,206	3.28	823,680,000	4.34	1,789,110
Helwan Cement	35,362,492	3.25	1,215,426,248	2.94	1,768,125
Mist International Bank (MIBank)	34,561,470	3.17	1,397,700,000	2.47	1,728,074
Industrial and Engineering Projects	32,412,505	2.98	298,560,000	10.86	1,620,625
Orascom Holding Hotels	31,605,700	2.90	192,592,200	16.41	1,580,285
Suez Cement	30,771,054	2.82	2,518,803,205	1.22	1,538,553
Amreyah Cement	29,394,304	2.70	1,005,800,000	2.92	1,469,715
Eastern Tobacco Company	28,366,871	2.60	1,797,250,000	1.58	1,418,344
Middle and West Delta Flour Mills	27,936,618	2.56	204,225,000	13.68	1,396,831
Six of October Development and Investment	25,793,724	2.37	263,400,000	9.79	1,289,686
Upper Egypt Flour Mills	22,667,514	2.08	232,260,000	9.76	1,133,376
North Cairo Flour Mills	20,621,845	1.89	208,260,000	9.90	1,031,242
Amreyah Pharmaceuticals	18,664,500	1.71	540,000,000	3.46	933,225
East Delta Flour Mills	18,550,670	1.70	138,000,000	13.44	927,534
Egypt Gaz	17,884,522	1.64	1,542,000,000	1.16	894,226
Alexandria Flour Mills	17,791,348	1.63	121,680,000	14.62	889,567
TOTAL	633,401,938	68.38%	15,939,983,671		31,670,097

Source: Financial Securities (monthly bulletin of Cairo and Alexandria Stock Exchanges), Vol. 1. No. 4.

* Traded Value of the Company / Traded Value of the Market

** Based on November 26 Prices

*** Traded Value of the Company/Market Capitalization of the Company

**** Based on 20 Trading Days

Further limits to diversification are illustrated in Table 2-9, which reports the 10 most active companies in terms of volume traded. Note that the 10 most active firms account for almost 59 percent of the total trading volume on the exchange. Moreover, the top 4 firms account for 45.9 percent of total trading volume on the exchange.

Table 2.9

The 10 Most Active Companies: Volume of Shares Traded

	Company Name	Volume (L.E.)	High (L.E.)	Low (L.E.)	Closing (L.E.)
1	Egyptian Marine Supply	8,349,503	2.04	2.04	2.04
2	Commercial International Bank	4,315,465	30.00	26.80	27.42
3	Orascom Holding Hotels	3,160,570	10.00	10.00	10.00
4	Mobinil	2,017,450	20.11	17.55	19.86
5	South Cairo & Giza Mills & Bakeries	1,044,970	15.00	10.65	11.69
6	Middle & West Delta Mills	923,630	34.75	26.93	27.23
7	Six of October Development & Investment	839,825	33.25	26.34	26.34
8	United Arab Bolivara Spinning, Weaving, Silk (UNIRAB)	737,381	9.30	9.00	9.11
9	Arab International Construction Development	736,570	25.00	20.98	21.01
10	Helwan Portland Cement	727,478	50.75	43.89	48.51
	Total of 10 most active companies	22,852,842			
	Total Trading	38,873,075			
	Percentage of 10 most active to total	58.79%			

Source: Financial Securities (monthly bulletin of Cairo and Alexandria Stock Exchanges), Vol. 1. No. 4.

Table 2-10 reports the 10 most actively traded firms in terms of value traded. Here, the ten most actively traded stocks account for more than 41% of total value of shares traded. It is interesting to note that one firm (Commercial International Bank) accounts for 11.4 percent of total value traded; the three most heavily traded firms account for 19.0% of total trading value on the exchange. Furthermore, three of the ten most heavily traded firms are cement firms, and two are banks.

Table 2.10

The 10 Most Active Companies: Value of Shares Traded

	Company Name	Value (L.E.)	High (L.E.)	Low (L.E.)	Closing (L.E.)
1	Commercial International Bank	121,637,665	30.00	26.80	27.42
2	Alexandria National Iron & Steel	43,158,313	153.00	139.00	152.89
3	Mobinil	38,663,408	20.11	17.55	19.86
4	Tourah Cement	37,448,079	58.79	54.00	57.87
5	Medinet Nasr Housing	35,782,206	117.00	100.50	102.96
6	Helwan Portland Cement	35,362,492	50.75	43.89	48.51
7	MIBank	34,561,470	67.50	61.77	62.12
8	Industrial & Engineering Projects	32,412,505	53.63	48.00	49.76
9	Orascom Holding Hotels	31,605,700	10.00	10.00	10.00
10	Suez Cement	30,771,054	53.50	50.49	51.45
	Total of 10 most active companies	441,402,892			
	Total Trading	1,069,092,116			
	Percent. of 10 most active to total	41.29%			

Source: Financial Securities (monthly bulletin of Cairo and Alexandria Stock Exchanges), Vol. 1. No. 4.

The ten largest firms in terms of market capitalization are given in Table 2-11. The market capitalization of these firms range from LE 1.36 billion (Heliopolis Housing) to about LE 2.60 billion (Suez Cement). Average daily trading for these stocks ranges from LE 54,005 (Misr Aluminum) to LE 5.4 million (Commercial International Bank).

Table 2.11

Ten Largest Market Capitalization Firms as of September 1998

Company Name	Market Capital as of Sept. 1998 (LE millions)	Average Daily Trading 1 Jan. '98 - 1 Sept. '98 (LE)
Suez Cement	2,596	1,449,885
Abou Kir Fertilizers	2,554	505,687
Misr Aluminum	2,126	54,005
Egypt Gas	1,956	1,902,871
Eastern Tobacco	1,940	1,087,622
Commercial Int'l Bank	1,830	5,422,820
Egyptian Mobile Phone	1,644	3,718,238
MIBank	1,568	1,542,687
Torah Cement	1,430	1,249,053
Heliopolis Housing	1,362	603,249

It should be noted, however, that many of the companies traded on the exchange are only partially privatized or may have large stakes held by institutions. For example, 80% of the shares of both Misr Aluminum and Egypt Gas are held by the public sector. The breakdown of public and private ownership structure for the ten largest market capitalization firms is given in Table 2-12. The percentage breakdown of ownership within the public sector includes ownership by holding companies and banks; the percentage breakdown of ownership within the private sector includes ownership by institutions, family, employees, and the general public.

Table 2.12

*Ownership Structure of Ten Largest Market Capitalization Firms
(as of September 1998)*

Company Name	Public Sector Ownership (%)	Private Sector Ownership (%)
Suez Cement	55%	45%
Abou Kir Fertilizers	89%	11%
Misr Aluminum	80%	20%
Egypt Gas	80%	20%
Eastern Tobacco	65%	35%
Commercial Int'l Bank	20%	80%
Egyptian Mobile Phone	0%	100%
MIBank	26%	74%
Torah Cement	76%	24%
Heliopolis Housing	73%	27%

Thus, while investors can invest in a fairly wide array of stocks in many different, but somewhat clustered, sectors, a relatively small number of firms in a relatively few industry sectors represent a fairly significant portion of trading activity (in terms of volume and value) on the stock exchange. Nevertheless, a wider degree of diversification can still be obtained if an investor is willing to diversify into international securities or is willing to invest in some of the less actively traded securities in Egypt.

Including some international investments in a portfolio is a particularly appealing way of achieving a wider degree of diversification. Because the business cycle in Egypt is not necessarily synchronized with the business cycles in other countries, the stock markets in other countries may not move in tandem with the Egyptian stock market. Investing internationally also provides an opportunity to invest in companies in other industry sectors that are not developed sufficiently in Egypt yet (computers, software, automobile production, pharmaceuticals, etc.), which will also lead to a wider degree of diversification for Egyptian investors.

Investing in some of the less-liquid stocks in the Egyptian capital markets may also be an option for improving diversification. Low liquidity is perhaps less of a problem for a pension fund investment because of the long-term horizon of pension investments. Furthermore, it is possible that stocks that currently have low liquidity may be purchased at discounted prices reflecting a liquidity premium being charged by investors. As these stocks gain in stature, and experience increases trading activity, these liquidity premiums should

vanish, the stock prices should increase and, therefore, offer attractive rates of return to long-term pension investors. Keep in mind the circular effects here: the pension fund investments into these less-liquid stocks may be an important catalyst that actually leads to the needed improvements in the liquidity of these stocks.

There are several reasons why investors can expect improved liquidity and diversification in the Egyptian stock market in the coming years. First, the government has undertaken a fairly active privatization program that should add dozens of new firms to the exchange in the next few years. Forty firms were privatized in the first 11 months of 1998. In addition, there are an increasing number of private firms that are expected to make stock offerings on the exchange in the next few years.

Second, the liquidity of the stocks of many firms should continue to increase due to the rapid increase in foreign trading activity. Foreign trading value as a percentage of total trading value increased from an average of 13% in early 1996 to 29% in the first six months of 1997 and to 43% in the first half of 1998. The environment for foreign trading in Egypt is attractive as there are no specific constraints on foreign trading and no ceiling on foreign ownership of shares. Foreigners may open accounts in local banks denominated in either Egyptian pounds or US dollars and are free to move currency into and out of the country at will. There are no taxes on capital gains and no withholding on dividends. Finally, investors are free to repatriate profits at any time.

Third, the expanding long-term government and corporate debt market will allow investors to allocate more of their portfolio into longer-term fixed income securities. In comparison to other emerging and developed markets, the bond market in Egypt is still very small and underdeveloped. Whereas bond markets are often three times the size of the stock market, in Egypt the bond market is only roughly 11 percent of total market capitalization.⁵ There should be both sufficient supply of long-term fixed income securities from the government and corporate sectors as well as demand for these issues from the investment community in years to come. Interestingly, a seven-year LE 500 million issue in August 1998 was more than four times oversubscribed.

Finally, the broadening and deepening of the capital markets in Egypt will itself serve to attract more funds into Egypt's capital markets. New domestic and foreign investors will be attracted to Egypt's capital markets as the number of issues, trading activity, and liquidity all increase. The capital markets will become a more and more attractive place to invest pension funds.

It is equally important to point out that in a synergistic manner, the development of the capital markets would also be greatly enhanced by the establishment of mandatory, decentralized, privately run, defined-contribution plans. The funds invested in the Egyptian capital markets, while providing attractive and competitive rates of return to investors, would supply capital to Egyptian companies for productive capital investment opportunities. The productive investments by firms would cause firms to expand and grow, increase

⁵ 1998 Factbook, Cairo & Alexandria Stock Exchange.

employment (and further increase payments to pension funds), offer new securities on exchanges, etc.

At the beginning of this chapter, we asked whether Egypt's capital markets would be a suitable destination for pension savings, either through the three existing investment funds that MOSI oversees, or through decentralized, defined-contribution accounts. The answer to this question, as the preceding analysis has demonstrated, is yes, but with qualifications. Directing pension funds into Egypt's capital market offers the prospect for higher return and better benefits for pensioners. Further, Egypt's capital markets seem poised for further growth and development to absorb greater amounts of additional funds.

The qualification comes from the relative lack of overall diversification opportunities and the lingering systemic risk of Egypt's economy. Thus, international diversification of part of these portfolios is recommended to overcome the limitations of the Egyptian market.

Summary

So far we have examined the investment opportunities in Egypt's capital markets. We have found that there are currently more than 800 firms listed on Egypt's stock exchange. The market capitalization, trading activity, and number of firms listed on the exchange have increased significantly in the 1990s. There is also a growing number of investment management and mutual funds in Egypt. About 132 brokerage firms currently offer services in Egypt. Both the government and corporate fixed income market are underdeveloped in Egypt; significant growth can be expected in these markets in the coming years.

Investing in the most actively traded Egyptian equity securities will not likely achieve a wide degree of diversification because many of the key sectors in Egypt are closely related to construction/building activity; therefore, these stocks will likely move together rather closely through business cycles. Furthermore, only about 70 of the firms trading on the Egyptian Stock Exchange are actively traded, and a relatively few number of them actually account for a high proportion of trading activity in terms of both volume and value of shares traded.

The establishment of mandatory, decentralized, privately run, defined contribution plans that invest in Egypt's capital markets, however, would offer the dual benefit of providing more attractive rates to pensioners as well as synergistically leading to the further development of Egypt's capital markets. Of course, these capital market developments would also benefit the ongoing investments by the three portfolio fund managers supervised by MOSI.

Before making more specific recommendations on investing pension funds in Egypt's capital markets, we now take a closer look at the risk and return characteristics of various types of securities: government bills and bonds, corporate bonds, preferred stock, and

common stock. We examine some data describing the historical returns in the US for these different asset classes.⁶

⁶ We use US capital markets data because it is available for an extended time period (1926 to present) for various asset classes.

Risk and Return on Various Assets

The expected return on a security (or a portfolio of securities) is dependent on the risk involved – the greater the risk, the greater the required rate of return for an investment. In a finance context, risk is defined as uncertainty or volatility of future returns.

A short-term government Treasury bill with a maturity of one year or less is often taken as a benchmark proxy for a risk-free rate of return in an economy. It is essentially “risk-free” because its rate of return has no uncertainty or volatility: a one-year government treasury bill with a yield of 5 percent will yield exactly 5 percent, no more and no less, over the one-year investment horizon. Unlike other investments issued by firms, the likelihood of default on government securities such as short-term Treasury bills is extremely remote in most countries because of governments’ explicit promises to repay coupled with their authority to tax and control the money supply.

Most other investment possibilities involve risk. This simply means that the future return on the investment is unknown. For example, when an investor purchases shares of a company’s common stock, he does not know in advance what his actual return will be when he sells the stock. This uncertainty arises because he does not know with certainty either the amount of dividends he will receive over the life of the investment or at what price he will be able to sell the stock. His return could be as low as -100 percent since the company’s stock could decline to zero in the event the company declares bankruptcy (and never pays any dividends). On the other hand, the return on the investment could be very high if the company is successful and its stock price increases. An infinite number of possible future returns exists.

Stock prices are volatile – they are constantly changing. Sometimes these sudden changes can be quite dramatic. The greater the volatility of a stock price, the greater the volatility of the rate of return earned by an investor who owns that stock. This uncertainty and volatility of future returns is what we mean by the risk of a common stock investment. The greater the volatility of expected future returns on an investment, the greater the riskiness of that investment.

Historical Relationship Between Risk and Return

We would expect investors to require higher rates of return for investing in securities that have higher risk. The progression from lower- to medium- to higher-risk investments is illustrated in Figure 2-3. These expected results are supported by historical data. Table 2-13 reports the arithmetic mean return and standard deviation of return for various asset classes in the US between 1926 and 1995. The standard deviation of an asset’s returns is often used to estimate the risk of that asset.⁷ The standard deviation is a statistical measure of dispersion. The greater the standard deviation, the greater the dispersion of returns. Thus,

⁷ The standard deviation is the appropriate measure of risk for a stock held in isolation only; a firm’s beta coefficient is the relevant measure of risk for a security held in a diversified portfolio.

we would expect investments whose returns are more volatile to have higher standard deviations.

Figure 2.3

Relationship Between Required Return and Risk

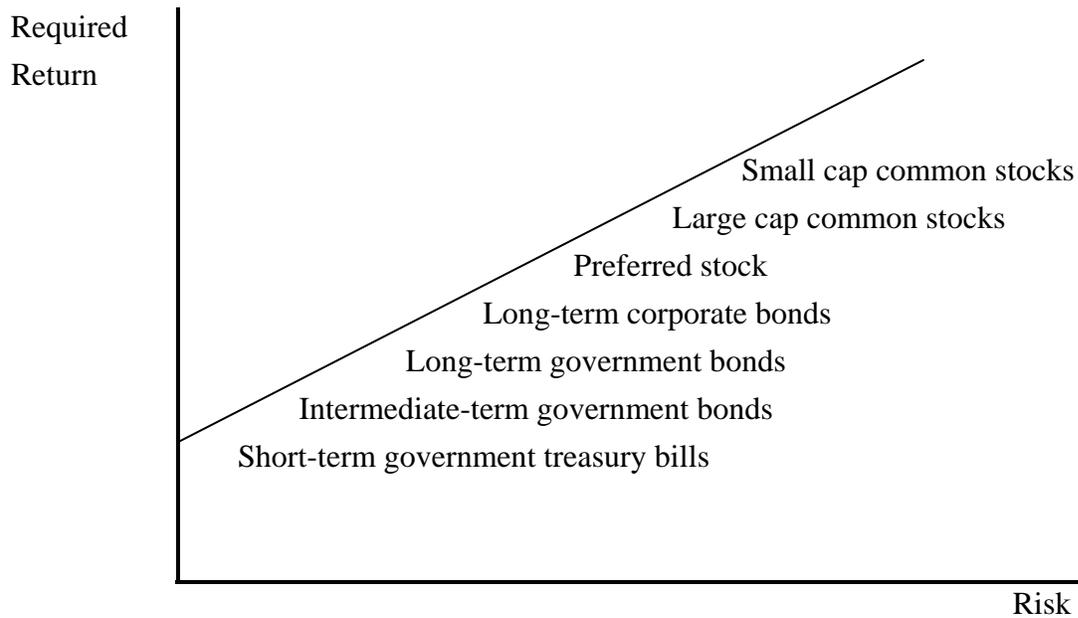


Table 2.13

Historical Average Annual Returns and Return Variability in the US, 1926-1995

	Arithmetic Mean Return (%)	Standard Deviation (%)
Small company stocks	17.4	34.6
Large company common stocks	12.2	20.3
Long-term corporate bonds	5.7	8.4
Long-term government bonds	5.2	8.8
Intermediate-term government bonds	5.2	5.7
U.S. Treasury bills	3.7	3.3
Inflation	3.2	4.6

Note the relationship reported in Table 2-13 between the arithmetic mean return over the 70-year period and the standard deviation (risk) for the various asset classes in the US. For the most part, the highest returns are associated with the highest risks. The lowest risk investments are short-term government Treasury bills. Intermediate and long-term government bonds have a somewhat higher risk than short-term Treasury bills because of the longer time horizon. The bonds and preferred stock issued by corporations have a higher level of risk, followed lastly by common stock investments.

Why do riskier investments offer higher returns? We can illustrate why with a simple example. Suppose an investor is offered the choice between investing in a one-year government Treasury bill offering a 10 percent return or shares of common stock in a risky company that seems to offer an expected return of 10 percent. (In other words, he believes the stock price will likely increase 10 percent over the next year and the stock pays no dividends.) A risk-averse investor would choose the Treasury bill. For the same expected return of 10 percent, he will incur lower risk by buying the Treasury bill. Does that mean he would never invest in the company's common stock? He might, but only if he is offered a higher rate of return to compensate him for the higher risk of that investment. Thus, higher risk investments must offer higher rates of return to investors who require higher returns to compensate them for that risk.

Implications for Pension Funds: Invest in Equities?

The implications of Figure 2-3 and Table 2-13 for investors who have a long-term investment horizon are clear: Investors can expect higher rates of return in the long run by investing in equity securities. With a long-term investment horizon, they can afford to be patient and "ride out" the volatilities that may lead to significant declines that may occur during some time periods.

From the preceding discussion, it seems logical to suggest that pension fund investments, which naturally have a long-term investment horizon, should consider allocating a significant portion of investment funds to equity investments. By achieving higher returns, greater pension benefits could be paid to pensioners, or pension contributions by those still in the workforce could be reduced.

Keep in mind, however, that this higher expected return on equity investments comes at the expense of incurring higher risk. Is the extra return worth bearing the extra risk? In order to answer this question, one must first understand the important concept of how diversification affects portfolio risk. This more technical discussion is covered in most financial management and investment analysis texts, and is beyond the scope of this present activity. We proceed by using the results of this material in an intuitive, qualitative manner to examine asset allocation strategies.

Asset Allocation Strategies

Asset allocation is the process of deciding how to distribute investments in a portfolio across different asset classes. The asset classes under consideration may include stocks, bonds, commodities, real estate, venture capital, etc. Further subdividing of asset classes may be required. For example, the asset allocation may be spread across different types of equity (large capitalization stocks, small capitalization stocks, foreign shares, etc.) or bonds (intermediate-term notes or bonds, long-term bonds, low coupon bonds, foreign bonds, etc.). In this section, we examine asset allocation in a general context; we examine asset allocation strategies for pension funds in a subsequent section.

Investors may have different investment objectives that lead to different asset allocation strategies. To illustrate, consider the investment objectives of a 20-year old and a 60-year old investor. The investment objective of a 20-year old investor who has stable employment might be to build a retirement fund. Such an investor's asset allocation should be oriented toward moderate- to high-risk investments that are expected to earn high rates of return in the long run. Moreover, our 20-year old investor can expect to have a sufficiently long time horizon to "ride out" any excessive volatilities and market declines. Our investor's investment objective is capital appreciation and his portfolio would be invested largely in common stocks that have significant growth potential.

The investment objective of our 60-year old investor, however, will most likely have a much shorter-term focus and therefore involve less-risky investments. Such an investor is probably relying on these investments to generate annual income to help meet living expenses in ensuing post-retirement years. Our 60-year investor will probably avoid investments in high-risk securities to avoid the possibility of short-term excessive volatilities and market declines. Our 60-year old investor's investment objective would probably combine the mixed goal of capital preservation with steady income potential. A portfolio invested in low-risk government and corporate bonds and investments in the common stocks of healthy, mature firms with an established dividend record would be appropriate.

Asset allocations, therefore, are highly dependent on the investment objectives and risk tolerances of an investor. Merrill Lynch has prescribed some initial asset allocations for four classes of investor clients based on their risk and investment objectives.⁸ The investor types begin with the very low-risk "conservative for income" group, which should invest 60% in bonds, 30% in stocks, and 10% in cash. The "conservative for growth" group, while still a moderately low-risk group, is willing to bear a little more risk in hopes of higher return and should invest 30% in bonds, 60% in stocks, and 10% in cash. Merrill Lynch recommends that the "moderate risk" group invest 40% in bonds, 50% in stocks, and 10% in cash, while the "aggressive risk" group should invest 40% in bonds and 60% in stocks. These recommendations are summarized below in Table 2-14.

Table 2.14

Portfolio Allocations for Various Risk Strategies

	% Invested in Stocks	% Invested in Bonds	% Invested in Cash
Conservative for income	30%	60%	10%
Conservative for growth	60%	30%	10%
Moderate risk	50%	40%	10%
Aggressive risk	60%	40%	-

It is interesting to note that Merrill Lynch recommends that only the lowest risk group (conservative for income) invest a low percentage of funds (30%) percent in common stocks.

⁸ William Power, "Merrill Lynch to Ask Investors to Pick a Risk Category," The Wall Street Journal, July 2, 1990, C1.

They recommend investing 50-60% of the funds in common stocks for the other three groups. The implications are that well-diversified portfolios with as much as 50-60% devoted to equities are appropriate for moderate risk and conservative/growth-oriented investors.

Asset Allocation for Pension Funds

We now turn our attention to specific asset allocation policies for pension funds. The asset allocation decision, and not individual security selection decisions, is the most important decision faced by a pension fund manager. Brinson, Diermeier, and Schlarbaum⁹ identify four decisions faced by pension fund managers that have the greatest impact on the total performance of a fund. These decisions include:

- (1) the policy decision concerning the asset classes included for potential investment;
- (2) the investment policy weights assigned to those investment classes, where asset allocation is approached under an extended planning horizon;
- (3) the shorter-term strategic weighting of these asset classes, which may differ from the policy weights; and
- (4) the selection of individual managers within or across investment markets.

Brinson, Hood, and Beebower¹⁰ found that 90 to 95 percent of the performance of a pension fund is based on the first two (investment policy) decisions. These first two decisions comprise what we define as a strategic, passive, buy-and-hold asset allocation decision. Brinson, Hood, and Beebower found that investment strategy decisions related to market timing and security selection have a profoundly smaller impact on the performance of the fund.

Portfolio managers must assess which asset classes to include or exclude in their portfolio. The menu of asset classes may include both domestic and foreign assets. The following lists the major classes of domestic investments:

- large and small capitalization stocks
- venture capital
- long-term government bonds
- short-term government Treasury bills
- corporate bonds
- real estate

The menu of foreign assets under consideration would include foreign counterparts of all of the above except perhaps venture capital and real estate.

⁹ Brinson, Diermeier, and Schlarbaum, *Financial Analysts Journal*, March-April, 1986.

¹⁰ Brinson, Hood, and Beebower, *Financial Analysts Journal*, July-August, 1986.

The argument for investing at least a small portion in foreign investments is compelling. As discussed previously, a wider degree of diversification will be achieved if an investor is willing to diversify into international securities. The diversification benefits may be very substantial for a country if its stock market is not well correlated with other foreign stock markets. Holding other things equal, the lower the correlation¹¹ between the securities in a portfolio, the greater diversification benefits obtained in the portfolio. From a risk-return perspective, diversifying internationally will lower the risk of a portfolio without sacrificing the expected rate of return of that portfolio.

Investing internationally may also provide an opportunity to invest in companies in industry sectors that are not yet developed sufficiently in the domestic economy. As discussed previously, this diversification into other industry sectors would be extremely beneficial for investors in Egypt.

A similar argument can be made for including some other non-traditional asset classes into a pension fund portfolio, including real estate, venture capital, and small-cap stocks in addition to the more traditional pension fund investments in government Treasury bills, Treasury bonds, corporate bonds, and large-cap stocks. The lower correlation coefficients between various pairs of these asset classes can also lower the risk of a portfolio without sacrificing the expected rate of return for that portfolio. Brinson, Diermeier, and Schlarbaum forecast cross-correlation coefficients for various asset classes in the US as reported in Table 2-15.

Table 2.15

Long-Term Asset Class Correlation Forecasts

		Long-Term Asset Class Correlation Forecasts								
		1	2	3	4	5	6	7	8	9
1.	Dom. Large-Cap Stocks	1.00								
2.	Dom. Small-Cap Stocks	0.85	1.00							
3.	Int'l Stocks	0.55	0.55	1.00						
4.	Venture Capital	0.40	0.45	0.55	1.00					
5.	Domestic Bonds	0.45	0.40	0.30	0.15	1.00				
6.	Int'l Dollar Bonds	0.45	0.40	0.35	0.20	0.90	1.00			
7.	Non-Dollar Bonds	0.15	0.25	0.70	0.40	0.40	0.40	1.00		
8.	Real Estate	0.50	0.55	0.50	0.45	0.30	0.35	0.30	1.00	
9.	Cash Equivalent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

Note that some of the more non-traditional asset classes like venture capital and real estate have fairly low cross-correlation coefficients between themselves and some of the other asset classes.

Investments in these more non-traditional asset classes will not be feasible in Egypt in the short term. But when these asset classes become more developed and increase in

¹¹ Correlation coefficients range between -1.0 and +1.0. The lower the correlation coefficient between the returns on two securities, the greater the potential for diversification.

trading activity and liquidity, they may become attractive investments for mutual funds in Egypt and perhaps for pension fund investments.

Optimal Asset Allocation for Pension Fund

Is there an optimal asset allocation for a pension fund? Ambachtsheer¹² found that asset mixes with 40% to 70% invested in equities and the remainder in long-term bonds offer attractive portfolio returns with significant downside protection over three- to five-year investment horizons.¹³ Based on these results, Ambachtsheer recommends serious consideration of the traditional 60% equity/40% bond mix that has served as a rule of thumb for pension managers for many years.

What about the argument that equities are too risky and that bonds would provide a safer and more conservative approach to preserving the capital invested in a pension fund? Ambachtsheer found that bonds can save a pension fund during major unanticipated declines in economic activity, but they can seriously erode the real value of pension assets during periods of rising inflation. Ambachtsheer found that during the four-year period 1978-1981, when the consumer price index (CPI) in the US increased 48 percent, a 40% stock/60 percent bond mix would have roughly maintained the real value of a pension fund over the period. A 100% bond portfolio would have experienced significant real losses in value during the period.

An argument can be made that in Egypt's case, even higher proportions can be allocated to equity investments, at least in the short term. As discussed previously, Egypt's bond market is currently underdeveloped. There have been a very limited number of long-term government and corporate bonds issued to date. Trading in the secondary markets is very thin. We can expect significant growth in the long-term debt market in Egypt in the next decade. In fact, the introduction of defined-contribution pension funds can be expected to facilitate this growth as investors desire these long-term fixed income securities to diversify their pension investments.

In an attempt to identify their optimal asset allocation, portfolio managers often estimate their minimum-risk asset mix and the probability of achieving an annual return less than a certain desired amount. To illustrate, consider a simple three-asset allocation model, as developed by Fabozzi.¹⁴ Assume an investor wishes to allocate available investment funds among three asset classes: stocks, bonds, and Treasury bills. The expected returns, standard deviations, and cross-correlation coefficients for the three asset classes are given in Table 2-16. The expected cash yields in Table 2-16 include dividends for stocks and interest

¹² Ambachtsheer, *Financial Analysts Journal*, September-October, 1987.

¹³ Ambachtsheer's "equity" portfolio was defined to include 40% domestic stocks, 20% foreign stocks, 10% venture capital, and 30% real estate.

¹⁴ Fabozzi, Frank, *Investment Management*, Prentice-Hall, 1995.

payments for bonds; the difference between cash yields and expected return is attributable to capital appreciation.

Table 2.16

Expected Returns, Expected Cash Yields, Standard Deviations, and Correlation Coefficients for a Three-Asset Allocation Model

Asset Class	Expected Return	Expected Cash Yield	Standard Deviation
Stock	13.0%	5.0%	18.5%
Bonds	8.0%	8.0%	6.0%
Treasury bills	6.0%	6.0%	0.4%
correlation between stocks and bonds = 0.20			
correlation between stocks and treasury bills = -0.15			
correlation between bonds and treasury bills = -0.12			

Table 2-17 shows results for a number of “optimal” portfolio mixes.¹⁵ A one-year investment horizon is assumed. For each identified level of expected return for the portfolio, the corresponding standard deviation, yield component of total return, and minimum risk concentrations of each class are shown.

As shown in Table 2-17, the minimum risk (standard deviation) that the investor will be exposed to if he seeks a 9% return for the 12-month period is 6.552%. The asset mix associated with this portfolio is 24.8% stocks, 64.2% bonds, and 10.9% Treasury bills. The 9% expected return is expected to be earned from a cash yield of 7.04% and capital appreciation of 1.96%. (This “minimum risk portfolio” should not be mistakenly construed to be the “optimal portfolio.” The optimal portfolio would depend on an investor’s tolerance for risk: a certain investor may find that a portfolio with 60.5% in stocks and 39.5% in bonds, which has an expected return of 11.0%, provides sufficient additional expected return to compensate for the increased risk.)

Table 2-17 also reports the probability of not achieving an expected return. Portfolio managers of pension funds often find such data useful in determining the optimal portfolio allocations. This is referred to as a “risk-of-loss” analysis. For the 9% expected return, there is a 9.3% probability that the annual return will be less than 5%, a 38.8% probability that the annual return will be less than 7%, and a 55.6% probability that the annual return will be less than 10%. The above risk-of-loss data can be most useful when setting the investment strategy for a pension fund.

¹⁵ These “optimal” portfolios are referred to as efficient portfolios. An efficient portfolio is a portfolio that for a given level of risk, has the highest possible expected rate of return. Efficient portfolios are determined using quadratic programming techniques.

Table 2.17

**Optimal Asset Allocations for Portfolios of Stocks,
Bonds, and Treasury Bills**

Annual Expected Return	Annual Standard Deviation	Annual Expected Cash Yield	Probability of Annual Return of Less Than				Minimum Risk Asset Mix		
			0.0%	5.0%	7.0%	10.0%	Stocks	Bonds	T-bills
6.00%	0.400%	6.00%	0.9%	0.9%	99.1%	100.0%	0.0%	0.0%	100.0%
6.04%	0.389%	6.02%	0.0	0.5	99.0	100.0	0.3	1.0	98.7
6.50%	1.097%	6.18%	0.0	9.7	66.7	99.8	4.1	10.9	84.9
7.00%	2.174%	6.35%	0.1	19.2	50.0	90.0	8.3	21.7	70.0
7.50%	3.271%	6.52%	1.3	23.5	44.3	76.0	12.5	32.4	55.1
8.00%	4.368%	6.70%	3.8	25.8	41.5	66.4	16.6	43.1	40.3
8.50%	5.462%	6.84%	6.6	27.3	39.9	60.0	20.7	53.7	25.6
9.00%	6.552%	7.04%	9.3	28.3	38.8	55.6	24.8	64.2	10.9
9.50%	7.649%	7.09%	11.6	29.0	38.1	52.4	30.4	69.6	0.0
10.00%	8.918%	6.79%	14.1	30.0	37.7	50.0	40.5	59.5	0.0
10.50%	10.356%	6.48%	16.5	31.0	37.7	48.2	50.5	49.5	0.0
11.00%	11.895%	6.19%	18.8	31.9	37.8	46.9	60.5	39.5	0.0
11.50%	13.497%	5.89%	20.8	32.7	37.9	46.0	70.4	29.6	0.0
12.00%	15.142%	5.59%	22.5	33.3	38.0	45.2	80.3	19.7	0.0
12.50%	16.813%	5.29%	24.0	33.9	38.2	44.6	90.2	9.8	0.0
13.00%	18.500%	5.00%	25.2	34.4	38.3	44.2	100.0	0.0	0.0

A similar “risk-of-loss” analysis could be performed once sufficient expected return and risk data were estimated for the Egyptian capital markets. However, the input data for stocks, bonds, and Treasury bills in Table 2-16 are probably not too far off course to allow for some generalizations for Egypt. Portfolios with about 40% to 70% invested in equities provide attractive expected returns as compared to portfolios that are invested primarily in bonds and treasury bills. The risk that returns will be less than 0% or less than 10% for these 40-70% equity portfolios are not that significant, while the probability that returns will be less than 7% or 10% are actually less with these 40-70% equity portfolios than with portfolios comprised mostly of bonds and treasury bills! (A portfolio that consists mostly of Treasury bills and bonds will have high probability of returns less than 10% because their expected returns are less than 10% and their low standard deviations make returns above 10% very unlikely.)

This risk-of-loss analysis should allay any significant fears that equity investments are too risky for pension fund portfolios, and provide further justification for investing a significant proportion of pension funds in equity securities in order to achieve higher expected returns.

We finish this chapter by discussing the actual process of investing securities in a portfolio, a process we refer to as the portfolio management process. While we have relegated this discussion to the end of this chapter, we note that this is actually where the investment management process begins. This process, widely adopted by professional portfolio managers worldwide in slightly varying forms, provides a logical, systematic framework for constructing and managing a portfolio.

The Portfolio Management Process

Professional portfolio management involves a well defined, disciplined process of investing in a collection of securities in order to achieve a specified investment outcome. Successful portfolio management involves a process that identifies the appropriate investment goal and the most effective way of achieving that goal. It involves much more than merely picking one's favorite individual stocks and bonds that are expected to increase in price and/or pay generous regular dividends or coupon interest payments.

Many professional portfolio managers employ a multi-step portfolio management process. A simple four-step portfolio management process is described below.

Step 1: Develop an Investment Policy Statement

In the first step, an investment policy statement is developed that is used as a guide for all future portfolio decisions. The investment strategy should be based on this policy statement. Portfolio managers identify investment strategies that offer the best possibility of meeting the guidelines defined in the investment policy statement.

The policy statement, of course, does not guarantee investment success. It does, however, provide discipline to the investment process and should help eliminate inappropriate investment decisions. The investment policy statement must be periodically reviewed and updated to reflect any changes in the needs of investors.

Step 2: Understand Economic Conditions

The second step involves studying current financial and economic conditions in order to forecast future trends. An appropriate investment strategy is then determined by analyzing these current financial and economic conditions and trends in light of the guidelines established in the investment policy statement.

The economic data that portfolio managers use to forecast future trends include current levels and forecasts of inflation, interest rates, exchange rates, gross domestic product, consumer sentiment, etc. Different types of investments can be expected to perform differently under different economic scenarios. For example, not all industries are equally sensitive to the common business cycle: consumer demand for some products in some industries are not particularly sensitive to the business cycle (cigarette, grocery retail), while consumer demand for other products (construction, automobile manufacturing) is very sensitive.

Due to the dynamic nature of financial markets and the economic environment, the portfolio must be constantly monitored. Portfolio managers may need to adjust asset allocations to reflect changes in financial market expectations based on economic forecasts.

Step 3: Portfolio Construction

The third step involves constructing the portfolio. The portfolio is constructed in light of the investment policy statement and the financial market forecasts. Many portfolio managers follow a top-down portfolio management process that involves three successive steps: the capital allocation decision, the asset allocation decision, and the security selection decision. The portfolio manager constructs a portfolio that is expected to minimize investment risks while meeting the return needs specified in the investment policy statement. This top-down approach is described in more detail below.

Step 4: Portfolio Monitoring

The fourth step in the portfolio management process involves the continual monitoring of capital market conditions and the investor's needs. The investment policy statement may need to be modified from time to time, and the investment strategy modified accordingly. The monitoring process also involves evaluating the portfolio's performance, with comparisons with the expectations and requirements specified in the investment policy statement.

As mentioned above, most institutional investors and portfolio managers use a top-down approach when constructing a portfolio. The three steps in the top-down approach (capital allocation, asset allocation, and security selection decisions) are discussed in turn below.

The first step is the capital allocation decision where the portfolio manager decides what percentage of funds to invest in risky securities (stocks, bonds, etc.) and what remaining percentage to invest in essentially risk-free (government money market) securities. The investment policy statement guides the capital allocation decision. An aggressive portfolio manager seeking high returns with a long-term perspective would probably invest a majority (70-100 percent) of the funds in risky securities with the remaining 30 percent or less invested in risk-free (money market) securities. No attempt is made here in the capital market allocation decision to identify individual stock or bond investments. The capital market decision only involves deciding what percentage of total portfolio funds will be invested in risky assets.

The second step is the asset allocation decision where the portfolio manager determines how the funds to be invested in risky assets will be distributed across different broad asset classes including stocks, bonds, commodities, real estate, venture capital, etc. Again, investments in individual common stocks or bonds are not identified here. Rather, the portfolio manager decides in a broad sense what percentage of funds to invest in common stocks, what percentage to invest in bonds, etc. Asset allocation strategies for pension funds is a major focus of our analysis in this paper.

Further subdividing of asset classes may be required. For example, the asset allocation may be spread across different types of equity (large capitalization stocks, small capitalization stocks, foreign shares, etc.) or bonds (intermediate-term notes or bonds, long-term bonds, low-coupon bonds, foreign bonds, etc.). As in the first step, the portfolio manager is again guided by

the goals and objectives detailed in the investment policy statement. Some analysts subsume the capital allocation decision within the asset allocation decision.

The third step in the top-down portfolio management process involves the security selection decision. In this step, the portfolio manager now decides what specific investments will be made in each asset class. For example, once the asset allocation procedure has determined the specific percentage of portfolio funds to be invested in small capitalization stocks, the portfolio manager determines which specific small-capitalization stocks he will invest in and how much in each.

While the broad capital allocation and asset allocation decisions are usually made at a high organizational level, the choice of which specific securities to hold is delegated to particular portfolio managers and investment analysts who have expertise in a given investment area. These portfolio managers and investment analysts use various fundamental analysis techniques to evaluate specific investments within each asset class. Of course, the investment policy statement again serves as a guide in choosing individual securities.

Asset Allocation, Market Timing, and Market Efficiency

A tactical asset allocation policy, as discussed above, involves strategies for varying the allocation of resources between broad asset classes in a systematic and disciplined manner. Thus, the success of a tactical asset allocation policy depends largely on the portfolio manager's ability to "time the market." We discussed previously that returns on common stocks in the US are high, but they are also quite volatile. Negative annual returns occur about 30 percent of the time. Obviously, if there were a way to avoid the negative return years – by shifting asset allocations prior to major market moves – wealth from investing in the stock market would build more rapidly.

There is strong evidence, however, that no one can predict the market's ups and downs over a long period of time. Research by William Sharpe¹⁶, a renowned financial economist found that:

... a manager who attempts to time the market must be right roughly three times out of four, merely to match the overall performance of those competitors who don't. If he is right less often his relative performance will be inferior. There are two reasons for this. First, such a manager will often have his funds in cash equivalents in good market years, sacrificing the higher returns stocks provide in such years. Second, he will incur transaction costs in making switches, many of which will prove to be unprofitable.

¹⁶ William F. Sharpe, "Likely Gains from Market Timing," *Financial Analysts Journal*, March-April, 1975, pp. 60-69.

Charles D. Ellis in his book, *Investment Policy*¹⁷, refers to an unpublished research paper of 100 large pension funds. The study found that all of the funds had engaged in at least some market timing during the period under study, but not one of them had improved its rate of return as a result of its efforts at timing. In fact, 89 of the 100 lost as a result of timing – and their losses averaged 4.5 percent over the five-year period. Thus, the success of market timing strategies in the US is probably suspect at best. Charles Ellis aptly summarizes: “The evidence on investment managers’ success with market timing is impressive – and overwhelmingly negative.”

The alternative to market timing is to simply buy and hold common stocks. William Sharpe points out:

A manager who keeps assets in stocks at all times is like an optimistic market timer. His actions are consistent with a policy of predicting a good year every year. While such a manager may know that such predictions will be wrong roughly one year out of three, such an attitude is nonetheless likely to lead to results superior to those achieved by most market timers.¹⁸

This section is best summarized by another quote from Charles Ellis:

In investment management, the real opportunity to achieve superior results is not in scrambling to outperform the market, but in establishing and adhering to appropriate investment policies over the long term – policies that position the portfolio to benefit from riding with the main long-term forces in the market.¹⁹

These arguments, together with findings discussed above, are consistent with the (somewhat controversial) concept that capital markets are efficient. An efficient capital market is one in which security prices adjust rapidly to the arrival of new information. When security prices adjust rapidly to the arrival of new information, the current prices reflect all relevant information about the security. Such a market is deemed an “informationally” efficient capital market.

What assumptions or conditions in a capital marketplace would lead to market efficiency? There must be a large number of competing participants who analyze and value securities independently of each other. New information regarding securities must come into the market place in a random fashion. The competing investors must attempt to adjust security prices (through their buying and selling) to reflect the effect of new information as soon as it arrives.

What are the implications of the efficient market hypothesis for portfolio management and asset allocation? The most important implication is that no investor should

¹⁷ Charles D. Ellis, *Investment Policy* (Homewood, Ill.: Dow Jones-Irwin, 1985), p. 13.

¹⁸ William F. Sharpe, “Likely Gains from Market Timing,” p. 67.

¹⁹ Charles D. Ellis, *Investment Policy*, pp. 22-23.

be able to “beat the market” – earn a higher risk-adjusted return than the overall stock market – consistently over a long period of time. Since according to the efficient market hypothesis the current price of a security reflects all relevant information about that security, an investor should expect to earn only a rate of return commensurate with the expected risk-adjusted rate of return for that security. Hence, there are no undervalued or overvalued securities and, trading strategies that attempt to “time the market” will fail to beat it. To the extent that trading securities incurs expensive transaction costs, a portfolio management strategy that involves actively buying and selling securities would be expected to provide returns net of transaction costs inferior to a passive buy-and-hold strategy. These efficient market arguments are, of course, consistent with the arguments and findings discussed previously in this section.

Summary

We conclude that both equity and bond investments in Egypt’s capital markets provide an attractive opportunity for investing pension funds to meet future pension liabilities. Pension fund portfolios with 40% to 70% invested in equities should provide attractive rates of return without assuming undue risk. (In the short-term, equity allocations could actually be higher due to the currently underdeveloped nature of long-term bond markets in Egypt.)

We add to this recommendation a caution that at least some of these equity funds be diversified internationally. At present, there are an insufficient number of different industry sectors in which there are actively-traded stocks. Most of the actively-traded stocks are clustered in the construction and finance sectors. Furthermore, a relatively small number of stocks in Egypt currently account for a large percentage of total market capitalization.

Although we have also looked at the question of making pension funds available to the capital markets, we have not yet examined the suitability either of MOSI investing directly or of defined-contribution plans as a vehicle for channeling them. In Chapters 3 and 4 we assess the risks and advantages of each.

THE RISKS OF GOVERNMENT INVESTING SOCIAL INSURANCE FUNDS IN THE PRIVATE SECTOR

Introduction

Although government investing of social insurance assets in the private sector, either through portfolio or direct investments, may produce higher returns than investing through the National Investment Bank, Egyptian policy makers should also consider and evaluate this investment strategy's many new risks. Notwithstanding that many of these risks are difficult to quantify, experience elsewhere suggests that they should be given serious consideration. They have implications not just for the old age security of Egypt's citizens, but also for the development of Egypt's capital markets, Egypt's ongoing shift from state to private ownership and the maturation of Egypt's corporate governance systems.¹

Section Overview

As set forth in detail in this section of the report, a key risk from government-directed private sector investments is that inevitably investments will be made at least partially for political reasons rather than for purely wealth maximizing ones. These risks of under-performance have been well documented in a number of empirical studies, several of which are summarized below. These studies, based on US and UK experience, show that public pension funds that invest in the private sector perform on average several hundred basis points worse their private sector counterparts. The reason for this substantial under-performance is that the investing process inevitably becomes politicized to the detriment of pension beneficiaries and taxpayers. And, these studies show that the risks of under-performance are not a function of whether the investing is done in house or contracted out, but instead seem to depend on whether it is public or private funds that are being invested.

A sizeable body of scholarship also suggests that the risks from the government investing pension assets are not limited to the likely under-performance and a concomitant funding shortfall that will have to be made up by taxpayers. Other risks include the risk to corporate governance from politically motivated investments and the risks to a country's privatization program from what may be in effect a renationalization of its industry. If the government becomes a substantial shareholder in most of a country's largest and most

¹ Interestingly, a similar debate is underway in the United States over whether to invest a portion of the US's social insurance assets (social security) in the stock market. The Chairman of the Federal Reserve System, Alan Greenspan, has strongly argued against doing so. In recent Congressional testimony he stated:

“Investing Social Security assets in equities is largely a zero sum game. The underlying economic assets in the economy would be unchanged, as would the total income generated by those assets. Any increase in returns realized by Social Security must be offset by a reduction in returns earned by private portfolios, which represent to a large extent funds held for retirement.”

Financial Times, March 4, 1999.

economically attractive newly privatized companies, there will be the possibility of undoing the progress made in privatizing the economy. Thus, not only does the plan to invest pension savings in the private sector risk that the investments themselves will underperform, but there is also the risk that a country's capital markets and the economy would suffer as well.

This is not, however, to reject the concept of investing social insurance assets through the capital markets, but rather to note that doing so through the government presents unnecessary risks. The advantages of investing social insurance assets through the capital markets include: possibly increasing the productivity of capital, thus helping to alleviate the inevitable shortfall in a PAYG DB system and providing a more secure retirement for pensioners; eliminating many of the economic distortions from investing pension assets through government projects, thus improving efficiency and economic well being; and, encouraging the development of a country's capital markets – which, in turn, should promote savings and investment.

What is crucial is the vehicle by which savings are invested: although investing social insurance assets through a decentralized private sector may produce many economic benefits, investing those same social insurance assets through the government may create even greater risks than the PAYG DB system.

Organizational Overview

The issues outlined above are discussed in detail in Part I of this section. In particular, Part I discusses:

- The risks of politicization of the investment process, including several empirical studies showing under-performance of government investing in the US;
- The increased risks of politicization stemming from the mandatory defined benefit structure of Egypt's social insurance system;
- The increased risks from politicization stemming from Egypt's still developing legal safeguards;
- The risk that Egypt's corporate governance will be politicized;
- The risks that an indexing strategy would imply; and,
- How government investing might jeopardize Egypt's privatization program.

Part II focuses on the specific risks in investing in Egypt's capital markets. The higher returns that can be earned in private sector investments come at the cost of the higher risks of investing in a newly emerging market like Egypt. These risks arise from the emerging nature of the market economy, the market's infrastructure and the market's legal and regulatory structure. Specifically, this section discusses:

- Volatility risk from investing in Egyptian equities;
- Diversification risk from a portfolio that only includes Egyptian equities and omits foreign equities;
- The legal and regulatory risks from investing in the Egyptian market; and,

- The risks from investing in Egyptian fixed-income instruments.

Although the risks discussed in the second part of this section should not be underestimated, they are surmountable and will probably decline over time as Egypt modernizes its capital market infrastructure, improves its legal and regulatory environment and adopts international best practices.

The Risk of Investing Social Insurance Assets in the Private Sector

The Risk that Investment Decisions Will Be Politicized

Perhaps the most serious risk from the government's investing pension assets in the private sector is that investment decisions will inevitably have a strong political component. Politically driven investing will likely lead to a misallocation of capital and below-average investment returns. For example, the government may choose to emphasize enterprises that follow favored government policies -- those enterprises that employ targeted sectors of the workforce, or those enterprises that produce favored goods that some think will give a country a comparative advantage on world markets, or those enterprises that agree to develop production facilities in targeted locations – rather than choose to invest in enterprises with the brightest investment prospects that will provide for secure old-age retirement.

Another risk from politically motivated investing is the possibility that pension savings will be used to fund infrastructure projects of questionable merit. These infrastructure projects, such as roads, bridges and ports, may present politically attractive opportunities to create jobs and improve infrastructure, which are certainly worthwhile goals. To the extent, however, that these projects are economically infeasible or do not represent the most attractive investment opportunities, the costs will be borne by future beneficiaries (in the form of reduced retirement benefits) or a country's taxpayers (when they are called upon to make up pension shortfalls.) In fact, the considerations against the government investing in private enterprise through pension assets are the same as the considerations against the government creating state owned enterprises in the first place. No matter what the short-term advantages, in the longer term government ownership is incompatible with efficient allocation of capital.

Building upon a wealth of international experience, the global trend is toward involving the private sector in identifying, building, financing, operating and maintaining infrastructure through BOT and related techniques. The role of government, by contrast, is to set up competitive tender procedures to attract the most competitive private sector firms to provide infrastructure services.

Agency Costs One of the major reasons for the likely misallocation of resources is what economists call agency costs. As economists have discovered, inefficiencies are likely to occur when the decision rights over an organization's assets and cash flow are improperly

aligned with the organization's residual claimants.² The problem of agency costs is most evident in public corporations where managers are responsible to millions of diffuse shareholders – who are the residual claimants to the corporation's assets. Because of a lack of alignment of interests, managers may have an opportunity in the absence of effective controls to spend corporate assets at the expense of the shareholders, who hold the residual interest in the corporation's assets. These inefficiencies, called agency costs, create a reduction in value for the residual claimants.

Whenever the beneficiary and residual claimant are different – as is the case in both private and public defined benefit plans – there is a likelihood of extensive agency costs. Agency costs are dangerous in the investment of pension assets because the apparent benefits from investing those assets in politically favored projects are immediate and visible while costs are hidden and distant. Politically motivated investments are often highly visible projects that attempt to generate a public good in a concentrated geographic region. The claimed political benefits of a politically driven investment policy can be large and the costs of claiming them are usually small. The agency costs taxpayers bear are invisible at the time of the initial investment because the costs are not realized until some distant time in the future when an increase in funding is needed for the under-funded pension plan.

Politically motivated investing raises the probability of misallocation of capital and below average rates of return for pensioners and taxpayers – who are ultimately responsible for shortfalls in a country's PAYG DB system of social insurance. Although extensive empirical studies of politically targeted pension investing remain to be completed, those few studies that have examined the question have concluded that politically targeted investing seriously impairs investment returns. These studies have concluded that government pension funds that invest in the private sector perform substantially worse than private pension funds with similar investment strategies.

The Mitchell and Hsin Study In the leading article on government investment of pension assets in the capital markets, Olivia Mitchell and Ping-Lung Hsin reported that public employee retirement funds in the United States substantially under-performed comparable private pension investments.³ State and local public employee retirement systems in the United States are instructive in evaluating the Egyptian model of the government investing retirement funds in the private sector. Public employee retirement systems are retirement systems established for state and local government employees. Typically the public employee retirement systems are defined benefit plans that provide workers with an annual benefit accrual that is usually a function of salary and years of service. This accrual converts into a retirement annuity payment when the employee reaches a specified age and term of service under the plan.

² A residual claimant is the ultimate owner of an organization or entity after all of the creditors have been paid. In the case of a corporation, the residual claimants are the common shareholders, who are entitled to what remains after employees, suppliers, and creditors are paid. In the case of a country, the residual claimants are the country's citizens, who own all of the country's assets, but through higher taxes are also responsible for any shortfall.

³ See Olivia Mitchell & Ping-Lung Hsin, "*Public Pension Governance and Performance*," reprinted in S. Valdes-Prieto, *The Economics of Pensions* (Cambridge University Press 1997).

Benefit promises that accrue under public employee retirement system plans are sponsor liabilities that the sponsor funds by making payments to a segregated pension trust fund. These payments are then invested in financial assets such as stocks and bonds, generally through outside money managers though sometimes internally as well. Many public employee retirement systems have succeeded in amassing substantial assets: according to Mitchell and Hsin, as of the end of the 1980s, public pensions held almost 13% of all domestic bonds and almost 8% of all domestic equities.

A major responsibility of public employee retirement system trustees is to direct the investment of those assets.

Returns on public pension fund assets have frequently been low compared with private plans, earning rates of return substantially below those of other pooled funds and often below leading market indices. For example, during the period 1968-86, state and local pension plans reported annual returns averaging 11.1%. During the same period, a portfolio invested 60% in bonds and 40% in stocks would have returned 14.86% while a portfolio invested 60% in stocks and 40% in bonds would have returned 14.54%. And, as Mitchell and Hsin discovered, these under-performance figures are not a function of whether the public employee retirement systems invested in house or used external money managers. The results held “even if the external managers were drawn from the ‘top-10’ group” of money managers.

This underperformance may at first glance appear insignificant, Because of the power of compound interest over a substantial period of time, however, these differences are highly significant and could mean the difference between a generous retirement income and one that is far less attractive. For example, 100 Egyptian pounds (LE) invested at 11.1% over a 40 year period will be worth LE 6,738 at the end of that period while the same sum invested at 14.86% will be worth LE 25,512, a difference of 379%. These sorts of returns, multiplied by the assets of the Egyptian social insurance system, would result in sizeable differences, either to pension beneficiaries who would receive much larger or smaller pensions or taxpayers who would pay more in social insurance taxes.⁴

This substantial differential in performance can be explained by a number of factors, though the overriding reason is that public pension funds are prone to politically driven investing. As Professors Mitchell and Hsin put it (emphasis added):

⁴ Note that the bulk of the retirement income generated in a properly financed pension plan will be generated by the plan’s investment returns, not contributions.

“For a typical North American pension fund, in the long term roughly 20 percent of the wealth in a pension fund consists of contributions (whether made by the employer or the employees). The remaining 80 percent consists of the investment returns earned over time by the fund. Naturally these are not precise numbers. In prolonged periods of high returns, the split may be closer to 90/10 in favor of investment returns. During prolonged periods of low returns, the split may be closer to 70/30 or even 60/40 in favor of investment returns. But as a rough rule of thumb, the 80/20 split is close enough. This is why it is so important to get as much wealth as possible created by the capital markets.”

K. Ambachtsheer & D. Ezra, *Pension Fund Excellence* (Wiley 1998).

One explanation for why public pension plan investment yields are different is that they are operated according to principles different from those adopted in the private sector. Specifically, many public pensions are managed by staff, which must respond to political as well as economic incentives and pressures.

Unlike private pension funds in the United States, which are subject to extensive federal regulation requiring, for example, private pension fiduciaries to invest prudently in a diversified portfolio of assets chosen solely for their investment merit, public trustees are held to somewhat different standards. As a result, there are fewer constraints on those who wish to deploy public pension assets for nontraditional investment purposes. Consequently, politicians often pressure fund trustees to invest public pension assets according to political criteria, rather than investment criteria.

As Professors Mitchell and Hsin argue:

For example, the governor of New York argued that public pension assets be loaned advantageously to firms “conducting business” within his state. Other states have asked their pension fund managers to only invest in ‘economically targeted’ or ‘socially responsible’ companies (defined variously as firms that do not pollute, companies headquartered in state, etc.). Although these unconventional investment practices have their appeal, retirees and active workers have expressed concern that their pension assets may earn a low rate of return and perhaps be insufficiently diversified.

These differences in public employee retirement systems investment practices imply that public pension plan returns may vary because of strictures placed on the plans by the political process, strictures that may not be in evidence in privately run pension plans.

In New York very complex rules regulate the investment of public pension assets. Under Section 177 of the Retirement and Social Security Law (1998), the trustees of a public pension fund have the power to invest in (i) government obligations or the obligations of private US entities; (ii) equities of US corporations; (iii) shares of investment companies registered under the federal investment company laws; (iv) mortgages; (v) real property; (vi) limited partnerships; and (vii) foreign equities registered on a national stock exchange.

Each of these categories of permissible investments is subject to strict limitations to ensure the safety of the investments. For example, debt obligations must be rated investment grade by at least two nationally recognized rating services, and obligations of issuers other than the United States are limited to two percent of the assets of the pension fund. Equity securities must be traded on a national stock exchange and are limited to seventy percent of the aggregate assets of the fund. Investments in real property are limited to five percent of the assets of the fund. Investments in foreign securities are limited to securities registered with the SEC and traded on a national stock exchange. In addition, foreign corporations must have a market capitalization of at least \$1 billion at the time the investment is made or

have averaged at least one billion dollars in annual sales for the three consecutive years preceding the year in which the investment is made.

The statute that regulates the investment of public pension funds also contains a provision that permits the fund's trustees to invest up to 15 percent of the fund's assets in investments that do not fit any of the above-mentioned categories, but "benefit the overall economic health of the State of New York." Although these investments are permitted only if they meet the fiduciary standards of prudence, the results suggest that lesser standards are applied. In fact, the returns of state and local pension funds are lower than equivalent private funds – and there is no evidence that this underperformance is due to the funds' assuming lower risks:

investments which do not qualify or are not permitted under any other subdivision of this section, notwithstanding any other provision of law [are permitted] provided:

- a) the investments by a fund made pursuant to this subdivision shall not at any time exceed fifteen percent of the assets of such fund;
- b) such investments shall be for the exclusive benefit of the participants and beneficiaries, and the trustee or trustees of the fund shall make such investments with the care, skill, prudence, and diligence under such circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims; and
- c) such investments shall, to the extent reasonably possible, benefit the overall economic health of New York so long and only if such investments satisfy paragraph (b) of this subdivision.

Political investment decisions of this kind have hardly been costless. The State of Minnesota adopted a prohibition on investing in alcohol and tobacco stocks. According to the state treasurer, this resulted in a loss of about \$150 million. In Connecticut, the state pension fund lost \$25 million attempting to support Colt Industries, a local gun manufacturer in financial difficulty. Two years after the state bought a 47 percent stake in Colt Industries, the company went bankrupt. In Kansas, the state pension fund lost between \$100 and \$200 million on a program of in-state investing, including defaulted loans to a chain of video stores, a steel mill, a failed savings and loan institution and several high tech enterprises. See J. Langbein & B. Wolk, *Pension and Employee Benefit Law* 777-78 (Foundation Press 1995).

The Nofsinger Study In another recent academic study, Professor John Nofsinger of Marquette University reached similar conclusions of under performance in studying pension plans that invested in what are euphemistically known as economically targeted investments

(ETI), i.e., politically driven investments.⁵ The Nofsinger study concluded that “pension plans that invest in economically targeted investments realize lower abnormal portfolio returns as compared to pension funds that do not invest in economically targeted investments.” During three years in the early 1990s, the funds that included economically targeted investments under-performed their benchmarks by 2.1 percent on average.⁶

Professor Nofsinger nicely captured the arguments that politically driven investing could be economically efficient. As he summarized, the argument for financing economically targeted investments generally runs along the following lines:

- Politically driven investing is necessary because the market for financing projects is inefficient; consequently, worthy projects are left unfunded;
- Politically driven investments will generate collateral economic benefits that can be measured and captured by plan participants and beneficiaries.

The fundamental flaw in these arguments is the assumption that the political process can consistently capture economically attractive opportunities overlooked by the market. In a market economy, capital is a scarce resource that should be efficiently allocated. In a properly functioning economic system some projects will go unfunded because they are less attractive than other projects and are an inefficient investment of scarce resources. In other words, there is a high probability that unfunded projects are simply overpriced, excessively risky or otherwise a suboptimal use of resources.

In a market economy, it is unclear how one would determine economic worth apart from the market. And, in the event of an error, the cost of making such investments will be borne by beneficiaries or taxpayers.

A second flaw is that the argument assumes that pension fund managers who desire to find economically targeted investments will be able to distinguish between an attractive economically targeted investment and inefficient or overpriced projects. If pension plan assets are used to fund inefficient projects then plan participants and society at large are harmed. And there is no evidence that markets are inefficient in a way that government pension fund managers could exploit. Again, the cost of poor investments will be borne by future beneficiaries and ultimately the taxpayer.

⁵ John Nofsinger, “*Why Targeted Investing Does Not Make Sense*,” Journal of the Financial Management Association (Fall 1998).

⁶ Another academician who reached a similar conclusion is Professor D. Jeanne Patterson of Indiana University, who performed a study of the ETI programs of the public pension funds in Michigan, Illinois, Ohio, Wisconsin and Indiana. She found that the performance of targeted investments averaged about four percentage points below the S&P stock index over a five-year period and about two percentage points below the Wilshire 5,000 index during the same period. See R. Monks & N. Minow, *Watching the Watcher* at 128 (Blackwell, 1996). And, to the same effect, see E. P. Davis, “Investment of Mandatory Funded Pension Schemes,” forthcoming working paper, the Pensions Institute, Birkbeck College, London (“[P]ublic pension plans in both the US and UK tended to earn lower returns than their private sector counterparts over long periods. . . . [The author’s] estimates suggested that returns were 70 basis points lower for UK local authority funds than for private funds and 150 basis points lower for US state and local funds than for private ones”).

The argument about collateral benefits is suspect as well. Politicians, often on the basis of speculation, are frequently willing to forecast collateral benefits to some favored group on the slimmest of evidence. Again, this is because of the principal/agent dichotomy and the lack of specificity as to who bears future cash flow shortfalls: some favored groups will benefit today while the costs will be borne by anonymous future taxpayers. True collateral benefits should be quantifiable in terms of increased cash flow to participants and beneficiaries rather than amorphous benefits to society in general. What is most likely is that the project is an unattractive one – either because of a low expected return or high risks.

Another risk that a portfolio constructed according to social principles will face is that it will not be the most efficient portfolio according to modern portfolio theory. Modern portfolio theory holds that investment managers should create an efficient portfolio by choosing assets that have the highest expected return with the lowest risk, i.e., deviation from the mean – the so-called “mean-variance portfolio,” while taking into account the correlation of the individual assets with each other. A portfolio constructed in accordance with social principles will be less diversified than a portfolio constructed in accordance with optimal mean-variance principles. Stocks will be added to and subtracted from the portfolio without regard to diversification, but to satisfy political demands instead.

In sum, various academic studies indicate that government investing of pension assets will result in the risk of lower returns because it is inevitable that political considerations will tinge investment decisions. A further risk is that the costs of politically driven investing will not be insignificant and will likely be borne by future taxpayers or pensioners.

A Mandatory Benefit System Increases the Risks of Politicization By Eliminating Incentives to Monitor

Mandatory defined benefit systems, which are found in most countries, increase the risks of politicized public pension investing. Beneficiaries have no incentive to monitor the performance of the government’s investments – the pension promise is not contingent on investment returns. Moreover, the fact that the system is mandatory means that the beneficiaries have no choice, thus eliminating any incentive to monitor the system for politicized investing.

In a defined benefit system, workers are promised a benefit without regard to investment returns.⁷ The benefit is defined in advance and any shortfall will either be made

⁷ In a defined contribution system, by contrast, workers typically have individual accounts and their benefits are a function of what the worker, employer or government contributes to the individual account and the investment return on that contribution. The advantage of a defined contribution system is, among other things, transparency: how much has been contributed is clear; what the investment returns have been is clear; and, what the benefits are is clear. Contributions are typically reflected in a periodic statement. Returns are typically reflected in a periodic statement, either by marking the investments to market or by reflecting increased cash flow from dividends and interest payments. The participant’s benefits are simply what is in his or her account at retirement, either paid out in a lump sum or annuitized.

up by the taxpayer or the government will renege on its promise. The contributions are not invested in an individual account, but instead are used to fund the benefits of current retirees or are given or lent to the government, which in turn uses the funds for current expenditures or investments. The participant's benefits typically have very little to do with what has been contributed or how the funds have been invested since his or her benefit has been "defined" in advance, generally with regard to political considerations rather than investment return. Thus, workers have little incentive to protest politically driven investing since their benefits are defined or guaranteed without regard to investment returns. They have no direct interest in whether investments out-perform or under-perform a benchmark. They have no direct interest in whether investments are made solely to maximize returns or for other purposes.⁸

The lack of any incentive to monitor is compounded by the fact that a PAYG DB system is mandatory. Workers do not have the choice of opting out of the social insurance system, since the program is mandatory rather than optional. Consequently, there is no real competition that would discourage non-economic investing. In an optional system, by contrast, if workers are dissatisfied with investment practices under the program, they can refuse to participate and invest their retirement assets elsewhere, thus creating incentives for those responsible to invest for economic rather than non-economic reasons. Participants might also have the right to change the trustees in the event of under-performance. By contrast, a state system is mandatory and beneficiaries have no right to select who oversees their investments. Because participants do not have the right to invest their retirement assets elsewhere, the system is not subject to the discipline of the marketplace. This increases the risk of politicized investing.

The Lack of Appropriate Legal Safeguards Increases the Risk of Politicization

The absence of appropriate legal safeguards to ensure that investment decisions are made on the basis of economic rather than political factors, and the weak enforcement of existing safeguards, increases the risk from government investment of pension assets in the private sector. In private pension systems in the United States pension assets (contributions, investment gains and investment income) are typically held in a trust. A trust is a common law legal entity that permits the separation of beneficial and legal ownership.⁹

⁸ By contrast, in a defined contribution system, workers have a direct interest in how their contributions are invested since their account statements clearly reveal how their investments are performing and any shortfall will directly affect the quality of their retirements. In a defined contribution system, politicized investing that reaped lower returns would soon become obvious and workers would have an incentive to ensure that their investment managers made investment decisions on purely economic grounds rather than political ones. Any shortfall or failure to meet a benchmark for whatever reason would quickly become apparent. It would be the worker who would be the most affected by the shortfall in the form of reduced benefits and a lower standard of living. Workers in a defined contribution system would thus have an incentive to ensure that their investment managers maximized their returns.

⁹ The technical definition of a trust is "a fiduciary relationship with respect to property, subjecting the person by whom the title to the property is held to equitable duties to deal with the property for the benefit of another person, which arises as a result of the intention to create it." American Law Institute, *Restatement of Trusts (Second)* 1959.

In other words, the trust itself is the legal owner of the trust's assets (it can buy and sell property, enter into contracts and so on) while the trust's beneficiaries are the beneficial owners. A trust is managed by trustees, who have various responsibilities, including the responsibility to make investments or hire an investment manager, who in turn will make investments. In common law legal systems, trustees are fiduciaries and are held to higher legal standards than others. A fiduciary is defined as "one who exercises any discretionary authority or discretionary control respecting management of such a plan . . . or disposition of its assets" or "renders investment advice for a fee or other compensation direct or indirect" or "has any discretionary authority or discretionary responsibility in the administration of such a plan."

In brief, under US law, plan fiduciaries are barred from investing participants' assets in any manner other than for the exclusive benefit of the participants. As mentioned above, government pension funds typically engage in economically targeted investing. In the United States, the United States Department of Labor guidelines directly address the issue of economically targeted investing. These guidelines state that the ERISA prudence standard requires a fiduciary to make investment decisions primarily on the grounds of economic and investment merit.

Thus, under US law, the fiduciary standards applicable to ETIs are no different from the standards applicable to plan investments generally. Considerations of social factors may be an incidental, but never primary, consideration of investments that are equal in economic terms. Although ERISA and relevant state statutes may contain no bar to "costless social investing," as the academic studies cited above indicate, social investing is hardly ever costless.

Another key legal safeguard is legislation that ensures that investment managers do not engage in self-dealing with plan assets. Under US legislation, this is regulated by ERISA's prohibited transactions provision, which essentially prohibits managers from dealing with plan assets in their own interest or engaging in transactions with specified persons.

Another crucial legal protection is the regulation of proxy voting. In the United States, fiduciaries are obligated to vote proxies in an informed and responsible manner. A fiduciary who fails to vote, casts a vote without considering the impact of the question, or votes blindly with management on non-routine corporate governance issues may violate the fiduciary's duty of loyalty.

These provisions are just a few of the key elements in the proper regulation of pension plans. The absence of these or equivalent provisions or the failure to enforce such requirements will increase the risk that pension assets will not be used for the exclusive benefit of participants and beneficiaries, but instead will be used for other purposes that may adversely affect pensioners' retirement income.

The Risk that Corporate Governance will be Politicized

Another risk from investing social insurance assets in the private sector is that large-scale government ownership of equities will distort corporate governance mechanisms. This distortion will likely lead to the misallocation of capital and the long-term under-performance of both industry and the stock market.

This risk is especially crucial in Egypt given the current state of corporate governance following the nationalization of Egyptian industry and the recent efforts to privatize those state-owned enterprises. The failure to develop effective corporate governance mechanisms could potentially deter foreign investments as well as raise the cost of capital to Egypt's companies. This could lead to lower savings, lower productivity and eventually lower economic growth.

There are essentially three major systems of corporate governance: the US model based on shareholder capitalism, the German model based on universal banks with large share ownership, and the Japanese model based on cross shareholdings.

The governance systems that are likely to develop under the Egyptian model, if large government shareholdings in private industry exist, are unlikely to create wealth along the lines of the US model or even the Japanese or German models. Under this scenario, it is unlikely, for example, that Egypt would develop a US-like shareholder-based capitalism that relies on broad-based stock ownership, substantial executive compensation and contests for corporate control. It is unclear how these mechanisms could develop in a market where large government pension funds are dominant, and it seems improbable that these mechanisms would be used to align managers' interests with those of the shareholders. For example, it seems doubtful that effective contests for corporate control would develop in a market dominated by the government since governments tend toward stability and the preservation of the status quo. Compensation and stock-based incentives also seem problematic since political considerations may prevent the government from advocating what some might call excessive compensation, or in any event compensation far higher than that of the average citizen.

Although large blockholders have proven to be an effective corporate governance mechanism, it seems doubtful that the government pension funds would function in a similar manner. Effective corporate governance assumes that owners have as their objective wealth maximization and that they will, in their governance activities, seek to impose that objective on the firm's managers. The danger of government investment in the private sector is that the government will attempt to influence the companies it owns to accomplish political objectives rather than wealth maximizing ones.

Indeed, it seems hard to imagine otherwise since the government, by definition, is politically, rather than market, directed.

The rationale for allowing the government to invest social insurance assets in the stock market is to take advantage of the high returns from private capital markets. The reason

that Egypt's capital markets might be expected to produce high returns must ultimately be a function of a higher productivity of capital and the greater efficiency of the capital markets. There is a serious risk, however, that the government's strategy could distort Egypt's corporate government mechanisms and thus substantially undercut the returns it (and other investors) might otherwise expect to receive. Investment of social insurance assets in private capital markets risks damaging capital productivity and market efficiency.

Indexing Also Presents Risks

One possible solution to the problem of the politicization of pension investing would be to index.¹⁰ Indexing is a passive strategy whereby the investor invests in a group of stocks sharing certain predefined characteristics without regard to their individual characteristics.

Although there are arguments from a financial point of view in favor of the government's pursuing a passive investment strategy, indexing a substantial portion of the social insurance assets would present other problems. Although the US has indexed a portion of federal employee retirement savings, it is doubtful that this is an appropriate model for Egypt. The US markets are much larger and more efficient than Egypt's, the government's portion is relatively insignificant, index products already existed when the government decided to index employee retirement funds, and the US had appropriate legislation to ensure that the indexing would not affect corporate governance.

In Egypt, the use of a passive index – one created by either the government or the private sector —would reduce, but not eliminate, the problem of politically motivated investing and would likely create additional problems. First, there would be the question of who should define the index and who should manage the indexed funds, the government or private money managers. If the government purchased existing index funds from a third party, such as an investment company, the investment company would then purchase the shares of stocks included in the index. Although the index fund would provide a layer of insulation between the government and the corporations whose stocks were purchased, the problems of control would not be completely avoided since someone would have to decide how to vote the shares.

Another controversy would be about what stocks to include in the index. Since Egyptian companies would be well aware that inclusion in the index would mean greatly increased demand for their shares, they might well use political channels to ensure inclusion in the index. Another issue is that almost inevitably there would be a huge temptation to create a better, more appealing index of companies friendly to the public policies of whatever government is currently in power. Again, the choice of companies to include in the index might likely rest on political considerations rather than economic ones. The US government

¹⁰ Although equity and debt index products are not currently available in Egypt, increased demand would presumably encourage their creation. Traditionally indexing has been primarily practiced in developed markets on the theory that these markets are efficient and therefore the expenses of stockpicking are not worthwhile. Although the Egyptian market is probably not an efficient one by developed country standards, because it is such a thin market, it is unclear whether it would be possible to invest a large amount of money, such as a portion of the social insurance assets, so as to be able take advantage of the inefficiency. Consequently on a cost-benefit basis, indexing may also be appropriate in a market such as Egypt's.

employees scheme did not have to face these problems since an accepted index already existed. Egypt would have to confront and resolve these issues since the appropriate products do not yet exist.

Finally, large-scale indexing raises substantial corporate governance concerns. Government officials, either directly or indirectly, would acquire substantial ownership interests in many of Egypt's largest corporations. Either they or their agents would have to exercise their ownership rights, for example, by voting at the annual general meeting. In so doing, they would either create a direct political influence in the ownership rights over much of the Egyptian management of private enterprises, or they would abandon their voting rights and other shareholder privileges, thus indirectly enhancing the power of the other shareholders who did vote their shares. In either case, ownership of the enterprises would be powerfully influenced by political forces.

However, even if the government did not attempt to exercise corporate control, there would be reason for concern over allowing index fund managers to use taxpayer money to increase their ownership of corporate Egypt. The huge number of shares purchased with social insurance money will represent powerful voting blocks, and, in contrast to most stock purchases, they will be uniformly voted. Yet to whom these powerful new stockholders will answer is unclear at best. Passive government stock investments risk harming market efficiency, an efficiency achieved by the vigilance of active money managers, and would raise the cost of capital for all Egyptians. Again, this problem has not yet been much of an issue in the US since the proportion of shares held in the government-sponsored index funds is relatively small in comparison with the market capitalization of the companies that comprise the S&P 500 – though even in the US this could change over time.

Egypt's Privatization May Be at Risk

Investing large portions of the SIS surplus in the Egyptian stock market or investing it directly in private enterprises risks undoing the benefits of privatization. Allowing the government to invest retirement assets in private capital markets risks the renationalization of at least a portion of the Egyptian economy.

The Egyptian Social Insurance System currently has a net surplus of about 100 billion Egyptian pounds while the stock market is capitalized at about 90 billion Egyptian pounds. This surplus is projected to build until Egypt's demographics change, sometime in the next century. Investing a small fraction of the surplus would make the Egyptian government the largest single shareholder in the capital markets and effectively partially renationalize through share purchases what the government has already privatized. Given the negative experience with government ownership, the worldwide movement has been away from such ownership toward privatization, through selling shares to the public. Permitting the government to invest social insurance assets by purchasing stock in private enterprises reverses this trend and reverts to the discredited notion that the government can better allocate resources than the market.

The Risks of Investing in the Egyptian Capital Markets

In addition to the overall risks from investing social insurance assets in the private sector, there are risks that are specific to Egypt's capital markets. In common with other emerging markets, Egypt's market has three overarching risks: market imperfections, country risk and external shocks. Country risk is the risk of macroeconomic underperformance due to policy errors, political intervention and other political decisions. This risk is reflected among other things in government debt ratings. If, for example, Egyptian government debt trades at 330 basis points over equivalent maturity US Treasury debt, then that differential can be interpreted as the return necessary to compensate investors for the Egyptian country risk that has been assumed. The Egyptian market, like other markets, is affected by external shocks such as changes in commodity prices (oil, for example), spillover effects from crises in other parts of the world, recession elsewhere, and so on.

In addition, emerging markets such as Egypt are often plagued by financial market imperfections, such as poorly defined or enforced legal rights of investors, inadequate investment information, poor custody or clearance and settlement arrangements, and inefficient secondary markets, though irregularities in trading activities seem to be infrequent. As discussed in more detail below, these specific risks include the risk of volatility, lack of diversification, illiquidity, various macroeconomic risks, regulatory and legal infrastructure risks, disclosure risks, corporate governance risks, risks from inadequate market infrastructure, and various risks attendant on investing in fixed-income securities.

These risks, however, are similar to the risks one would find in most other emerging markets and will probably decline over time. They are substantially less significant than the risks discussed above. In Chapter 2, we have seen that the decision to invest pension savings in the capital markets can be positively recommended, provided the overall economic reform program continues and the stock market's infrastructure and regulatory framework continue to progress. Nevertheless, a series of risks exists in all markets, and especially in emerging markets.

Volatility Risk

The primary risk from investing in equities, whether in Egypt or elsewhere, is volatility risk. The risk of volatility is traditionally measured through accepted statistical techniques. These techniques attempt to measure the extent to which future portfolio values are likely to deviate from their expected or predicted value. Other things being equal, most investors prefer less volatile returns to more volatile returns. The standard method of measuring this uncertainty is through standard deviation or the likelihood that in any given period a return will deviate from the mean. Standard deviation is a statistical measure of variability: it is determined by summing deviations from the mean, squaring the deviations and then taking the square root of the average of the squared deviations. When applied to investment returns it is a measure of the volatility of those returns.

Although standard deviation is an accepted mathematical technique for measuring risk, it has limitations. Because deviations are squared, positive deviations are weighted

equally to negative deviations, thus leading to the anomalous situation that an investment that produces more than its expected return is considered of equal risk to an investment that under-performs by an equivalent amount. Standard deviation suffers from other technical limitations as well.¹¹ More importantly, from the perspective of portfolio management in Egypt, the limitations of market data series make it unclear whether standard deviation would be a good predictor of future returns.

Diversification Risk

Another risk from the plan to invest social insurance assets in Egypt's stock market is the risk from lack of diversification, i.e., investing in an equity portfolio comprising Egyptian stocks only. A basic tenet of modern portfolio theory is that diversification reduces the risk of individual investments (nonsystematic risk) as opposed to systematic risk, which is the overall risk of investing and cannot be diversified away. Failure to diversify one's holdings does not increase potential returns, but does increase risk.

Although the intricacies of modern portfolio theory are outside the scope of this report, a key insight of modern portfolio theory is that diversification across asset classes, countries, industries and companies will reduce risk without reducing return. Consequently, modern portfolio theory teaches that portfolio managers should fully diversify and that any restrictions on diversification will increase risk without increasing return.

The plan for investing social insurance assets in the capital markets limits those investments to the Egyptian capital markets. Some of the arguments for and against international diversification are that "[o]n the one hand, international diversification may be seen as a loss of potential to develop domestic capital markets. It may also be seen as posing a risk of capital flight. . . . On the other, it may be seen as beneficial to pension funds as volatility of returns could be reduced. . . . In addition, it will forestall the point at which pension fund investment becomes so large as to face diminishing returns domestically. Also there may be a benefit at a national level if national income is subject to frequent terms-of-trade shocks owing to the position of being largely dependent on commodities for export earnings, while export earnings account for a large proportion of GDP, as is common for developing countries."¹² While the proposed plan may have macroeconomic and political justifications, it cannot be justified in accordance with modern portfolio theory.

Modern portfolio theory and its major tool, the capital asset pricing model, hold that the world market is the fully efficient and integrated capital market. Holding a portfolio other than the world market increases risk with no commensurate increase in expected returns. For any portfolio invested in foreign assets as a percentage of the world capital market there is the prospect of simultaneously raising mean returns and reducing the overall risk of the portfolio – the so-called “free lunch” of international diversification. International

¹¹ These limitations are discussed in detail in L. Balzer, “*Measuring Investment Risk: A Review*,” *Journal of Investing* (Fall, 1995).

¹² E. P. Davis, “*Investment of Mandatory Funded Pension Schemes*,” forthcoming working paper, The Pension Institute, Birkbeck College, London.

diversification can lower risk by eliminating nonsystematic volatility without sacrificing expected return.

Alternatively, global diversification will raise the expected return for a given level or risk. The diversification benefits consist of reduced risk, usually measured by the annualized standard deviation of monthly returns, from investing in markets that are relatively uncorrelated (or even negatively correlated) with the investor's home market. International diversification reduces risk better than domestic diversification because domestic securities exhibit stronger correlation from their joint exposure to country-specific shocks. The optimal portfolio of pension assets will depend on pensioners' degree of risk aversion; from the developing country perspective, a higher risk aversion will imply a higher share of foreign assets.

In sum, a mandate to invest in Egypt only is likely to increase risk without a concomitant increase in returns. Although this strategy is not unusual and is followed in other countries, policy makers should recognize the likely consequences of their decision. This lack of diversification is a risky strategy that in accordance with modern portfolio theory will not be compensated by higher returns.

Legal and Regulatory Risks

Although a firm legal foundation is essential to the development of a market, equally important is the enforcement of rules and regulations. The regulatory authorities must make markets fair, efficient and safe. Fair markets are those in which the investor is protected from abuse and fraud and similar market participants are treated equally. Efficient markets are competitive and have efficient information and infrastructure systems. The regulatory framework should promote and protect competition by ensuring that market practices and rules do not impose any unnecessary burden on competition unless required for the pursuit of other regulatory goals.

Legal Infrastructure

A country's legal system is the framework for its capital markets. In general, it should provide for the enforcement of private contracts and form the foundation for instruments and practices necessary for the functioning of the modern capital markets. Laws important for the functioning of the financial system include a company law that adequately promotes corporate governance; banking and commercial laws that give firms a legal basis for practices such as beneficial ownership, trusts, and collateral that are central to financial markets; bankruptcy laws that clearly define the rights of different asset owners in a liquidation proceeding; and competition laws. An essential component of the legal infrastructure is a set of well functioning institutions that enforce these laws.

Investors require that securities truly represent a claim on a future income stream and that the claims be enforceable by law. Problems with corporate governance include various management actions that jeopardize the value of an investment, including abuse of minority shareholders, self-dealing and insider trading. Principal/agent problems in the area of

corporate control discourage investment and impede equity markets from correctly fulfilling their monitoring and signaling functions. Shareholders can exercise their right to change management if they perceive that management is not acting in their best interests. Investors can also sell their shares, which will lead to a decline in share prices and make the company more vulnerable to takeovers. Information vendors and analysts play an important role in reducing these information asymmetries, and institutional investors and foreign investors may improve the monitoring of corporate managers, enhancing the effectiveness of the market as a means of corporate control.

Another concern is the protection of minority rights and avoidance of insider trading. Only about half of developing countries require disclosure of securities transactions made by company insiders. Another critical function of the regulatory framework necessary to develop confidence among investors is to eradicate insider trading. Insider rules should include incentives for market participants to monitor compliance such as supervisory liability, internal control requirements and holding responsible both the giver and receiver of information. Key issues are fair treatment for all shareholders (minority shareholder rights) and shareholder approval of key corporate decisions (potential conflicts between management and shareholders). Disclosure should not discriminate among shareholders and voting power, dividends, etc., should not discriminate. An independent directors committee should determine management compensation. The audit committee should also be composed of independent directors. Preemptive rights may also be appropriate.

According to a recent USAID report¹³, there are more than eighteen laws and codes regulating or affecting the Egyptian securities market, related regulations, decrees and rules, rules governing operation, trading, and listing on the Stock Exchange, procedures for clearance and settlement of securities, and a number of draft amendments to these laws, regulations, rules and procedures. Although the resulting regulatory scheme is comprehensive in many areas, many requirements are either unclear because of gaps, omissions or inconsistencies or not properly enforced because of overlapping jurisdiction among regulators, and problems in enforcement based on evidence gathering and inadequate dispute resolution procedures.

In a recent article in a leading scholarly journal, four economists developed a framework with which to analyze the investment risks from a country's legal framework.¹⁴ They identified seven key variables that they contend determine whether a country's legal system will protect investors, and thus encourage capital formation, and applied those variables to 49 developed and developing countries, including Egypt. As discussed below, in most categories Egypt's legal system was rated below the sample average, which points to the need for continuing progress in addressing these areas so that investors investing in Egypt do not face undue risks. While these conclusions may be disputed, they provide some insight into an area that is difficult to measure.

¹³ See D. Kertzman, "Legal, Regulatory, and Judicial Environment Governing the Egyptian Securities Market," (May, 1997).

¹⁴ R. La Porta, et al. "Law and Finance," *Journal of Political Economy* (December, 1998).

The variables the authors identified were:

- Origin of the country's legal system
- Voting
- Antidirectory rights
- Creditor rights
- Enforcement
- Accounting systems, and
- Ownership concentration

The authors discovered that the origin of a country's legal system will likely determine the protections afforded investors. The authors divided the world's legal systems into four categories, English, French, German, and Scandinavian. Their research showed that countries with a legal system based on the English common law tended to have the strongest protections for investors and countries with a legal system based on the French civil law tended to have the weakest protections for investors. The authors identified Egypt as a country with a legal system based on the French civil law.

The second variable the authors identified was voting, which the authors argued is the crucial right for a common shareholder. The crucial issues identified in connection with whether voting rights can be meaningfully exercised were:

- Whether the law mandates one share, one vote and prohibits non-voting shares, multiple voting shares, and a maximum number of votes per shareholder. The authors noted that investors are better protected when cash flow (dividend) rights are tightly linked to voting rights (one share, one vote). When votes are tied to dividends, insiders cannot have substantial control of the company without having substantial ownership of its cash flows, which moderates their taste for costly diversion of cash flows relative to the payment of dividends. Cash flow and control rights can be separated through pyramids (the controlling shareholder exercises control through at least one other publicly traded corporation) and multiple classes of stock.
- Whether the law permits proxy voting by mail. Legal systems that permit proxy voting by mail encourage shareholders to vote while legal systems that require shareholders to attend the annual general meeting to vote discourage shareholder voting. The classic example is Japan where proxy voting is not allowed and the bulk of Japan's companies tend to hold their annual general meetings on the same date, thereby disenfranchising most voters.
- Whether the law permits companies to "block" shares before the annual general meeting, i.e., whether the law prohibits firms from requiring shareholders to deposit their shares with the company before the annual general meeting in order to vote them. This is a disincentive to voting since it requires shareholders to take the additional affirmative step of depositing their shares and prevents shareholders

from selling their shares while the company is holding them. Belgium is a country that permits this practice¹⁵.

- Whether the law permits cumulative voting or proportional representation, where a shareholder is permitted to cast all of his or her votes for one director. Cumulative voting enables minority shareholders to achieve at least some board representation.

The third category the authors identified were what they termed “antidirectory rights,” in other words, how strongly does the legal system favor minority shareholders as opposed to the company’s directors? Here the authors identified the following issues:

- Whether the law gives minority shareholders any effective legal mechanisms against insider oppression, for example, the right to challenge the directors’ actions in court through a derivative suit or the right to force the company to purchase the shares of minority shareholders who object to corporate actions such as mergers or asset sales;
- Whether the law gives shareholders preemptive rights, which are the right to participate proportionally in any capital increase, thus enabling the shareholders to maintain their proportional ownership interest in the corporation and preventing dilution;
- Whether the law gives minority shareholders the right to call an annual general meeting as measured by the percentage of shareholder capital needed to call an extraordinary shareholder’s meeting (3% in Japan vs. 33% in Mexico); and
- Whether the law mandates the payment of dividends, which the authors recognized is an ambiguous criterion since mandatory dividends were often the mark of a country with weak shareholder rights protection and in any event open to manipulation because of the vagaries of a country’s accounting system.

The authors combined the voting rights criterion and directory rights into an overall measurement of a country’s protection of shareholder rights. Employing the criteria outlined above, the authors scored Egypt with a two on a scale of zero to five, with five representing legal systems that afford shareholders the strongest protections and zero the legal systems that afford shareholders the weakest protections.

The sample average of the 49 countries surveyed was three. The authors identified the following weaknesses in Egypt’s protection of shareholder rights: no one share, one vote;

¹⁵ Although Egyptian law does not provide for voting by mail, subject to certain limitations it allows shareholders to vote by proxies given to other shareholders.

no proxy by mail voting; no cumulative voting/proportional representation; no protections for minority shareholders; and no preemptive rights.¹⁶

A fourth identified category of investor protection is creditor rights. Here, Egypt received the maximum score. There are two general creditor strategies for dealing with a defaulting firm: liquidation and reorganization. The most basic right of a senior collateralized creditor is the right to repossess and then keep or liquidate collateral when a loan is in default. Some countries favor reorganization at the expense of liquidation because liquidation is viewed as socially undesirable. The authors identified the following criteria for the evaluation of a country's creditor rights protection:

- Whether a legal system has an automatic stay procedure, which prevents the creditors from obtaining possession of their collateral and which protects company managers and unsecured creditors. An automatic stay provision was considered negative and an obstruction to creditor rights.
- Whether a legal system assures the secured creditors the right to collateral in reorganization. In Mexico, for example, various social constituencies have to be repaid before the secured creditors, often leaving secured creditors with no assets.
- Whether management can seek protection from creditors unilaterally by filing for reorganization without creditor consent. This enables management to retain control over company assets to the detriment of secured creditors.
- Whether company management stays in power pending the resolution of the reorganization procedure.
- Whether the law requires that a firm maintain a legal reserve – a minimum capital requirement – to avoid automatic liquidation. This provision protects creditors from insider expropriation of capital.

On a scale of one to four, with four representing the strongest protection of creditor rights and 2.3 the sample average, Egypt scored a 4, along with nine of the other 48 countries. This suggests that Egypt's legal system does a satisfactory job of protecting creditor rights.¹⁷ It is unclear, however, whether this result is particularly relevant to the investment of pension assets since it may be a function of the fact that most debtor-creditor transactions are probably loans from state-owned banks that do not trade in the public markets.

¹⁶ Some of the authors' data regarding Egypt may be obsolete since we are informed that Egypt does have preemptive rights, one share, one vote, proxy voting under specified conditions, and some protections of shareholder rights – though it is unclear how these rights are enforced in practice.

¹⁷ Another recent ranking of countries' creditworthiness ranked Egypt 54th out of approximately 180 countries, ahead of countries such as Morocco, Turkey, Jordan, and Lebanon but behind such other countries as Tunisia, Bahrain and Saudi Arabia. The article defined creditworthiness to include political risk, economic performance, debt in default, credit ratings, access to bank finance and access to capital markets. "*In Search of a Safe Haven*," Euromoney (March, 1999).

The fifth category the authors identified was enforcement of existing legislation. In theory, strong enforcement could make up for weak legal rules because active and well functioning courts could step in and rescue investors abused by management. Here Egypt scored below average in all of the categories, including:

- efficiency of the legal system: an assessment of the efficiency and integrity of the legal system as it affects business, particularly foreign firms. The authors relied on a study by the country risk rating agency, Business International Corp. The study used a scale of zero to ten, with ten representing the most efficient legal system and zero the least. Egypt scored a 6.5, with 7.67 the sample average.
- rule of law: an assessment of the law-and-order tradition in the country produced by the country risk rating agency, International Country Risk. Low scores indicate a weaker rule of law-based legal system, and higher scores indicate a stronger rule of law. Egypt scored 4.17 versus the sample average of 6.85.

The sixth category of investor protection that the authors identified was accounting systems. As the authors explained:

Accounting plays a potentially crucial role in corporate governance. For investors to know anything about the companies they invest in, basic accounting standards are needed to render the company disclosure interpretable. Even more important, contracts between management and investors typically rely on the verifiability in court of some measures of firms' income or assets. If a bond covenant stipulates immediate repayment when income falls below a certain level, the level of income must be verifiable for the bond contract to be enforceable in court even in principle.¹⁸

With respect to the quality of its accounting system, the authors were unable to rate Egypt because of a lack of available information.

The final category the authors identified was ownership concentration. Higher concentration was associated with a more risky legal system. As the authors explained:

[T]he quality of legal protection of shareholders helps determine ownership concentration The result supports the idea that heavily concentrated ownership results from, and perhaps substitutes for, weak protection of investors in a corporate governance system. The evidence indicates that weak laws actually make a difference and may have costs. One of these costs of heavily concentrated ownership in large firms is that their core investors are not diversified. The other cost is that these firms probably face rising

¹⁸ *Ibid.*, 1140.

difficulty raising equity finance since minority investors fear expropriation by managers and concentrated owners.”¹⁹

The authors advance two hypotheses for this conclusion. First, large shareholders who monitor managers might need to own more capital to exercise their control rights and thus to avoid being expropriated by the managers. Second, poorly protected small investors might be willing to buy corporate shares only at low prices that make it unattractive for corporations to issue new shares to the public. Such low demand by shareholders would indirectly stimulate ownership concentration “But with poor investor protection, ownership concentration becomes a substitute for legal protection, because only large shareholders can hope to receive a return on their investment.”²⁰

In the sample of 49 countries, Egypt was identified as having one of the highest ownership concentrations, as measured by the fact that 62 percent of Egypt’s five largest firms were owned by the three largest shareholders. By contrast, in the US the largest shareholders owned 20 percent of the largest firms’ shares, in Argentina 53 percent, in Turkey 59 percent and in Sri Lanka 60 percent.

As summarized above, the available data point to the need for Egypt to continue its progress in enhancing its legal system to protect equity investors, including those who are buying equities for their pension plans. Legal and regulatory considerations for equity purchases in defined contribution plans are discussed in Chapter 5.

Disclosure Risk

Disclosure Risk is reduced through a regulatory framework that increases transparency by mandating public disclosure, both at the initial phase when a firm issues securities to the public and continuously thereafter. Three types of disclosure requirements have developed in capital markets:

- Listing requirements typically include minimum thresholds regarding the number of shareholders and the value and volume of public shares, earnings and balance sheet criteria over a number of years, an assessment of the potential of the firm and its industry, and qualitative criteria regarding corporate governance.
- Initial offering requirements involve information that allows investors to evaluate the overall condition of a firm, including risk factors, prior performance and information about new issues: the amount of capital to be raised and its intended purpose; dilution; how the offering price was determined; distribution plan; underwriters; and other market-making activity. The information for an IPO is usually distributed to the public through a prospectus.

¹⁹ *Ibid.*, 1151.

²⁰ *Ibid.*, 1145.

- Timely disclosure of material information, i.e., developments that may have an effect on the company's business or stock price – mergers and acquisitions, dividends and changes in capital. Specialized disclosure is needed for specialized industries such as banking, mining, and oil and gas. Disclosure will be effective only if the financial information provided by the company is based on sound accounting principles and practices that are well understood by investors.

Although Egypt has substantial disclosure requirements, as discussed in detail in the recent USAID report mentioned above, these requirements should be strengthened through enhancements to enforcement and local accounting and auditing standards. The report notes that the lack of compliance can be attributed to a number of factors, including:

- (1) Companies do not understand the law's disclosure requirements;
- (2) Company managers prepare the company accounts and do not understand international accounting and auditing requirements;
- (3) Firms are unwilling to hire qualified accountants and auditors because of cost; and
- (4) High corporate tax rates encourage non-compliance with tax reporting requirements and attendant corporate disclosure requirements.

In addition, as set forth in the recent USAID report, enforcement of violations of disclosure requirements needs to be improved. In part the inadequate enforcement may be traced to inadequate disclosure requirements in the Capital Market Law, including its failure to address the concept of beneficial ownership (who actually controls the shares), acting in concert (where a group of shareholders acts together to acquire control of a company), control shareholders and management share purchases. Consequently public disclosure could be improved to protect equity investors.

Accounting and Auditing Standards²¹

Accounting standards are the rules for preparing accounting statements. They define what is considered useful information and specify the type of information that accounting statements ought to contain and how the information ought to be prepared. Accounting standards define what are acceptable and unacceptable financial accounting practices. Auditing standards are the rules that determine how an audit should be performed and thus determine whether the financial statements will be reliable. An audit of financial statements is the technical process by which an independent person gathers evidence to form an opinion about how well a set of financial statements conforms to the accounting standards. In most

²¹ Differences in accounting and auditing standards are complex and are here touched on only briefly. For further study, one particularly useful source is G. Mueller, *et al.* *Accounting: An International Perspective* (1994).

countries a particular group of accountants is legally sanctioned to conduct financial statement audits.

Public equity investors require certain information in order to value a stock properly. This information is largely provided through financial statements. A country's financial statements are prepared according to that country's accounting standards. Different countries' financial statements reveal different kinds of information since different countries have different notions of what is useful accounting information.

The accounting systems of some countries are designed primarily to provide information to the government to ensure that taxes are paid. These countries rely primarily on bank, rather than equity, finance. Information is obtained through personal contacts rather than public disclosure. The interests of equity investors are secondary.

Other countries, the United States and the United Kingdom, for example, rely primarily on equity financing, rather than bank financing. The accounting systems of these countries are thus oriented toward investor disclosure. Although investors may not be given all of the information they would like, they are given sufficient information to value companies properly as going concerns.

Weak accounting and auditing standards increase the risk of investing in equities. Most valuation methods are dependent on full and accurate disclosure. The adequacy of disclosure in turn will be affected by a country's accounting system. One limitation is inadequate disclosure: either not enough information is made available or the information that is made available is insufficient. For example, depreciation expenses may not be broken out and listed separately, cash flow statements may be omitted, and segment and geographic detail may be omitted as well. Another limitation is the difference in auditing standards and practices. A third problem is the difference in reporting frequencies.

According to the USAID report, one of the main concerns raised by securities intermediaries and investors in Egypt is the lack of transparency in disclosure by listed public companies and by owners of shares regarding their control positions in these companies. Consequently it appears that equity investors face substantial risk because of weak accounting disclosure.

The USAID report was prepared for the design of a comprehensive capital markets development project sponsored by USAID, which is currently being implemented. This project should help to address some of these and other related challenges mentioned above.

Risks from Investing in Fixed Income Securities

Pension funds in developed countries tend to invest a substantial portion of their assets in fixed-income securities such as government debt, corporate debt and various other instruments. Private corporate pension plans tend to invest in debt because of the risk reduction technique of "duration matching," which enables the pension plans to match its

assets and liabilities.²² Another reason that pension funds tend to invest in debt is safety: the cash flows from debt tend to be less volatile than the cash flows from equity. Although at present the available debt instruments in Egypt are limited, this will likely change as Egypt's capital markets develop. In any event, debt has a place in a properly constructed pension fund, and fixed income securities present additional risks that are not found in equity investing.

Interest Rate Risk

The most substantial risk that a fixed-income investor faces is interest rate risk or the risk that interest rates will rise and thus diminish the value of a long bond position. A fixed-income security is the right to a fixed stream of interest payments over a period of time. Since the nominal value of these payments is fixed, a rise in interest rates will diminish the present value of those interest payments. Consequently, the value of a typical fixed-income security fluctuates inversely to interest rates. When interest rates rise, the value of a fixed-income portfolio will fall, and when interest rates fall, the value of a fixed-income portfolio will rise. An investor who holds the instrument to maturity will receive all of the payments promised (though the value of those payments may be less than expected) as well as the return of his or her principal. In nominal terms, therefore, the investor will receive what he or she expected. An investor who does not hold the instrument to maturity will face loss of principal if he or she sells at a loss.

Reinvestment Risk

Bonds that make periodic interest payments are subject to what is known as reinvestment risk. Reinvestment risk is the risk that payments a bondholder receives will have to be reinvested at a lower rate than the coupon amount. In a sense reinvestment risk is the inverse of interest rate risk: if interest rates fall, the bond investor will face the risk of having to reinvest at lower rates. If interest rates rise, the investor will face the loss of value of the investment itself.

Call Risk

Many bonds are "callable." This means that the issuer has the right to redeem or "call" the bonds under circumstances set forth in the bond indenture agreement. Although the investor is typically compensated with a higher coupon or a lower issuance price, it is difficult to determine whether the compensation is adequate. From the investor's perspective, there are three disadvantages of the call provision. First, the cash flow pattern of a callable bond is not known with certainty. Second, because the issuer will call the bonds when interest rates have dropped, the investor is exposed to reinvestment risk: he or she will have to reinvest the proceeds at a lower rate than expected.

Finally, the capital appreciation potential of the bond is reduced since the call price will represent a ceiling above which the bond will not trade.

²² Duration is the weighted average maturity of the stream of cash flows that a fixed-income instrument is expected to provide.

Credit or Default Risk

Credit or default risk is the risk that the issuer will be unable to make timely payments of interest or principal because of financial difficulties. Credit risk is generally gauged by what are known as credit rating agencies that rate debt according to the likelihood that the borrower will default. A declining credit rating will reduce the value of a bond and a default may mean that the investor will not be repaid. Credit risk is portrayed largely through quantitative means, particularly by using financial ratios.

Liquidity Risk

Liquidity risk is the risk that a security will not be able to be sold at or near its true value. The primary measure of liquidity is the size of the spread between the bid and offer price. The greater the spread, the greater the liquidity risk. For an investor who plans to hold the bond until maturity, liquidity risk is unimportant.

Currency Risk

Currency risk is always present when an investor invests in a bond denominated in a currency other than the investor's home currency. A foreign denominated bond promises a stream of interest payments in a foreign currency. If that currency depreciates relative to the investor's home currency, the value of the bond will depreciate since the stream of payments will be worth less than expected. For example, if an Egyptian investor purchases yen-denominated bonds he or she faces the risk that the yen will depreciate relative to the Egyptian pound. Under that scenario, when the yen payments are received and converted into Egyptian pounds, the Egyptian investor will receive fewer pounds than if the yen remained stable or appreciated against the pound.

Political Risk

Political risk is the risk that the government or regulatory authority will take actions that diminish the value of a bond. For example, a political authority may change the tax status of a bond or, as was the case recently in Russia, simply decide to default on its foreign obligations.

Event Risk

Event risk is the risk that an unexpected event will lead to an issuer default. For example, assume debt is used to finance a toll road where the tolls will repay the obligation. If the toll road were to be destroyed by a natural disaster, the interest payments may not be repaid as promised, thus reducing the value of the bond.

Another type of event risk could be a financial transaction that increases a firm's debt.

Sovereign Credit Risks

Investing in sovereign credits presents additional risks. The two primary risks are a sovereign's ability and willingness to repay its obligations. A country's willingness to repay its obligations may be called political risk. Evaluation of political risk is essentially qualitative and focuses on such factors as the political system of government, the political tendencies and records of political parties, the political longevity of the government and succession mechanisms, a country's integration into international political and financial arrangements, domestic racial, ethnic and religious stability and regional security as well as labor relations, demographics and income distribution.

Countries that do not have stable political systems or where succession is unclear present less attractive investment opportunities than countries with a long tradition of political stability. Countries with democratically elected governments dominated by political parties that espouse reasonable views will be more attractive than countries with repressive governments and extreme political parties.

Countries that are isolated – North Korea and Cuba for example – are riskier than countries in the mainstream of world politics and thus responsive to international organizations that encourage reasonable economic policies. Countries with very unequal wealth distribution, racial or religious polarization or poor labor relations are riskier than countries that do not suffer from such problems.

A country's ability to repay its obligations may be termed economic risk. Economic risk tends to be measured quantitatively through a number of different financial ratios and other criteria. Factors affecting a country's ability to repay its obligations include its current account balance, budget balance, foreign exchange reserves, and sources of foreign exchange earnings. Other factors that affect the riskiness of a country's sovereign debt include a country's natural resources (and world commodity prices), economic diversification, growth prospects, fiscal performance and monetary management, inflation, unemployment, currency, trade system and international competitiveness.

RECOMMENDATIONS TO ENHANCE EGYPT’S SIS AND IMPROVE THE RETURNS ON PENSION SAVINGS

Developing an enhanced SIS for Egypt is critical to the efforts to safeguard Egypt’s enlightened policy of providing social insurance to a wide range of citizens, and to address the inherent limitations of a PAYG DB system, which affect almost all countries. The purpose of this chapter is to present a strategy to enhance Egypt’s SIS. This strategy would provide new opportunities for pension participants to enjoy a more secure retirement with better returns on pension savings.

Chapter 2 concluded that investing pension savings in Egypt’s capital market was viable, could benefit pensioners, and could also help to develop further Egypt’s capital markets, though continued progress in strengthening the infrastructure and regulation of the market is needed. Chapter 3, however, concluded that the risks of relying on the government as the vehicle to invest pension savings in the stock market were too high to recommend that the current practice be extended.

This chapter presents a strategy that better links pension savings to the capital markets, and provides a sturdier foundation for secure old-age retirement. To ensure its success, it is critical that MOSI play the lead role in developing this strategy. (Recommendations to help MOSI play this role are made in Chapter 7.) This chapter concludes by assessing the likely impact of implementing these recommendations on the economy, pensioners, and MOSI.

A STRATEGY TO ENHANCE EGYPT’S SIS AND LINK PENSION SAVINGS AND CAPITAL MARKETS

The risks of a government investing in its own stock market are not unique to Egypt—they apply to any country in the world. This is not to reject the concept of investing pension savings in the capital markets. On the contrary, linking pension savings to capital markets is key to enhancing Egypt’s SIS.

What is crucial to achieving these results is the *vehicle* by which pension savings are invested in the capital markets. This report recommends—consistent with international best practices in social security and pension enhancement—that Egypt begin to develop a multi-tier approach to old-age retirement security. This strategy features three tiers to buttress security for old-age retirement, and creates a better vehicle to link pension savings to the capital markets.

The creation and expansion of three basic tiers, each with a different focus on providing for old-age security, would be central to enhancing Egypt’s SIS. Tier 1 would continue MOSI’s focus on the crucial objective of alleviating old-age poverty. A newly established, mandatory Tier 2 system would augment Tier 1. Tier 2 would consist of

personal, defined contribution plans (DCPs). Under such plans, pension benefits paid in the future are directly linked to the contributions and investment returns on those contributions. As such, Tier 2 would be fully funded. Tier 3, which already exists in Egypt, includes optional private-sector, occupational pension plans. Currently, such plans are all defined-benefit plans; as part of the strategy to enhance the SIS, we recommend that this current Tier 3 be expanded to include DCPs. (Please see the figure on the following page.)

(A defined contribution plan is a pension plan where the participant makes periodic contributions, and the benefit in retirement depends on the contributions plus investment returns. In a defined benefit plan, by contrast, the SIS or company where the participant works guarantees that a retirement benefit based on a prescribed formula, usually tied to years of work and salary, will be paid.)

International experience demonstrates that implementing such an enhanced system is challenging. The most practical initial steps to take are to begin work on implementing Tier 1 by refocusing the current PAYG DB, and expanding Tier 3 to include DCPs. Doing this, even without a Tier 2, would still be a significant step to enhance an SIS. As discussed in the time-phased action plan presented in Chapter 6, we recommend that Egypt begin by first tackling Tiers 1 and 3.

To truly enhance a SIS, it is usually necessary to take the additional step of creating DCPs as the destination for part of the mandatory contributions. This is the essence of a Tier 2. In recommending that Egypt create a Tier 2, we recognize that it may take longer to build a consensus and pass the required legislation to implement it. Again, the action plan presented in Chapter 6 embodies this reality, and proposes several activities, such as public awareness and stakeholder consultation in order to create a consensus for a multi-tier strategy in Egypt.

If designed and implemented properly, such a multi-tier strategy could increase retirement security by increasing the expected returns on pension savings while providing greater diversification of retirement benefits and therefore lower risk for the pensioners in Egypt.

Under a multi-tier approach, the issue of return on pension savings needs to be viewed as a part of the larger picture of secure old-age retirement. After all, old-age pensions serve to ensure that older people have income to enjoy a reasonable standard of living in retirement.

Principles of pension fund management include managing investment funds for the sole benefit of the pensioners, following the “rule of prudence,” and sufficiently diversifying the investment portfolio. Achieving higher returns is usually consistent with these standards of pension plan management, especially given the long time horizons in saving for retirement. But they are not necessarily its primary goal: higher returns generally come at the price of higher risk, and each person’s tolerance for risk is different. A DCP pension strategy can help accommodate such preferences because it links individual contributions to benefits directly and fairly and allows for choice in investment products (such as growth funds or more conservative income funds).

Insert

THREE

TIERS

CHART

Under Tiers 2 and 3, pension funds will be invested in Egypt's capital markets. The advantages of investing pension savings in the capital markets include addressing the inevitable shortfall in Egypt's PAYG DB system, with its adverse consequences for Egypt's fiscal policy and macroeconomic stability, as discussed in Chapter 1. Other advantages, which will be discussed in greater detail later in this chapter, include increasing savings, increasing the productivity of capital, reducing distortions against labor, and encouraging the development of Egypt's capital markets. These developments, in turn, should promote economic growth and new jobs.

The Three Tiers

The multi-tier strategy is based on a division of effort and diversification of risk in meeting the three goals of a secure old-age retirement. These three goals include:

- providing a minimum-level benefit in old-age retirement to alleviate poverty,
- providing for savings for a pensioner's retirement period, and
- providing insurance against a variety of risks in retirement, such as longevity in excess of savings.

Tier 1 would provide poverty alleviation, while Tiers 2 and 3 focus on savings through DCPs to provide sufficient income in retirement. The three tiers *jointly* provide the insurance: pension security will be strengthened if the sources of pensions are diversified.

Tier 1 focuses on the crucial objective of alleviating old-age poverty. In Egypt, it would make sense for MOSI to focus on this essential Tier 1 role. Part of Tier 1's competitive advantage in providing security in retirement lies in the fact that it can draw on the government's power to tax to provide a safety net against old-age poverty. It would insure against any shortfalls in the benefits, below a certain level, from an individual's Tier 2 and Tier 3 accounts. Such a shortfall could occur, for example, because of low investment returns, market failures, recessions, inflation, and external economic shocks. Over the long term, however, the risks of low returns from Tiers 2 and 3 should be limited in Egypt, especially if some of the common risks (discussed in Chapter 3) present in investing in an emerging market continue to be addressed, and economic reform continues.

Tier 2, which currently does not exist in Egypt, would, along with Tier 3, be the vehicle to link pension savings to the capital markets. Tier 2 would consist of DCPs, subject to regulation to protect workers and pensioners. It is recommended that the Tier 2 defined contribution plans be decentralized. This recommendation follows in part from the analysis of Chapter 3, where the risks of centralized, government-led investing include lower returns than private-sector fund managers could attain. The Tier 2 DCPs, in order to attain higher returns, would be decentralized, and managed by private sector fund managers chosen by the participant in the plans. The fact that each participant chooses his or her DCP also allows him or her to select the type of investment products that correspond to his or her tolerance of risk. For example, younger workers (as discussed in Chapter 2) would probably want to select more growth-oriented funds or stocks for their DCPs, while workers nearing retirement would probably select more conservative investments.

A competitive legal and regulated framework (discussed in Chapter 5) would be established so that private-sector, professional investment companies and fund managers could manage the DCPs of Tier 2. The investment management industry in Egypt is fairly well developed, as noted in Chapter 2. Managers of these accounts would invest in Egypt's capital markets, especially the stock market, subject to appropriate regulations. The managers should also be permitted to invest a certain percentage of funds internationally to provide diversification.

Benefits received in retirement from Tier 2 would consist of contributions plus investment returns. The inclusion and expansion of DCPs would provide greater incentives to work and avoid many unnecessarily early retirements. This is because workers' benefits in retirement are directly linked to the contributions made into their personal defined contribution plans while they are working. The higher returns expected in the long run from this approach, as discussed in Chapter 2, would ease the pressure on Tier 1 to provide retirement benefits above a minimum, poverty-alleviating level.

Tier 2 would be supplemented by Tier 3, which would be expanded to include defined contribution occupational plans. Contributions, however, would be voluntary and serve people who want more income in retirement. Tier 3 would otherwise work in a similar way to Tier 2, with personal DCPs managed by investment management companies in the private sector. It would also provide the same links between pension savings and the capital markets that Tier 2 would.

Tier 3 already exists in Egypt, but at present, all private-sector, occupational pension plans are defined benefit plans. To complement them, DCPs should be created, primarily by amending existing tax regulations to provide the type of incentives (discussed in Chapter 5) to encourage workers to participate. Thus, Tier 3, which would be expanded to include defined contribution pension plans, would also provide a suitable vehicle to link pension savings to the capital markets.

DEVELOPING THE THREE TIERS IN EGYPT

Developing an enhanced SIS for Egypt is critical to safeguard Egypt's enlightened policy of providing social insurance to a wide range of citizens, while beginning to address the inherent limitations of a PAYG DB system. This is a task that will require time and effort to address a number of issues and to build consensus among the stakeholders. The importance of this task points to the need for MOSI to lead the effort to enhance the SIS.

Developing Tier 1 is especially significant. It is recommended that MOSI focus its activities on its core competitive advantage—poverty alleviation in retirement. It will also play an important role in helping to create and regulate Tier 2 and expand and regulate Tier 3.

Deciding upon the best time-phased plan to enhance Egypt's SIS depends in part on the trade-off between speed in implementation to avoid the looming problems of a PAYG

DB system, and the need for time to develop an effective consensus for change. Speed argues for moving quickly to put in place the multi-tier system. Consensus argues for a more incremental approach to the multi-tier system.

Egypt's program of economic reform has thus far followed an incremental path, and this is the approach that receives the majority of attention in this report. It is possible, however, to pick up the pace once a consensus builds and the benefits become clearer to the stakeholders in planning for retirement. The time-phased action plan to implement the recommendations to enhance Egypt's SIS is structured to be flexible so that either approach can be adopted.

The essence of activities under Tier 1 is for MOSI to begin to focus on and enhance its capacity to provide for poverty alleviation in old-age retirement through a minimum pension benefit.

Benefits for Poverty Alleviation The basic options for benefit formulas would be a flat benefit or a minimum pension guarantee. Under a flat-benefit approach, all workers would receive the same pension payment benefits at retirement under Tier 1, subject to a minimum number of years worked. Under a minimum pension guarantee system, pensioners would be guaranteed a certain minimum pension collectively from all three tiers of the multi-tier system. Thus, if a worker's pension benefits from Tiers 2 and 3 are sufficiently low that his or her total pension benefits from all three tiers are below a certain minimum, the Tier 1 pension benefit would bring the total pension benefit payment up to the minimum.

A minimum pension guarantee would be less expensive because benefits earned from the contributions and investment returns by most workers under Tiers 2 and 3 would contribute significantly toward meeting the minimum pension benefit in the aggregate for all three tiers. But, obviously, the minimum pension would be more difficult to administer. A flat benefit is easier to administer, but more expensive in that higher Tier 1 benefit payments would be required. On balance, given the current extensive network of SIFGE and SIFPPSE, and thus the ability to administer such an approach, a minimum guarantee is more advantageous.

Financing the Tiers, and Contributions In developing Tier 1, another key issue is whether benefits would continue to be financed through contributions, or simply through general tax revenues, or possibly both. Financing benefits out of general revenues may be a less regressive tax on workers than contributions capped at low levels, and therefore more equitable. On the other hand, the importance of poverty-alleviating benefits in retirement suggests that payroll contributions should be collected and segregated from other general revenues to reduce the risk that the needed level of funds would not be available, or arbitrarily reduced.

If contributions continued to be used, at least in part for Tier 1, it will be necessary to determine how to allocate contribution percentages between Tiers 1 and 2. As discussed in Chapter 1, current contributions are based on the basic wage and the variable wage. The basic wage tends to be two to three times smaller than the variable wage. One straightforward way to allocate contributions would be for Tier 1 (MOSI) to receive

contributions based on the basic wage, and for Tier 2 to receive contributions based on the variable wage.

However, the present calculations of contributions based on the basic and variable wages are complex, as indicated in Chapter 1. The low wage levels at which both are presently capped imply a very regressive tax on low wage labor.

The enhanced system should seek to cut contribution rates from their current high levels. The contribution rates act as a tax and may therefore act as a disincentive to hire workers. At the same time, the rates need to be rationalized and streamlined. Developing a defined contribution element in Tier 2, with its potential for high returns, plus creating notional defined contribution accounts (discussed below) in Tier 1, should make it easier to reduce contributions over time.

Improving the Current System As MOSI moves to enhance the SIS, it can also try to relieve current financial pressure on the current system.

Typical measures taken to relieve such pressure include:

- increasing the age at which people can receive pensions,
- reducing the generosity of benefits through reductions in benefit payments, and
- increasing the number of years of employment needed to generate the same level of benefit.

These measures, which are needed to improve the financial viability of the current system, can only take place if Egyptians are persuaded that the overall SIS will be enhanced so that their retirement will be more comfortable and secure. A public awareness campaign will be needed to explain the problems of a PAYG DB system, and how the multi-tier system, with MOSI playing a role in the regulatory structure, will improve retirement security.

Notional Defined Contribution Accounts Another measure that MOSI can consider to build the multi-tier system would be to establish Notional Defined Contribution (NDC) accounts as a part of Tier 1. The NDC approach is often one of the first steps in developing a multi-tier system. When coupled with the development of Tiers 2 and 3, the NDC approach can be a politically feasible way to move toward including defined contribution plans as part of the overall social insurance system.

The NDC approach has been adopted in Latvia, Poland and Sweden. In an NDC system, workers, through their individual accounts, are credited with employer and employee contributions to the social insurance system – though no funds are in fact deposited in the worker’s account. These notional deposits in turn are credited with a rate of return, though again, since the account is unfunded, there is no real rate of return. On retirement, the worker is entitled to the “notional” balance in his account – the notional contributions plus the notional rate of return, generally in the form of a life annuity.

The key argument in favor of NDC accounts is that they more effectively link contributions and benefits than existing PAYG system, and are less likely to be viewed as a tax on labor and to act as a disincentive to work than ordinary PAYG systems.

The NDC approach is one of the first steps in an incremental approach to enhancing a social insurance system. Coupled with the creation of Tiers 2 and 3, as Poland has done, the NDC approach can be a politically feasible way to build consensus and establish fully funded DCPs plans as part of the overall social insurance system. The case of Poland, which used DCPs as a part of its strategy to enhance its SIS by creating Tiers 2 and 3, is presented as an example in an endnote to this chapter.

Developing and Expanding Tiers 2 and 3 Egypt's overall social insurance system can be enhanced by creating individual DCP accounts that will provide a meaningful link to the capital markets, and provide higher returns for a better retirement. MOSI should play a role in regulating these defined contribution plans.

The essence of Tier 2 is that it is a personal account, where a worker places a certain percentage of his or her income on a regular basis. The contributions are not taxed, and the investment income grows tax-free until retirement. These personal accounts would be managed by one of the Egyptian (or foreign, if permitted) fund management companies, which the worker could choose. Every so often, say once a year, the worker could change fund managers. Benefits in retirement are simply a function of contributions and investment returns.

Once the issues are addressed of financing Tier 1, and of streamlining and rationalizing contributions, it will be necessary to determine what percentage of SIS contributions can be applied by workers to their personal Tier 2 accounts. Given the extensive network of SIFGE and SIFPPSE, they could collect the contributions from the employees and the employers, and transfer them to the fund manager that the worker has chosen. After a few years, perhaps 10-15 pension funds will have been created and have demonstrated that they can meet the regulatory requirements.

Tier 2 is conceptually straightforward. The essence of a strong Tier 2—a vehicle that strengthens Egypt's overall SIS that links pension savings and capital markets, that provides higher returns and a better standard of retirement income for the pensioner, and that provides an incentive to work—is a strong and reasonable legal and regulatory framework, in which MOSI plays an important role. Given its importance and the number of issues involved, it is treated separately in Chapter 5.

Tier 3 A voluntary third tier would supplement the universal, mandatory part of the pension system, that is Tiers 1 and 2. This would make the system more flexible, allowing each individual to reallocate income across his or her life cycle according to his or her own preferences and needs. Eventually, the third tier could come to form a substantial part of retirement income along with Tier 2.

Private Pension Plans in Egypt By December 1997, the number of private, occupational Tier 3 plans in Egypt reached 554. Four million Egyptian are covered by such plans. The plans collect contributions that amount to LE 1,250 million a year and have assets in their funds of some LE 5,000 million and investment income of some LE 1,000 million a year.

The growth in these occupation plans over the last few years demonstrates an interest on the part of Egyptians in providing additional sources of retirement income. These Tier 3 plans provide another tier of social insurance protection for workers in the public and private sectors. Thus far, these plans are all defined-benefit plans. The benefits are paid in the form of a predetermined and agreed upon lump-sum amount when retirement begins.

The Egyptian Insurance Supervisory Authority (EISA) supervises these occupational defined-benefit plans under Law No. 54/1975 for Private Insurance Funds. Investment is limited by regulations governing the proportions of the funds invested in certain asset classes, including time deposits, real estate, stocks and bonds. These plans are reviewed each year, with a full actuarial review once every five years. The EISA monitors the operation of the plans to ensure that they comply with all legislation and regulations.

Thus far, these defined-benefit plans are conservatively managed, and provide only a small link to the stock market. It has been estimated that some 48 percent of the assets of private funds are invested in bank time deposits, another 42 percent are invested in government bonds and about 7 percent are invested in equities and real estate. The links to Egypt's long-term capital markets are thus limited.

*Table 4.1
Growth of Private Funds.*

	1993	1994	1995	1996	1997
Number	471	504	535	544	554
Contributions (000LE)	585,333	602,063	785,772	957,449	899,525
Reserve Funds (000LE)	2,727,855	3,300,921	3,818,972	4,324,691	5,448,240
Coverage	408,421	496,388	668,989	857,286	532,129
Administration Expenses (000LE)	20,388	52,079	47,422	69,785	77,625

IMPACT OF IMPLEMENTING THESE RECOMMENDATIONS ON THE ECONOMY, PENSIONERS, AND MOSI

Evidence from other countries indicates that developing a multi-tier system will have beneficial impacts on the economy, pensioners, and the overall social insurance system.

The Economy

Evidence from other countries that have implemented improvements to their pension systems featuring defined contribution plans as a part of Tier 2 or Tier 3 or both, suggests that the impact on the economy in Egypt should be positive, promoting growth.

Evidence from the United States, Australia, Switzerland, the United Kingdom, Mexico, Argentina, and Chile supports the existence of positive, sometimes large, impacts on growth.¹ Studies that estimate economic impact either use regression analysis for those countries that have implemented reform—most notably Chile—or use simulation models.

Pension reform can promote economic growth by helping to increase the quantities of capital and labor supplied, or the productivity of labor and capital, or both. James notes that most studies address only one possible source of growth. Therefore, it is possible that the combined impacts may be higher. If each separate effect increases GDP by 1-10 percent, then their sum may increase GDP by 10 to 30 percent.

Impact on Labor

A PAYG DB with high payroll taxes tends to encourage underpayment of contributions and an escape to the informal sector. In developing countries the potential rate of evasion is especially high, leading to fewer contributors in the SIS to support pensioners, a higher required contribution rate, and a misallocation of labor to the informal sector, where productivity is often lower than in the formal sector. Some of these disadvantages are present in Egypt.

When defined contribution plans (DCPs) are created under Tiers 2 and 3, workers tend to look at their contributions as savings on which they earn real returns to provide retirement benefits. There is little or no incentive to understate wages or escape to the informal sector to avoid contributions under PAYG DB systems, which have little or no relation to their pension benefits.

Another source of economic inefficiency in PAYG DB systems is the incentive to retire as early as the system permits. There is no financial incentive to continue working. By contrast, DCPs as a part of Tier 2 or Tier 3, or both, increase this incentive: if a worker contributes less, he or she receives lower benefits in retirement. Thus, defined contribution plans will tend to increase the supply of experienced labor in the economy by creating an incentive not to take early retirement.

Table 4.2 shows the positive effect of creating defined contribution plans on the labor market. Martin Feldstein estimates that a fully funded defined contribution system in the United States would reduce the deadweight loss from the payroll tax (owing to distorted decisions about labor force participation and other factors) by 2.5 percent of covered wages or 1 percent of GNP annually.

Another study on the United States estimated a 4 percent gain in welfare from increases in consumption associated with pension reform. The gain comes as a result of lower payroll taxes attributable to the higher returns accompanying a defined contribution plan.

¹ This section draws largely on Estelle James, “New Systems for Old Age Security—Theory, Practice and Empirical Evidence.” World Bank Working Paper, No. 1766, 1997.

Table 4.2

The Economic Impact of Enhancing Pension Systems

Country	Author	Size	Comparison
<u>Increased Output Due to Labor Market Distortions</u>			
* U.S.	Feldstein	2.5% covered wages or 1% of GNP in steady state	Projected exogenous real wage growth is 1% per year
* U.S.	Kotlikoff	4% gain in consumption or leisure for all generations	
<u>Increase in Saving Rate Due to Mandatory Saving Plan</u>			
* U.S.	Feldstein	Saving increases 1% of covered wages or 0.4% of GDP Annual Output increases 4.1% of GDP in steady state	Current national saving rate = 6.4%
* Australia	Bateman & Piggott	1.5 of GDP in long run	Current net national saving rate = 2.2% of GDP. Gross saving rate is 15% of GDP.
* Mexico	Ayala	0.4 - 2.1% of GDP	Current gross national saving = 14% of GDP
**Switzerland	Hepp	Increase in national saving rate of 2.5% of GDP after 10 years.	Saving was 6% of GDP before pension reform, 8.5% after.
**Chile	Haindi & Rondonelli	6.6% of GDP after 14 years	Gross saving was 16.7% of GDP before reform, 26.6% after.
<u>Increased Productivity Due to Financial Market Development After Pension Reform</u>			
**Chile	Holzman	1% per year increase in total factor productivity	Total increase in TFP was 2% per year after pension reform

Source: Estelle James, "New Systems for Old Age Security Theory: Theory, Practice and Empirical Evidence," World Bank Working Paper No. 1766, 1997.

* = Projected before reform

** = Actual, after reform

Impact on Savings and Capital Formation

DCPs may increase domestic savings. Under a PAYG DB system, government access to pension savings may lead it to overspend, especially on projects with low economic returns. DCPs can limit the ability of government to access pension savings. DCPs link contributions directly to benefits. This makes it impossible to make unrealistic promises of high benefit levels early in the life of a PAYG DB plan that would result in dissaving and fiscal deficits later on.

With the adoption of DCPs, participants in Tier 2 see a clear link between their contributions and eventual benefit, and therefore are more likely to participate in the system, and avoid fleeing to the informal sector. The contributions under Tier 2 may be greater than what workers would voluntarily save, and so increase domestic savings.

Finally, if pension savings are linked to capital markets and help to spur its further development, savings may be increased by the greater returns offered from new investment vehicles.

In general, empirical studies from other countries suggest that social insurance systems that include DCPs help increase the savings rate. Table 4.2 summarizes some empirical studies on the positive impact of DCPs on savings. In the case of Chile, the saving rate grew to 26.6 percent from 16.7 percent after the adoption of DCPs.

Impact on Productivity of Capital and Labor

The increase in the productivity of capital and labor is perhaps the most important impact of making DCPs a part of the social insurance system. DCPs help to improve productivity through their effect on financial deepening and the development of capital markets. Efficient capital markets help to direct savings to companies and investment projects with the highest returns. Empirical evidence indicates that capital market development in turn promotes economic growth.

With competition and efficient regulation, the DCPs of Tiers 2 and 3 can stimulate the development of financial markets. DCPs help develop investment managers, investment banks, commercial banks, insurance companies, banks and related institutions. The development of these institutions in turn helps promote economic growth. Private pension fund managers who face competition will try to obtain the highest returns subject to tolerance for risk. They will carefully use, and help to develop, investment research and better accounting and auditing standards that will improve the intermediation between saving and productive investment. Returns above what are needed to pay pensioners will be reinvested in the capital markets. This places additional resources at the disposal of the private sector, augmenting capital formation and hence productivity.

Pensioners

The impact on pensioners of adopting the recommendations to develop a multi-tier system would also be beneficial. Part of the benefits flow directly from the impact of pension enhancement on the Egyptian economy. Economic growth is the best way to raise the income of low and middle class earners. DCP plans give low earners access to capital market investments, which previously were available only to high earners, and which have the potential to yield high returns, especially with the long investment horizons of a pension plan.

Evidence from other countries indicates that creating the DCPs of Tiers 2 and 3 helps to improve returns to provide for higher benefits in retirement while reducing risk. Two types of diversification in a multi-tier system help to reduce risk to pensioners. The first type of diversification would occur as three strong tiers are created, in contrast to the one tier that typically dominates a typical retirement system. The second type of diversification of risk would come about from the greater variety of financial instruments that pension savings could be invested in, in contrast to investing nearly exclusively in government bonds institutions, which in most countries have proven to provide low and even negative returns.

MOSI

The impact on MOSI would be similarly beneficial from an institutional point of view. Rather than become a larger, dominant tier, with responsibility for both the social safety net and higher returns on pension savings, it can focus on providing a stronger, more focused program to alleviate poverty in retirement, while helping to regulate Tiers 2 and 3

By focusing on this important function of government—providing poverty alleviation—MOSI can follow its competitive advantage, while leaving to the private sector the task of providing the link between pension savings and capital markets. Activities that would help MOSI to undertake these activities are discussed in Chapters 6 and 7.

Endnote: Improving SIS and NDCs in Poland

Poland has recently adopted the NDC approach as one part of a complete overhaul of the state PAYG system – including the creation of Tiers 2 and 3. Under the new Polish model, three tiers will support workers’ retirement benefits. Tiers 1 and 2 are universal and mandatory, while Tier 3 is voluntary. The first is PAYG financed, the second and third fully funded. The current PAYG system, which has been reduced and converted to a NDC system, will form the new first tier. One aim of the reform was that the defined-contribution element in both tiers of the mandatory system would make it easier to reduce Tier 1 contributions in the future.²

² M. Gora & M. Rutkowski, *The Quest for Pension Reform: Poland’s Security through Diversity*, (World Bank 1999).

Before the reform, the employer contributed about 24% of a worker's wage to the PAYG system.³ Under the new system, the contribution rate will remain unchanged but (subject to a ceiling) both employers and employees will contribute equally (though employee earnings will be grossed up to reflect their new liability). Nine percent of the contribution will be diverted to mandatory funded pensions – Tier 2.

The worker's NDC account will be credited with 15 percentage points of the contribution, though in fact that same contribution will continue to finance PAYG benefits. However, the employer can redirect up to 7 percent of its contribution to the employee's individual Tier 3 account, thus enabling employers to reward their employees without additional cost.

The Accumulation Phase

Employer and employee contributions are registered in the worker's social insurance account. Each participant will receive information about his or her notional account balance and standardized estimates of pension value under different assumptions of retirement age. It is important to keep in mind that notional capital is simply an account of rights. There is no money in the account and it is not equivalent to a bank or pension-fund account. Thus, notional capital cannot be inherited.

To ease the transition, workers who started their careers before 1999 have "initial capital" added to their accounts in recognition of pension rights accrued under the old system. For workers under 50, initial capital will be calculated to deliver the same pension benefit as the old formula (adjusted for age), as if everyone retired on the last day of the old system.

Because the notional defined-contribution system is PAYG, it is dependent on the cohort of workers paying for the benefits of the cohort of pensioners, and so is vulnerable to demographic shocks. To stabilize the contribution rate, reserves will be set aside and drawn down as the current large cohort retires. Thus, the reserve system is equivalent to partial funding of the pensions system's Tier 1.⁴

The Distribution Phase

The system will have a minimum pension age of 62 years for men and women. Each additional year of work and contributions will be rewarded by an increase in the value of pension benefits. For example, a person who retires at 66 instead of 65 (with 46 years of

³ The employer also contributed another 21 per cent of earnings to finance disability and other social insurance benefits, such as injury, sickness and family payments. Under the new system, the employer and employee will pay equally for old age and disability insurance, injury will be the responsibility of the employer, and sickness of the employee. The difference will be used to help finance the PAYG system.

⁴ The 'buffer fund' will consist of any surplus in the first tier, privatization revenues and, temporarily, one percentage point of total contributions. Interest, and any extra revenues, will be added to the fund. The aim is to ensure that the pension system is entirely self-financing, that it will not need subsidies from the general budget and that contribution rates will remain relatively stable in the future.

service) will receive 9 per cent higher pension benefits. If the same person were to retire early at the age of 64, his or her pension benefits would be 8 percent lower.

At retirement, the total notional capital in the worker's account will then be converted to an annuity based on average life expectancy at the time of the award.⁵ Consequently, the value of the pension will automatically fall as life expectancy increases, again increasing the stability of the system.

Using NDC accounts as part of an overhaul of a troubled state system seems reasonable where, as in Poland, it is combined with the creation of Tiers 2 and 3 and other reforms to the existing system. However, reforming a PAYG system solely through the creation of NDC accounts does not seem to have much merit since it does not substantially improve the inadequacies of unfunded state pension systems, is open to political manipulation, and is more costly to implement than existing defined benefit systems.

⁵ The new system will also have a guaranteed minimum pension, set at the same level as the current system, and indexed in the same way as other pension benefits. It will be paid from age 65 to people who have contributed for a minimum of 25 years. This benefit will top up pensions (the sum of both first and second tier) to the minimum level. It will be financed from general revenues, not from contributions to the pension system. This policy is designed to separate the redistributive role of the system from the lifecycle reallocation of income. It means that the financing of minimum pensions will be on a broader base - including capital and transfers as well as labor income - than the rest of the pension system.

LEGAL AND REGULATORY ISSUES FOR THE STRATEGY

Chapter 4 proposed a strategy that, by creating and using a multi-tier approach and introducing defined contribution plans (DCPs), would serve as a better vehicle than government-led investing to realize the benefits of linking pension savings to the capital markets, while providing a sturdier foundation for secure old-age retirement. It also discussed how this strategy would have favorable impacts on the economy, pensioners, and MOSI.

This chapter addresses the fundamental issues in implementing the strategy by spelling out the required legal and regulatory framework essential to strengthen the system. Egyptian policy makers considering the creation of a multi-tier system featuring Tiers 2 and 3 with personal DCPs will need to address a number of challenging legal and regulatory issues to successfully implement the strategy and ensure that assets are protected and public confidence is affirmed.

Failure to create an appropriate regulatory structure and enact the required legislation could lead to the loss of pension savings, which in turn could have negative ramifications for Egypt's SIS and retirees, workers, and taxpayers.

At the same time, regulations are not costless and excessive regulatory burdens could discourage the development of voluntary private pensions and reduce the returns from mandatory schemes, thus leading to a shortfall in retirement assets.

In developing a regulatory framework, the goal is to steer between the risks of insufficient regulation and over regulation. In doing so, policy makers will need to focus on the core legal and regulatory issues, including the structure and responsibilities of the regulator itself, the legal structure of the pension funds, the regulation of the assets of the pension funds, and the regulation of the funds' liabilities or benefits.

In developing the legal and regulatory framework, the GOE should consider strengthening the legal and regulatory institutions that currently exist and function well, such as the Capital Market Authority, and design and support new institutions to regulate the new elements of the pension system, such as defined contribution plans. These key issues and regulatory institutional recommendations are discussed in greater detail later in this chapter.

The Legal Structure of the Pension Fund

Separation of Ownership and Management

Typically, both voluntary and mandatory private pension systems are built around

entities called pension funds, which maintain the individual accounts of workers or "affiliates." In determining a pension fund's legal structure, the core issue is to ensure a legal separation between the pension fund -- which holds title to the fund assets -- and the management company, which manages the assets. This distinction is crucial to ensure that non-pension assets are not commingled with pension assets and to ensure that the insolvency of the management company will not lead to the insolvency of the pension fund.

The core purpose of separating the fund from the management company is to separate the ownership of the assets from the management of the assets. Thus any law establishing private pension funds should clearly establish that the pension fund holds legal title to the assets for the benefit of the beneficiaries. The law should additionally state that the contributors' legal right to the assets is superior to any creditor of any individual or entity – e.g., the management company, pension fund, depository, investment intermediary – under any circumstances.

Precisely how this would best be accomplished in Egypt is a question of Egyptian law and must be examined further. In the US, for example, assets are typically separated from the management company or the plan sponsor through the legal concept of the trust. As set forth in the key legislation that governs private pension plans, the Employee Retirement Income Security Act of 1974 (ERISA) "all assets of an employee benefit plan shall be held in trust by one or more trustees. . . The trustee or trustees shall have the exclusive authority and discretion to manage and control the assets of the plan . . ."

Countries that do not follow a common law tradition use a different approach. In some of the transitional economies, the relevant statutes create a special kind of joint-stock company that collects pension assets and contracts with a management company for the investment of those assets and a depository to maintain those assets.

In Poland, for example, the law establishes two entities, pension funds and pension societies. A pension fund is a legal entity that collects and invests assets for beneficiaries or "members." The governing body of a pension fund is a pension fund society, which is a joint stock company that establishes a fund, manages it and represents it in relation to third parties as its governing body. The establishment of a fund requires a "statute granted by a society to a fund," an agreement concluded between a society and a depository for maintaining the fund's assets, and a license. The business of a society is confined solely to establishing and managing funds and representing them before third parties. A society is permitted to manage only one fund, and a legal entity may be the shareholder of only one society. A society is governed by its board of management, supervisory board and general meeting. Members of the management and supervisory boards must have specified work and educational backgrounds and may not have been convicted of any financial crime.

Latin American countries use a similar approach. In Argentina, only specialized fund management companies are authorized to participate in the system.¹ These specialized fund management companies are known as AFJPs. They must be constituted as joint-stock

¹ The discussion of the Argentinean model here and elsewhere in this report draws on D. Vittas, *Private Pension Funds in Argentina's New Integrated Pension System*, (World Bank 1997).

companies and can be established by any group of shareholders, including banks, insurance companies, trade unions, employers and groups of employees. The AFJPs are required to have minimum capital of 3 million pesos (about \$3 million) and to maintain a reserve to meet any shortfalls in profitability. This must equal the larger of 3 million pesos or two percent of the total assets under management. Thus an AFJP is capitalized with 6 million pesos. Each AFJP is allowed to operate only one fund for its “affiliates,” i.e., participants. The fund is an independent legal entity and is fully segregated from the AFJP. The assets of the fund belong exclusively to the affiliates and are unattachable and unaffected by the AFJP’s financial losses. AFJPs are required to establish custody agreements with authorized custodial institutions for the safekeeping of the securities in which they invest.

In Mexico, investment management companies (known by their Spanish acronym AFORES – Administradores de Fondos de Ahorro para el Retiro) administer individual retirement funds known as SIEFORES. The private sector, the existing government social security authority, and trade unions are all authorized to found AFORES. Financial institutions from NAFTA countries (the US and Canada) as well as financial institutions for some Latin American countries are permitted to found AFORES. AFORES are single-purpose business corporations with independent capitalization. Each AFORE must maintain a minimum paid-in capital of N\$25 million or one percent of the total assets of SIEFORES under management. The paid in capital and special reserve are required to be invested in shares of the management company’s fund. Capital of a management company that is affiliated with companies outside of the pension context may not be used to meet the obligations of the other subsidiaries of the same group.

Although, as outlined above, different countries use different legal devices, the overall objectives are similar: the management company is separated from the pension fund so that the insolvency of the management company will not enable creditors to seize the workers’ assets, and the management company will not commingle the workers’ assets with other assets.

The Fund’s Legal Obligations

The law must also clearly define the legal obligations of the pension fund under Egyptian law. This definition must include how it is governed and what its legal responsibilities are to participants. It must clarify that the pension fund’s trustees are held to high legal and ethical standards, or what is known in common law countries as fiduciary obligations. These obligations should include the duties of loyalty and care, prohibitions against self-dealing, and requirements to act in the sole interest of the beneficiaries.

In the US, for example, the duties of a fiduciary are set forth in very general terms in US statutory law. A fiduciary is required to discharge his or her duties with respect to a qualified retirement plan with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

With regard to a fiduciary’s investment decisions, he or she is required to give “appropriate consideration to those facts and circumstances that, given the scope of such fiduciary’s investment duties, the fiduciary knows or should know are relevant to the particular

investment or investment course of action involved, including the role the investment or investment course of action plays in that portion of the plan's investment portfolio with respect to which the fiduciary has investment duties.”

In giving appropriate consideration to the facts and circumstances of an investment decision, the fiduciary is required to (i) make a determination that the particular investment or investment course of action is reasonably designed, as part of the portfolio (or, where applicable, that portion of the plan portfolio with respect to which the fiduciary has investment duties), to further the purposes of the plan, taking into consideration the risk of loss and the opportunity for gain (or other return) associated with the investment or investment course of action, and (ii) consider the composition of the portfolio with regard to diversification, the liquidity and current return of the portfolio relative to the anticipated cash flow requirements of the plan, and the projected return of the portfolio relative to the funding objectives of the plan.

Another key fiduciary obligation is the prohibition against self-dealing, or using the fund's assets for the benefit of the plan managers rather than for the sole benefit of the beneficiaries. In the US, self-dealing is regulated under section 406 of ERISA, which contains an absolute prohibition against certain transactions, including transactions where a plan fiduciary sells or purchases property from the plan, lends or borrows money from the plan, deals with plan assets in his or her own interest, or receives any compensation for his or her own account from any party dealing with the plan in connection with assets involving the assets of the plan.

Prohibitions against self-dealing are also found in the civil law context. In Poland's new private pension law, self-dealing is regulated under Article 150, which prohibits a fund from buying or selling assets to: (i) the fund's governing board; (ii) members of the Board of Management or the Supervisory Board of the fund; (iii) employees of the fund; (iv) spouses, immediate family and relatives, up to second degree of kinship, of members of the board or employees of the fund; (v) shareholders in the fund; (vi) any entity which is a related company either to the fund or its shareholders; and (vii) the depository holding the fund's assets.

Again, how Egypt will define the legal obligations of the funds will depend on Egyptian law. What is key is that plan assets must be managed for the sole benefit of plan beneficiaries, and plan managers must be held to high standards of skill, judgement and ethics.

Authorized Institutions

Another key regulatory consideration for the new GOE framework is which entities should be authorized to offer pension funds. In the US, any licensed financial intermediary, such as banks, insurance companies, and registered investment companies, is permitted to offer private retirement products so long as these products meet the requirements of ERISA. “In such a system, the distinction between pension funds and mutual funds will greatly diminish, especially if . . . a deliberate attempt is made to harmonize prudential regulations

between pension and mutual funds, elevating mutual fund fiduciary standards where necessary.”²

Other countries follow different approaches. Under the Chilean model, the regulations created a new financial intermediary, the pension fund, with extensive restrictions on what the pension fund can invest in and how it can invest. The fund administrator effectively must guarantee a return within a narrow band based on the average of the industry. The administrators can offer only one fund and the beneficiaries can only invest in one fund. Existing banks, insurance companies and investment companies cannot offer pension funds, and fees are regulated. As one commentator has argued, the Chilean model has produced mediocre returns as a result of “well-meaning but counterproductive investment regulations”:

We find that the net returns to affiliates in most countries [that follow the Chilean model] are negative or negligible over the first 4-5 years and do not beat the returns from simple investments such as bank CDs [certificates of deposit], over the long haul. The regulations seem to create profound biases against competition, efficiency, specialization, and in favor of excessive direct marketing expenses. The resulting losses, even if small, can seriously endanger the retirement nest egg, while subjecting the affiliates to inappropriate risk-reward tradeoffs in the interim.³

The basic tension is between a more competitive system, albeit more difficult to regulate, and a less competitive system, where only certain financial intermediaries are permitted to offer pension products. The US model is one based on competition. The Chilean model, which has been followed in most of the countries that have reformed their pension systems, is based on sacrificing competition for ease in regulation. Whether the pension fund industry should be limited along the lines of the Chilean model or permitted to develop along the lines of the US model is debatable and largely dependent on the stage of development of a country’s existing financial intermediaries and its existing regulatory capacity.⁴

One Company/One Fund?

Another basic regulatory issue is the number of funds a management company should be permitted to offer. In the US, pension management companies face no regulatory limitations on the number of pension funds they may offer. The sole limitation is the demand in the marketplace. In Chile, by contrast, Argentina and other countries as well, pension companies may offer only one fund, and beneficiaries may invest in only one fund. In Mexico, the pension regulator is authorized to permit management companies to offer more than one fund so long as at least one of the management company’s funds is a portfolio composed “fundamentally” of securities indexed to the Mexican consumer price index. Yet,

² Ibid.

³ Ibid.

⁴ The Chilean model is cogently criticized in H. Shah, *Towards Better Regulation of Private Pension Funds*, (World Bank 1997).

so far, the Mexican pension regulator has permitted each management company to establish only a single fund indexed to the CPI.

The argument in favor of a management company offering multiple funds is that multiple funds enable investors to tailor their investments to their circumstances: for example, a mature worker should have very different investment criteria from a young worker just starting out. Different clients will have different risk preferences and consequently it would be appropriate to offer different funds. The standard argument against a single management company offering multiple funds is that multiple funds will increase the regulatory burden, encourage self-dealing and encourage the management company to favor one fund over another. Or, as one commentator pointed out in the Mexican context, the decision to restrict a management company to a single debt fund “reflects the government’s desire to simplify supervision in the first year of pension fund operations, reduce potential confusion among the public and build public support by reducing volatility.”⁵

Whether the one company/one fund rule or the one company/multiple funds rule is appropriate depends on a number of factors including whether the funds are optional or mandatory, the degree of legal separation of the pension fund from the management company, the depth of the country’s financial intermediaries as well as a country’s regulatory capacity to prevent self-dealing and fraud. A reasonable approach may be to start with the one company/one fund concept and graduate to permitting fund management companies to offer at least two funds: one higher risk with a heavier equity component and one lower risk with a heavier bond component.

One Worker/One Fund?

Another corollary issue is whether beneficiaries should be limited in the number of accounts they may have. In the US, Tier 3 beneficiaries (the US currently has no Tier 2, though this may be established in the near future) are not limited in the number of accounts they may have and can open up numerous accounts with different companies (or the same company), for example, accounts that invest in a particular product or asset class.

Under the Chilean model, beneficiaries are permitted to have only one account with one company. If they decide to invest elsewhere they must transfer their entire account to the new company. The one account per worker rule requires workers to place their entire account with one pension fund management company. This rule does not permit investors to construct their retirement portfolios as they see fit.

Again, there are arguments for and against either approach. The multiple account rule as practiced in the US permits workers to diversify their risks among pension management companies and among asset classes by investing in different types of funds. The one worker one-account rule is simpler to regulate and arguably reduces fees. Though, as one commentator has argued: “The potential high cost of multiple account holding would induce most workers with low balances to hold one or at most two accounts. But high income and high balance workers could maintain more than one account and thus reduce the

⁵ G. Grandolini & L. Cerda, *The 1997 Pension Reform in Mexico* (World Bank 1998).

intense marketing efforts that are made by selling agents to persuade them to switch their accounts. This is because workers would be able to switch part of their contributions and/or balances and would represent less of a prize for selling agents.”⁶

Egypt, like other countries, will have to decide how the industry should be structured and whether workers should be limited to one account or more. The essential issue is whether Egypt will have the regulatory capacity to permit multiple accounts per worker and multiple funds per management company. Most countries have started with the one company/one fund and one worker/one fund rules and Egypt may decide, at least initially, to do the same. In either case, enhancing the supervisory capacity within MOSI and in other regulatory bodies will be essential and should begin immediately.

An Overview of the Taxation of Funds

In most countries, a strong factor in promoting the development of private retirement savings is the preferential tax treatment accorded such savings. A key legal (and economic) issue in designing private pension funds is how contributions and distributions are taxed. How a tax system should be designed is complex and dependent on a number of factors such as the cost of tax relief, the use of taxes to fund the transition, and the incentive effects of tax relief.

There are essentially three approaches to taxing private defined-benefit pensions. One is to tax the contributions when made, taxing either the employer or the employee. Under this system, the government receives taxes up front and the employee receives benefits tax free upon retirement. The second method is to tax income and gains as they accrue. The third method is to tax benefits as they are paid out. This method operates as a tax deferral and has a timing effect on tax receipts. Combinations of these three approaches are also possible.

The most common approach is to exempt contributions when they are made, exempt income and gains as they accrue, but to tax benefits as they are paid out. The US relies on a combination of approaches depending on the particular retirement product and the income of the beneficiary. In general, the US follows the approach of exemption from initial taxes, the exemption from taxes on gains and income, and the taxation of distributions. However, for certain products and certain income categories, the beneficiary has the choice of paying the tax up front on his or her contribution and then enjoying the benefits tax free. For other products and other income categories, the beneficiary invests tax free but then pays taxes on his or her distributions.

Other countries adopt different approaches. In New Zealand, taxes are levied on both contributions and gains, thus treating retirement savings like any other type of savings.⁷

⁶ D. Vittas, *Regulatory Controversies of Private Pension Funds*, (World Bank 1998).

⁷ According to one commentator, New Zealand’s “[r]emoval of tax benefits has led to a significant reduction in pension fund assets as contributions declined and companies terminated existing funds to benefit from pension surpluses.” D. Vittas, *Policy Issues in Contractual Savings in South Africa* (World Bank 1994).

Belgium taxes the value of the assets in the fund each year. Iceland and Japan tax contributions and withdrawals, though in Japan lump-sum withdrawals up to a set percentage are exempt. In Finland, contributions up to a set percentage are exempt, gains and income are exempt and tax is levied on distributions. Denmark and Sweden exempt contributions but tax gains, income and distributions.

There are advantages and disadvantages to each approach.⁸ Taxing contributions up front can be used to pay the transition costs and capture revenues from foreign workers and others who may emigrate after retirement. Taxing contributions at the back end is perceived by workers as more valuable (even when the taxes have the same economic consequences), which may encourage greater participation in the system, increased savings and less evasion. It also protects workers from possible time-inconsistent actions by the government – i.e., changes in policy where workers pay taxes today based on the promise that they will not be taxed again, but nonetheless are again subject to taxes at retirement because of different policies.

How Egypt addresses the tax strategy related to pension products will be an important element of the recommended move to a defined contribution program. Further analysis will need to be performed to develop a “menu” of tax advantaged products in the defined benefit (tax benefits for employers) and defined contribution (employees’) programs. In general, Egypt might want to consider introducing a variety of tax-advantaged pension products for employers and employees alike to encourage greater participation in Tiers 2 and 3. By doing so, all Egyptians would be increasing retirement security by developing alternative savings and reducing the financial burden on the GOE to provide defined-benefit social insurance.

The Structure of Regulation: A Dedicated Regulator or a Functional Approach

Another threshold issue is whether Egypt should rely on a single pension regulator or instead adopt a “functional approach” where existing Egyptian regulators would regulate the private pension industry according to the activity in which a fund is engaged. This approach would imply, for example, that the existing Capital Market Authority would regulate investment issues, the existing insurance regulator would regulate annuity issues, the Ministry of Finance would regulate tax issues, and so on. Different countries have adopted different approaches. The United States, for example, uses a functional approach that involves the Securities and Exchange Commission, the Internal Revenue Service, the Department of Labor, the Pension Benefit Guarantee Corporation and state insurance supervisors.⁹ In the United Kingdom, a single regulator regulates all financial products. By

⁸ See E. Whitehouse, *Taxation: the Tax Treatment of Funded Pensions* (World Bank, undated).

⁹ The Department of Labor oversees minimum funding and investment standards and deals with cases of fraud, while the Internal Revenue Service sets maximum funding rules to prevent abuse of tax advantages. The Pension Benefit Guarantee Corporation collects insurance premiums and pays benefits but has few enforcement powers. The SEC oversees any regulated investment products that are offered. And a master custodian has to be appointed to oversee fulfillment of ERISA requirements, keep appropriate records and provide security against prohibited transfers.

contrast, most emerging markets that have upgraded their pension systems have created a separate regulator solely responsible for regulating the pension sector.

In Chile, for example, the supervisory structure is that the divisions of a single agency, the Superintendency of AFPs, carry out all relevant tasks, including handling on-site inspections. In Chile, regulation focuses on consumer protection in large part due to the perceived information asymmetries between individuals and management companies. Regulation of funds seeks to ensure their solvency both by separating funds from management companies and imposing minimum capital requirements on them. While the Chilean model predominates in most emerging market countries, there are substantial arguments in favor of each of the approaches outlined above.

Merits of Granting Regulatory Authority to Existing Agencies

From a purely logical point of view, there are strong arguments in favor of the functional approach. In Egypt, the Central Bank, MOSI, CMA, EISA, and tax authorities already carry out many of the activities of a pension supervision agency. Pension funds are essentially tax advantaged open-ended investment funds that offer their products through contracts rather than, as with investment funds, prospectuses. While the legal form may be different, they are economically the same: they both are collective investment vehicles that receive cash from contributors, hold the cash in licensed depository institutions, invest the cash in various assets, hold the assets with an authorized custodian and credit gains and losses to individual accounts.

All funded private pension funds are simply savings vehicles that complement and compete with other savings vehicles such as bank deposits, life insurance, stock and bond investments and investment funds. In the accumulation phase, pension funds are similar to open-ended investment funds and present precisely the same regulatory issues: disclosure of investment policies, restrictions against self-dealing, safeguarding of assets, valuation of investments and so on. In the payout phase, the annuity option may raise insurance regulatory issues. Whatever payout issues arise could be dealt with either by Egypt's EISA or by the creation of a special department within Egypt's CMA.

In their accumulation and investment phases, the regulatory goals for pension and investment funds are similar. Both types of collective investment vehicles must be supervised to confirm that the investments are valued properly, that the investor receives the correct number of units when investing as well as the correct proceeds of sale when the investor liquidates his or her holdings. Supervision of both may typically include checking that individual share holdings in the collective investment scheme are up to date and correctly valued and that the net asset value of the funds is accurate at all times and available to investors. Investors' interests will also be protected by ensuring that a pension fund contains an appropriate range of investments, that any regulatory restrictions and prospectus disclosures on diversification have been complied with, and that a pension fund is invested according to its investment objectives. Supervision of either will ensure that investors are exposed to a level of risk consistent with the fund's objectives as well as ensuring that any

regulatory minimum range of investments is maintained.

An operator of either collective investment vehicle will be responsible for ensuring that all operational activities are carried out competently. This may be a wide range of activities, which includes managing the investments in accordance with the objectives of the pension fund, valuation, administration, accounting, promotion and distribution. The level of supervision of each activity will probably vary, but in either event it will be similar and depend on the nature of the risks that have been identified.

Upon retirement, individuals might have the option to take their benefits in a lump sum or to purchase an annuity. The lump-sum option would raise no regulatory issues. The annuity option, on the other hand, would raise a number of regulatory issues since annuities are essentially insurance products. These issues include accounting and technical issues, reserve requirements, investment considerations, auditing and actuarial requirements. Since Egypt already has an insurance regulator responsible for regulating insurance products, that regulator could also regulate the insurance aspects of the private pension funds.

The argument against creating too many new regulatory bodies is not simply one of duplication of efforts. Different regulatory regimes will lead inevitably to market segmentation, restrictions on competition and an unequal regulatory structure. This will be counterproductive and lead to inefficiencies. For example, in some countries voluntary pension funds file “contracts” with their regulator while investment funds file “prospectuses” with their regulator – even though (nomenclature aside) both products are voluntary savings vehicles and may even have identical portfolios.

From a practical point of view, there are additional substantial arguments in favor of giving the existing agencies much of the supervisory authority over the voluntary pension funds. First, there is an issue of cost: another regulator will impose significant demands on the budget – or the regulated entities if they are required to fund the regulator. Second, there is the possibility that multiple regulators dealing with similar issues will result in over regulation that stultifies the growth of the industry. Third, there is the issue of regulatory capture: a regulator that focuses solely on one industry is more likely to be captured by special interests than a regulator with broader responsibilities. Fourth, there is the issue of duplication of efforts. During the several years that the Capital Market Authority has been active, it has developed the leading expertise in Egypt in the regulation of investment products. Substantial resources have been devoted to training the CMA and its staff, and attempting to duplicate this training would not be cost-effective.

Fifth, there are limitations on the human resources available to staff the new agency. In most emerging markets, there is a shortage of trained experts in law, accounting and actuarial science capable of staffing a new agency. To the extent that qualified persons do exist, any new regulatory agency would have to compete with a private sector that will pay higher salaries and provide other benefits.¹⁰

¹⁰ One commentator put the challenge as follows:

“Developing countries often lack the pre-existing capacity to regulate financial markets and

The Merits of Establishing a New Regulatory Body for Defined Contribution Plans

Although there are arguments favoring a functional approach, there are also substantial arguments favoring a separate pension regulator.¹¹ First, a mandatory private pension system is unlike other systems of voluntary savings, which implies that the state has a greater supervisory responsibility. Second, pension regulation requires unique expertise in capital markets, insurance and social insurance: while existing regulators may adequately regulate each, no single regulator regulates them all and there is the danger that issues may arise between the interstices of these agencies. Third, the existing regulation of investment or insurance products may have been inadequate. Fourth, there may be public suspicion of the transparency of existing regulatory agencies. In other words, public support of enhancing pensions may be contingent on regulatory enhancement as well.

The Responsibilities of a Dedicated Regulator

If Egypt (like most developing markets) favors the dedicated regulator concept, then it should ensure that the dedicated regulator has both the political independence to regulate the powerful institutions offering retirement savings products and the capacity to regulate the products offered. Analogous to the CMA, the pension regulator must be insulated from the political process with the director appointed (and staff selected) in a transparent manner on the basis of objective qualifications. Although it is difficult to recommend a precise form for the regulator in the absence of a legal structure that establishes its responsibilities, some elements are universal. Typically, a regulator will have a least four divisions, a licensing and enforcement division, a research division, a legal division and a support services division.

The responsibilities of the licensing and enforcement division will include licensing new pension funds, ensuring proper disclosure, approving marketing and advertising, evaluating performance measures, conducting inspections and audits, and overseeing the merger and liquidation of troubled funds. The pension supervisory agency should have the power to license pension companies, apply prudential regulations, obtain and independently verify relevant information, engage in remedial action and apply sanctions against pension companies that do not comply with the orders of the supervisory agency. These sanctions should include orders that totally or partially restrict the business activities of the company, direct a company to cease practices that are unsafe or unsound or take action to remedy an unsafe or unsound business practice with the option to invoke other sanctions on the company. Additionally the regulator should have the authority to obtain the assistance of

institutions. . . . [A] country which is unable to manage well an unfunded or funded public pension system, because of administrative inefficiency, shortage of skilled personnel or political interference would most likely be unable to regulate and supervise a private pension system, be it mandatory or voluntary. Ability to enact clear rules and penalize malfeasance in a predictable way will likely be lacking in such cases. It may be added that pension regulators typically rely on other regulators such as those of the securities markets . . . and financial institutions” E. P. Davis, *Investment of Mandatory Funded Pension Schemes* (1998).

¹¹ The arguments in favor of a dedicated regulator are summarized in D. Gustavo & R. Rofman, *Supervising Mandatory Funded Pension Systems: Issues and Challenges* (World Bank 1998).

judicial authorities or, in egregious cases, notify the criminal authorities of fraudulent or illegal conduct (and the criminal authorities must have the appropriate laws and procedures to prosecute such conduct).

The regulator should be independent of political authorities and supervised companies in the daily exercise of its tasks and be accountable for the use of its powers and resources to pursue clearly defined objectives. It should have the powers and sufficient resources to cooperate and exchange information with other authorities at home and abroad. It should establish an employment system to hire, train and maintain a professionally qualified staff.

The industry should be encouraged to set up private mechanisms and institutions for drawing up business guidelines and a code of conduct to eliminate harmful practices. Self-regulatory arrangements and organizations can be a useful complement to the public supervisory structure. However, supervisory authorities need to scrutinize such arrangement to ensure that they are conducive to the effective functioning of the market.

Regulation of Entry: Licensing

Companies wishing to transact business must be licensed. In effect, licensing is the main means of preventing unsound pension companies from entering the marketplace. Adequate licensing criteria will allow the supervisory authority to concentrate on preventative measures rather than expending resources on companies that get into trouble. Licensing can be directed at the company or at the products offered or both.

For example, where annuity products are offered, there are essentially two approaches to the regulation of product design: one approach is to encourage standardized products by requiring that products first be approved by the regulator.¹² The second approach is to give the pension management companies freedom to design products as they see fit. If those products have an insurance component, they must be approved by a licensed actuary. Different countries use different methods in regulating product design. In Germany, for example, the regulatory structure encourages standardized products by requiring approval before products may be offered to the public. In the United Kingdom, by contrast, companies enjoy a high degree of freedom in designing products. The regulator does not approve individual contracts but instead relies on the actuary to ensure that new products are soundly priced and the company is able to finance satisfactorily the volume of business it is generating.

At a minimum, licensing should be predicated on the following:

- **Financial Resources:** an examination of the nature and adequacy of the company's financial resources before it is permitted into the business. This should include ensuring that the company has the minimum capital that the law requires to prevent undercapitalized companies from offering pension products.

¹² These issues are discussed in more detail in D. Vittas, *Financial Regulation: Changing the Rules of the Game* (World Bank 1992).

- Legal requirements: ensuring that the companies comply with the joint-stock company laws, including filing their constituent documents with the regulator.
- Suitability requirements: the regulator must ensure that owners, directors and senior management meet minimum experience or education requirements.
- Change in control: the supervisory agency must monitor changes in control and establish clear requirements to be met when a change in control occurs – similar to the requirements for initial licensing.

Another licensing issue is whether the fund managers themselves should be licensed and whether pension funds should be required to use only licensed fund managers. Licensing of fund managers could be undertaken by the CMA based on commonly accepted principles. Licensed asset managers could either be authorized specialized companies or qualified individual asset managers that are employed by the pension fund.

The rationale for using licensed asset managers is that managers versed in portfolio theory and other investment tools presumably would be able to construct more efficient portfolios than managers who are not so licensed. Licensing could also be predicated on an appreciation of legal and ethical rules. While licensing may have certain attractions, it must also be kept in mind that licensing will raise costs by restricting entry and thus may discriminate against smaller companies.

Developing a Regulatory Apparatus for the Enhanced Egyptian SIS

While further analysis needs to be completed before a detailed recommendation on the most appropriate regulatory structure is made, the foundation for a sensible framework is apparent. To avoid the inefficiencies and disadvantages of developing an entirely new framework and institutions, the GOE should consider strengthening existing regulatory capacity within the agencies that already oversee the part of the pension program that currently exists. Thus, in the defined benefit programs currently established in Tiers 1 and 3, MOSI would be responsible for overseeing and supervising quality, compliance, performance of funds and consumer affairs. In effect, it would perform a pension ombudsmen role. The Capital Market Authority (CMA) would continue to regulate and supervise the investment aspects of pension funds including financial requirements, disclosure, and enforcement. EISA would continue to oversee the insurance aspects of Tiers 1, 2, and 3, and the supervision of Tier 3 defined-benefit occupational plans.

With the implementation of the proposed recommendations to enhance the SIS by establishing a defined contribution program under Tiers 2 and 3, it would be advisable to establish a Pension Fund Regulatory Agency that would oversee the industry, supervise compliance with regulations regarding investment funds, choices, and management, and perform licensing activities and enforcement. As many of the functions of a defined contribution regulator are new and beyond the “core business” of existing regulatory agencies, a new regulatory agency would seem to be efficient and effective.

While more design analysis needs to be completed, this institutional approach and framework would meet many of the best practices described above and would feature many of the advantages of the functional regulator and the dedicated regulator approaches. This recommended hybrid approach allows for Egypt to enhance the existing regulatory agencies that function well today, and create a new regulatory body for the products and industry planned for the future. In addition to the institutional arrangements discussed above, the enhanced GOE regulatory framework would also have to carry out additional supervisory activities consistent with a more complex and modern pension industry.

Ongoing Supervision of Pension Companies

Supervision should be exercised over the entire operations of the pension companies and should encompass all of the various aspects of its business – ethical, legal, technical and financial. In particular, the supervisor’s task is to ensure that companies comply with applicable regulations. Supervision should include the ability to engage in off-site and on-site supervision. Off-site supervision would include the examination of required filings and records and the ability to request additional materials. Off-site capabilities would be supplemented with the ability to conduct on site inspections. On-site inspections are particularly important because they enable the supervisory authority to evaluate the company’s management, its effectiveness and its compliance with supervisory standards, especially where weaknesses in accounting and reporting systems impair the effectiveness of off-site inspection.

Conduct of Business Supervision of a pension fund should seek to ensure that the fund meets high standards of competence, integrity, and fair dealing in its conduct of pension fund business and that any investment transactions undertaken on behalf of a pension fund that present the operator with a conflict of interest are limited, properly disclosed, and consistent with investor protection. Such supervision should be able to establish that a pension fund has been treated fairly and that the operator has not itself benefited from transactions to the disadvantage of the pension fund.

Other conduct-of-business issues include:

Internal Controls and Compliance Mechanisms: Supervision should seek to ensure that an operator has internal controls and compliance arrangements sufficient to ensure that it can carry out its business diligently, effectively, honestly and fairly.

Accounts and Recordkeeping: Supervision of an operator should seek to ensure that proper books and records of the pension fund are maintained for an appropriate time and in the event that the pension management business is terminated, either voluntarily or involuntarily in bankruptcy proceedings.

Continuous Eligibility: Supervision should seek to ensure that neither changes in the management or administrative organization of an operator nor delegation of functions to a third party, lead to a lesser degree of investor protection than was presumed at the time of the authorization.

Marketing and Selling: Supervision should oversee marketing and selling practices, whether through specific rules or through a self-regulatory organization or both. Regulation will also generally cover the content of advertising and especially the methodology for making performance comparisons -- for example, ensuring that managers do not mislead prospective participants with misleading performance comparisons.

Calculation of Returns: The supervisor should establish uniform methodologies for the funds' calculation of returns and procedures to ensure that the funds use these methods;

Auditing Standards: Meaningful disclosure must be based on the requirement of independent audits and recognized standards for those audits. Auditors should be required to notify the managing body of the pension fund and the regulator of problems with asset valuation, adequacy of reserves and compliance with rules.

Technical Provisions: To the extent that companies offer insurance (annuity) products, the regulator will have to ensure that the companies properly provision so that they can meet their obligations to the annuitants. The proper calculation of technical provisions is a challenge for both the company offering insurance products and the regulator. Because of poor historical data, uneven economic conditions, and weak auditing and actuarial personnel, numerous problems may arise including cross subsidization of products, underpricing, and inadequate technical provisions. The regulator will need to establish general rules as to what should be included in technical provisions and what should be the standards for calculating technical provisions. Data must be compiled to assess the adequacy of technical provisions. The regulator must monitor premium levels to prevent the marketing of underpriced products. The regulator will also need to determine what assets can be used to back up provisions and how these assets should be valued. In order to ensure the safety, profitability and liquidity of investments, the regulator must ensure that the assets are sufficiently diversified, properly valued, safely maintained and matched against liabilities.

Statistics: the compilation of nationwide statistical data is particularly important since adequate mortality tables are a necessary condition for pricing insurance products and adequately calculating technical reserves.

Fees and Expenses Supervision of an operator should seek to ensure that no unauthorized charges or expenses have been levied against a pension fund; since excessive fees are a prime area of abuse, regulations must be developed regarding the calculation of allowable fees and expenses. Regulation of fees may be accomplished through disclosure (as in the US), through a limitation on the types of fees that may be charged or through the imposition of a ceiling on fees.

Most countries that have mandated private pension systems have imposed limits on the types of fees that can be charged, but have relied on competition to regulate the absolute level of the fees. In Chile, for example, the AFPs freely determine the amount of fees they charge, though the regulator determines the types of fees that the AFPs may levy.¹³ Currently AFPs are permitted to charge the following types of fees: (i) a proportional fee on contributions, i.e., a front end loan; (ii) a fee for opening a new account; (iii) a fee for managing programmed pension withdrawals; and, (iv) a flat fee per period when contributions are made.

Argentina's authorized fee structure is similar to Chile's. There, according to Dimitri Vittas of the World Bank, "AFPs charge an average of 3.5% for operating costs and insurance premiums. Commission rates . . . ranged from variable fee of 2.3% to 3.5% plus a fixed monthly fee per collection ranging from 0 pesos to 8 pesos. No exit and asset management fees are permitted. The companies can charge a flat and a variable fee per collection as well as an entry fee. They can also charge a fee per scheduled withdrawal."¹⁴ In Mexico, funds are permitted to set management fees freely based on a percentage of contributions, a percentage of assets under management or a combination of the two.¹⁵

Disclosure There are two types of disclosure: disclosure to the regulator and disclosure to participants. Regulation of the frequency and content of disclosure to the regulator is crucial to ensure that the regulator can properly regulate the pension funds. In Chile, for example, the regulator must be informed on a daily basis of investment transactions and on a monthly basis of a fund's financial position and performance.

Standards of information for members are clearly a crucial complement to regulation, especially given that participants are directly dependent for their retirement on fund performance and thus must be able to judge whether the contributions are adequate and the investments too risky. The supervisor must ensure that financial statements are prepared according to governing standards and audited by an independent auditor. Supervision should seek to ensure that all documentation issued by an operator (whether product literature or financial data) is accurate, clear, comprehensible, consistent and truthful. In some countries disclosure is done on an annual basis. For example, in the US pension funds must provide plan participants with a summary plan description on an annual basis. In other countries, more frequent disclosure is required. In Chile, funds are required to provide statements three times a year showing the last four employer contributions, financial performance of the fund, accumulated balances and returns on the account.

In Argentina, the AFJPs are required to report daily to the supervisory agency their investment transactions and to submit regular monthly statements on their financial position and performance. They are also required to provide statements at least three times a year to their affiliates disclosing the last four monthly contributions, the commissions and premiums deducted from their accounts, the financial performance of the fund, their balance and rate of

¹³ See S. Edwards, "The Chilean Pension Reform: A Pioneering Program," in M. Feldstein, *Privatizing Social Security* (U. Chi. Press 1998).

¹⁴ D. Vittas (1997)

¹⁵ G. Grandolini & L. Cerda, *The 1997 Pension Reform in Mexico* (World Bank 1998).

return and information on average performance and fees of the other AFJPs.

In addition, the AFJPs have to maintain a record in their offices of the names of the directors and managers, their last balance sheet, the size of the assets under management, the variability of investment returns, the investment reserves, the structure and level of commissions charged and the composition of the investment portfolio. Although more frequent disclosure as in Chile and Argentina is costly, it does encourage transparency and may promote competition.

Some of the required disclosures might include¹⁶:

- General information about the new pension system;
- General information about the pension fund management company, such as the officers and directors, major shareholders, key financial data, and investment strategy;
- Fees and other charges compared with other funds or the industry average;
- Returns after fees compared with the industry average;
- Individual account statements showing inflows, outflows and valuations;
- Procedures to adjust irregularities or report complaints; and
- Procedures to claim benefits.

Insolvency and Management of Troubled Companies In the first few years of operation, the private pension system is likely to have insolvencies as weak companies enter and exit the market. As one commentator observed:

The first few years of operation are likely to be unstable, until experience of the new market is gained and equilibrium is reached. So although rare in a mature system, merger and liquidation may be regular at the beginning.

In Argentina, seven of the 25 funds authorized have disappeared through merger in the first three years of the new regime. This was a consequence of financial deficits in funds that failed to obtain the market share they anticipated. Some of the remaining 18 funds are still operating below their break-even points.¹⁷

Properly regulated, beneficiaries of defaulted funds should simply be transferred to other, financially viable entities at no cost to the beneficiaries. Consequently, clear instructions should exist regarding what is to be done about insolvent pension companies

¹⁶ This section draws from Gustavo & Rofman (1998)

¹⁷ Gustavo & Rofman (1998)

through legislation concerning all matters connected with the management of troubled companies, including standards used to establish insolvency, the basis for choosing between rehabilitation and liquidation, recovery measures available, revocation of licenses, conditions under which policies may be transferred to a sound company (and the safeguarding of the rights of policyholders), the role of the liquidator or trustee, and the ranking of creditor claims. In Chile, although three AFPs have failed so far, there have been no losses to associated pension funds.

Supervision of Collection A key role of any supervisory agency is the supervision of the collection of contributions. In a single tier system the supervision of the collection of contributions is usually under the authority of the single ministry responsible for social insurance. In multi-tier systems, supervision of collection is more complex, consisting of three stages: collection of contributions from employers, transfer of funds to pension fund managers, and distribution by the pension fund managers into individual accounts.¹⁸ Thus, in a multi-tier system, there are multiple collecting agencies that must be supervised. On-site inspections will be needed to verify that all three stages of the collection and transfer process are carried out correctly and on time.

Regulation of Assets

Related Party Transactions Supervision of a pension fund should seek to ensure that any transactions undertaken on behalf of a pension fund with a party related to the operator do not conflict with the operator's obligations to act in the best interests of the pension fund. One way to prevent related party transactions is through the use of independent custodians. The need for independent custodians with responsibility for ensuring that the pension funds follow investment restrictions is illustrated by the Maxwell case in the UK. In that case, Robert Maxwell, a British entrepreneur, invested substantial amounts of his companies' pension fund assets in controlled entities. The controlled companies eventually became insolvent and the assets were lost. The fraud was partly concealed from fund trustees by the fund manager or custodian, both controlled by Maxwell and partly legitimate self-investment carried out with the knowledge of the trustees. In such cases in the US the fiduciaries would face heavy personal liabilities.

Safekeeping and Segregation of Assets Supervision of an operator should seek to ensure that the assets of a pension fund are properly held in safekeeping and segregated from the assets of the management company and other entities. This is typically accomplished through the requirement of independent licensed custodians. Custodial institutions, acting as asset depositories, are a central part of the financial regulation of pension funds. Custody services include safekeeping, settlement, tax, dividend, receipts, dealing with rights issues and stock lending.

¹⁸ A detailed discussion of the collection of contributions is found in R. Rofman & G. Demarco, *Collecting and Transferring Pension Contributions*, (World Bank 1999).

The custodian should be licensed by the Central Bank or the CMA. Ideally the custodian should not be part of the same financial group as the pension fund, though whether this is practicable or not depends on whether there are sufficient financial institutions independent of fund management companies. Custodians should be required to report to the supervisory agency with the same frequency as the fund management companies and the data from the two sources should be compared.

Custodians should also be required to have familiarity with any investment limits and other requirements and to refuse any transaction that would violate these limits. Custodians independent from both trustees and from fund managers are already the rule in the US. US custodians are required to refuse to honor any instructions they believe are not in the members' interests.

Poland, for example, has followed this approach in its new law on private pension funds. Under section 157 of that law, pension funds are required to maintain their assets at accredited depositories on the basis of a depository agreement. The law requires that the depository have a minimum capital of either 30 million or 100 million Euro depending on the type of pension fund. The depository must be entirely separate from the fund and cannot hold any ownership interest in the "Society managing the Fund whose assets it holds, or shares in an entity associated with such a Society, and does not maintain any other capital relationship with those entities." The depository is forbidden from loaning money to or borrowing money from the fund and may not have any management employees in common.

Under Polish law, the depository has a number of responsibilities, including:

- Maintaining the register of the fund's assets;
- Calculating the fund's net asset value;
- Ensuring that agreements for the acquisition and disposal of fund assets are in accordance with the law and the fund's bylaws;
- Fulfilling the instructions of the fund, unless such instructions are in violation of the law or the fund's bylaws or, in the opinion of the depository, represent a threat to the security of fund assets;
- Ensuring that fund assets are invested in accordance with the law and the fund's bylaws;
- Ensuring that in transactions involving assets of the fund any amounts due are paid on time; and
- Fulfilling the instructions of any liquidator in relation to the liquidation of the fund.

In Poland, the depository is required to institute proceedings against the society on behalf of the fund members in the event of any damage caused by non-performance or improper performance of duties within the scope of Fund management and representation. The

depository's failure to perform its duties will render it liable for damages.

Valuation of Assets Supervision of a pension fund should seek to ensure that the fund's assets are fairly and accurately valued and that the net asset value of the pension fund is correctly calculated. To the extent practicable, valuation rules should require that the funds' assets be valued daily on a market-to-market basis. For assets that do not trade on an organized exchange, pension funds should be required to use a valuation model developed by the supervision agency.

Regulation of Investments Supervision of an operator of a pension fund should seek to ensure that the stated investment policy of the pension fund has been followed and that any restrictions on the type or level of investment have been complied with.

All countries restrict the types of assets pension funds may hold, although some countries' regulations are more liberal than others. Limits are often imposed on assets with volatile returns, such as stocks, foreign assets and real estate even if their mean return is relatively high. The benefit of these regulations is unclear since pension funds face the risk of increasing liabilities as well as the risk of holding assets and hence must balance volatility and return. Appropriate diversification of assets can eliminate any idiosyncratic risk from holding an individual security thus minimizing the increase in risk – and if national cycles and markets are imperfectly correlated, international investment will reduce otherwise non-diversifiable risk.

In terms of diversification, there are two basic approaches. Common law countries tend to rely on the so-called prudent man approach while civil law countries tend to enact strong prudential regulations – which produce lower returns though with lower volatility. The US and the UK use the prudent man rule, which requires diversification, though the rule does not set any specific limits on diversification. Other countries have specific limits. Japanese funds face a ceiling on their holdings of equities (30 percent), and may not invest in venture capital, derivatives or securitized instruments. German pension funds are subject to the same limitations as life insurers: four percent in foreign assets, 20 percent in equities, five percent in real property. In Switzerland, pension funds may invest up to 50 percent of their assets in shares, 50 percent in real estate, and 30 percent in foreign assets. Most countries also impose limits on self-investment to protect against concentration of risk in the event of the insolvency of the sponsor. The US sets the limit at ten percent, the UK at five percent.

Prudential rules regulating investment seeks to ensure adequate diversification by setting maximum limits on different assets and do not follow the more general common-law prudent-man rule. Rules also set limits on the fractions of funds invested in individual companies' both in terms of the companies market capitalization and the fund's own assets. This tends to reduce the returns of large funds, which are unable to invest as much of their portfolios in firms with good prospects as smaller ones may.

In many countries that have privatized their pension systems, initial allocation rules have tended to be rigid and weighted toward short-duration fixed-income investments. In Chile, up to the early part of this decade, funds were required to invest a maximum of 50

percent in government bonds, 30 percent in equities, and only three percent in foreign assets, which were limited to foreign bank debt. Both equities and bonds had to meet rating requirements. Rules also set limits on the percentage of fund assets invested in individual companies. “It was considered that the danger with unrestricted investments would be that firms would seek to boost yields to attract clients, at a cost of excessive risk.”¹⁹ Recently the restrictions have eased. Foreign investments were allowed to expand to 20 percent (though the funds have not taken advantage of this loosening), bans were removed on foreign debt and equity and the maximum for domestic government bonds is now 45 percent. AFPs can invest in a much wider range of companies and in venture capital, a move which it is hoped will raise interest in flotation of family-owned companies in Chile. The reform is also expected to introduce new instruments such as mortgage-backed securities, convertible bonds and revenue bonds, the last aimed at facilitating institutional investment in infrastructure projects.”²⁰

In Chile, another investment restriction is that managers must invest the equivalent of one percent of funds under management in the same way client funds are invested so that the investment managers will share with the clients the losses from bad investments. There are limits on returns relative to other managers – if funds earn more than 50 percent or two percentage points above the average the excess must be placed in a profitability reserve set aside from, but belonging to, the pension fund. If they earn below half the average or percentage points less, then the company must top up the returns from the profitability reserve or, if zero, from its own one percent investment or, alternatively, go bankrupt. Thus the fund must obtain a minimum return relative to the average of all pension funds. If the firm goes bankrupt, the government will pay the minimum return.

In Argentina, AFJPs can only invest in “approved” assets and face upper limits on their investment choices.²¹ Approved assets include securities that trade on organized exchanges or are issues by well-regulated and supervised entities, such as banks. Both debt and equity, domestic and foreign, must be properly rated by a rating agency. Fund limitations are:

Instrument	Maximum
National Government Debt	50%
Local Government Debt	15%
Bank Deposits	28%
Mortgage Bonds	28%
Corporate Debt	28%
Corporate Equities	35%
Mutual Funds	14%
Direct Investment Funds	10%
Derivatives	2%
Foreign Securities	10%

¹⁹ See E.P. Davis, *Investment of Mandatory Funded Pension Schemes* (1999).

²⁰ Ibid.

²¹ See D. Vittas (1997).

Although these rigid asset allocations weighted with short-term debt may seem to provide safety through lower volatility the safety comes at a high cost. The purpose of modifying Egypt's pay-as-you-go system is to increase financial security for retirees. This will be accomplished through investment intermediaries – private pension funds – earning higher rates of return without taking on excessive risk.

According to capital market theory, moving into so-called risky assets (e.g., equities) generates higher return, and risk (volatility) is reduced through diversification. While some restrictions on investments outlined above are probably appropriate, other restrictions are often based on naïve notions of risk or other policy considerations.²² Excessive allocation restrictions will ensure that participants will earn what will at best be a mediocre return that will not provide a firm foundation for retirement.

In regulating asset allocations, two kinds of risk are important to consider. One is the risk that information asymmetries will lead the fund to try to take advantage of its shareholders. This kind of risk could manifest itself in self-dealing, insider trading, fraud and other kinds of conduct where the fund profits at the expense of the investor. The second kind of risk has to do with volatility: that the actual return will vary from the expected return. The first kind of risk can and should be prevented through strong regulation and regulatory, civil and criminal enforcement of the law such as restrictions on investments in unquoted securities, privately traded real estate and related-party transactions. These kinds of provisions reduce opportunities for self-dealing and other fraudulent or deceptive conduct.

The risk of volatility can be reduced, though not eliminated, through diversification, ideally by combining assets that have different covariances. In an effort to reduce short-term volatility – and perhaps accomplish other goals -- the pension laws of various countries often require pension funds to invest substantial portions of their assets in government debt or short-term bank deposits. While these short-duration debt instruments may appear to be safe, in fact, generally the opposite is true: in most emerging markets the use of bank deposits and government debt as an investment vehicle has not provided a very satisfactory return or much in the way of safety, especially if safety is measured by the preservation of the real purchasing power of assets.

Another problem with onerous investment restrictions is that they operate as a disincentive to savings, especially if they are mandated under the third, voluntary, tier. Since voluntary pension funds are essentially the same as investment funds, it is unclear why pension funds would be subject to investment restrictions while investment funds are more liberally regulated.

A pension should be looked at as a long-term asset that should match a long-term liability – retirement. The preferred asset mix should be primarily long-term assets such as investments in equities, as well as some debt and perhaps other investments with a liquidity

²² The application of modern portfolio theory to the development of private pension funds is very cogently discussed in H. Shah, *Toward Better Regulation of Private Pension Funds* (World Bank 1997).

cushion. Under the rules in some countries, a fund could invest 100 percent of its assets in bank deposits or short-term government debt and be in compliance with the law. This would present two problems: a contributor would have no asset-class diversification. Second, the contributor would be matching a long-term liability (retirement) with short-term instruments likely to provide no real rate of return. There does not seem to be a clear reason for the law to encourage this.

Perhaps substantial investments in government debt can be defended on macroeconomic grounds (though in the context of the mandatory second tier rather than the voluntary third tier), but short-term bank deposits seem less justifiable. Although long-term investments (other than equity and real estate) are probably limited in Egypt at present, the law should not seek to encourage pension funds to invest in short-term instruments – except for foreseeable liquidity requirements. Overseas investment should also be encouraged to permit workers to diversify their risks and perhaps increase their returns.

Regulation of Liabilities

Insurance of Benefits / Return Guarantees Many countries guarantee benefits against either sponsor fraud, sponsor bankruptcy or shortfall in returns. Insurance is a third line of defense after the firm's income and priority in bankruptcy. These kinds of insurance raise many difficult issues.²³ In the US for example, defined-benefit plan participants are insured by the Pension Benefit Guarantee Corporation (PBGC), an agency of the Department of Labor, against sponsor insolvency and fraud. The guarantee fund is funded through a combination of levies on pension funds and government credit. Most other countries also insure defined-benefit plans against sponsoring firms' default. Defined contribution retirement plans are not insured by the PBGC, but instead rely on various other types of insurance.

As a general matter, there are many ways that benefits can be insured. The insurance of the benefits from DCPs is unnecessary since there is no fixed-pension right to guarantee. As explained in detail above, however, many countries attempt to insure benefits by restricting asset choices and mixes. This is to protect the insurance fund against loss, but it simultaneously imposes higher costs on plan sponsors than would be necessary in the absence of such guarantees.

Another approach to guaranteeing benefits is through return guarantees or minimum-profitability requirements. Minimum profitability rules vary considerably among countries. In the US, for example, there are no minimum-profitability rules and participants in defined contribution schemes have no absolute or relative guarantees. Some countries guarantee a nominal rate of return. For example, Switzerland guarantees a nominal rate of return of four

²³ To protect against moral hazard an appropriate mixture of monitoring, asset restriction and risk based guarantee premiums are appropriate – though in practice, it is often difficult to place guarantee funds on firm economic footing.

percent and Singapore 2.5 percent.²⁴

Pension regulators in Chile, Argentina, Uruguay, and Colombia require that pension managers guarantee either a return within a specified range or a relative return. Pension fund management companies are required to make up any shortfalls in returns if the funds' returns fall below the average sector return by a specified percentage. In Chile, the minimum real rate of return is equal to 50 percent of the average return, while any return in excess of 150 percent of the real average return is placed in a profitability reserve to iron out any subsequent shortfall. Any shortfall that is greater than the amount in the profitability reserve must be made up first by the investment reserve and then by the management company.

Argentina also guarantees a minimum rate of return, though in nominal terms. The minimum-return requirement is that if the investment return is less than 70 percent of the average of all pension funds, or if it is lower than the average by two percentage points (whichever return figure is lower), the AFJP will make up the difference, first by transferring funds from the profitability fluctuation reserve and then from its investment reserve. If the investment return is 30 percent higher than the average for all pension funds or exceeds the average by two percentage points (whichever is higher) the AFJP will be required to place the difference in the profitability reserve fund. This reserve will not belong to the AFJP, but will be an asset of the pension fund. Failure to make up a shortfall will force the liquidation of the AFJP and the transfer of accounts to other AFJPs.

The effect of these minimum-profitability reserves has been to encourage a uniformity in pension fund portfolios and to reduce performance-based competition (while encouraging wasteful competition based on nonperformance criteria).²⁵ The return guarantees tend to encourage managers to eschew more volatile instruments in favor of less volatile instruments. While this strategy works to reduce short term volatility, it also reduces return and thus increases the risk of a funding shortfall at retirement.²⁶ It is questionable whether return guarantees are appropriate even though they may be politically appealing.

Payout: Annuities vs. Lump Sum Another benefit issue is whether participants should be permitted to take their benefits in a lump sum or be required to convert their retirement account into an annuity. Although many developing countries do not currently have annuity products because their capital markets are still emerging, with a favorable regulatory environment, insurance companies are likely to develop different annuity products

²⁴ D. Vitas, *Private Pension Funds in Hungary: Early Performance and Regulatory Issues* (World Bank 1996).

²⁵ One commentator, however, has argued that the lack of performance-based competition is not the result of the minimum profitability rules:

The criticism that investment policies become uniform under a minimum profitability rule is sometimes exaggerated. Even without such a rule pension funds tend to bunch their investments in similar instruments. The rationale for such herding behavior by pension funds seems to be the reluctance of asset managers to underperform the market since the price for underperformance may well be the loss of business. A minimum relative profitability rule would protect investors from aberrant fund managers, without necessarily causing inefficiencies in investment policies. *Ibid.*

²⁶ See H. Shah

to meet the needs of returning participants.²⁷ These annuity products might include a whole-life nominal annuity, where the payout is fixed in nominal terms for the remainder of the annuitant's life, real-life annuities, where the life annuity is fixed in real terms, variable-life annuities, where the value of the annuity reflects the return on an investment product such as a fund, joint and survivor-annuities that make payments to the worker for life and then to a named beneficiary, such as the worker's spouse for the remainder of the spouse's life, and deferred annuities, where the payments are deferred until a certain period.

Other payout methods include scheduled or programmed withdrawals and lump-sum distributions. In general, a scheduled or programmed withdrawal has no insurance component and simply amortizes the participant's account in a series of payouts over a specified time.²⁸ A lump-sum distribution is simply the distribution of the account to the participant in a single payment. With a lump-sum distribution, the beneficiary can spend or invest his or her retirement savings as he or she decides. The risk of these payout methods is that the beneficiary and spouse may outlive their benefits. Lump sums are less desirable for a number of reasons: they may be dissipated and not used for pensions; they have an adverse effect on the cost of annuities, since those buying annuities will be assumed to be bad risks; and they undercut protection for survivors.

An argument in favor of lump-sum distributions is that workers with shorter life expectancies will receive the full value of their contributions. In Chile workers are obliged to buy an indexed annuity, term-life (to protect dependents) and disability insurance. In Argentina, workers have three payout options: a life annuity, scheduled withdrawals and a lump-sum payment of any amount in excess of the capital required to pay a pension equal to 70 percent of the worker's pensionable salary

Conclusion

As one can see, adopting the enhanced social insurance system recommendations must begin with the design of an appropriate legal and regulatory framework. Once established, the framework can accommodate changes in the program and new products can be developed over time. That said, a rigid, restrictive, or weak framework can create avoidable risks and may stifle progress and undermine the goals of enhancing the program to begin with. Most of the tasks involved in establishing the enhanced legal and regulatory framework can be completed in a relatively short time. Moreover, many of the initial enhancements may only require ministerial or presidential decrees. It is recommended that MOSI and its technical team (including the high committee) develop the legal strategy and determine which changes and tasks can be completed by decree and whether the

²⁷ See D. Vittas (1996)

²⁸ The scheduled withdrawal can be structured in many different ways. In Argentina, for example, scheduled withdrawals are determined each year on the basis of the remaining life expectancy of the family groups of affiliates and the rate of return of the pension fund. They are paid on a monthly basis like life annuities. Workers who initially choose scheduled withdrawals may later convert the remainder of their account into a life annuity. See D. Vittas (1997) at 13.

development of an umbrella law on pensions is required to further establish the new program.

ACTION PLAN FOR IMPLEMENTATION OF THE EGYPTIAN SOCIAL INSURANCE ENHANCEMENT PROGRAM

Introduction and Objectives

The preceding chapters have discussed in detail several recommendations to strengthen Egypt's social insurance system. These recommendations focus on enhancing the security of existing benefits under Tier 1, developing voluntary defined contribution plans (DCPs) to enhance savings and shift risk from the government under a Tier 3, and developing, over time, a mandatory defined contribution program under a proposed Tier 2. The result of this improved structure for social insurance in Egypt would be a more secure old-age retirement and an enhanced, financially sound system. The enhanced structure would provide reasonable benefits, promote greater savings, improve security for all Egyptians regardless of income, and contribute to greater overall economic and financial stability.

Implementing a comprehensive change of the current system will involve several actions on multiple levels featuring:

- Designing new pension plans and enhancing current programs
- Drafting new legislation to establish the new programs
- Developing a new regulatory body to oversee defined contribution plans and fund managers
- Improving the capacity within MOSI to monitor the overall Social Insurance System
- Launching a comprehensive training and public awareness program to ensure success
- Establishing an “enhancement management team” under MOSI’s supervision to design and implement the overall program

This Action Plan lays out the priority tasks that once completed, will be the foundation for implementation of the overall recommendations discussed in this report. Additionally, the Action Plan provides a recommended “sequencing” of tasks in a step-by-step manner to ensure effective implementation and account for adequate consensus building and stakeholder consultation on the “detailed design” elements of the overall program.

The Action Plan is designed to be carried out over a three-year period. While much of the planning, design, and implementation of the Action Plan can be led by MOSI, there are several key actors in the sector that need to be involved and should participate in the management program. These actors include national agencies such as the Ministry of Economy, Capital Market Authority, National Investment Bank, etc., organizations under MOSI such as SIFGE and SIFPPSE and private fund managers. It is also essential that

labor and the public at large participate in the planning and implementation of the Action Plan to ensure a consensual approach and accelerate the enhancement program. The Action Plan is structured to feature the leadership of MOSI in the overall program with the active participation of other essential agencies and beneficiaries.

A Management Approach for Implementing the Enhancement Action Plan

The Action Plan is structured to reflect the reality of the complex tasks of developing a viable enhancement program and achieving consensus within government on the plan itself. Essentially, there are two primary activities that must take place for the overall program to be a success: a) developing the basic structure of the plan and building support for the plan; and b) detailed design of all elements of the plan and the adoption of the enabling legislation and regulatory framework supporting the plan. Since these two primary sets of activities are separate yet crosscutting, the Action Plan features a “Two Track” approach to task implementation.

Track A focuses on key tasks that must be performed at the outset. This includes the development of the basic strategy, public education and outreach, stakeholder consultation, and the drafting of the preliminary requisite legislation. These tasks must be completed satisfactorily before any major implementation tasks can be started or new institutions created. Track A tasks are scheduled over a twelve-month period. It is believed that substantial progress in the development and acceptance of the plan could be realized in the first twelve months of the Action Plan.

Track B focuses on tasks that would establish and “operationalize” the overall enhancement plan. Specifically, Track B features tasks that include detailed design and establishment of the improved Tier 1, the expansion and creation of defined contribution plans under Tiers 2 and 3, the development of the new regulatory body to oversee defined contribution plans, and lastly, the overall implementation of the enhanced Social Insurance System.

In sum, the recommended Action Plan would be carried out on two technical levels. MOSI’s technical unit, referred to as the Enhancement Management Team (EMT), would implement the Action Plan. In order to ensure success and to encourage a participatory approach, the Action Plan focuses on allowing time for all stakeholders to review the draft enhancement proposal and legislation in the first twelve months. Additionally, significant training and public education tasks should be completed to accelerate decision-making on the proposal as well as build capacity and confidence within the public and private sectors for longer-term implementation.

Once a viable and stable Tier 1 and 3 are in place with a supportive regulatory framework, pension objectives and the financial solvency of the system will have been largely addressed. Tier 2 mandatory defined contribution plans, while important, would be additive to Tier 1 and 3 sources of savings. Thus, the Action Plan features the final design of the overall program and necessary legislation, with the focus on implementation tasks under Track B aimed at developing the Tier 1 and 3 programs. This would provide pensioners the security of a minimum pension benefit under Tier 1 and the opportunity to

expand retirement savings by voluntarily contributing tax-advantaged resources under Tier 3.

I. TRACK A: MANAGEMENT, POLICY, AND CONSENSUS BUILDING

1.1 Establish the Enhancement Management Team (EMT) to Develop a Twelve-Month Workplan for Track A Tasks

In this task, MOSI would establish a Enhancement Management Team (EMT) to oversee the planning and implementation of the financial, policy, and legal design of the enhancement program for all Track A and B tasks. At the outset, the EMT would develop a twelve-month workplan designating responsibilities among team members and establishing a timetable for completion of priority tasks.

1.2 Establish the Executive Committee to Design and Finalize the Enhancement Plan

Since many of the actions in the enhancement plan require the input of various stakeholders outside of MOSI, such as the Ministry of Finance, CMA, etc., MOSI would establish an Executive Committee made up of key agency officials under the Chairmanship of the Minister to supervise the overall program and provide a formal vehicle for consultation on an interministerial basis. The EMT could report directly to the Executive Committee. Although a “High Committee” already exists, it may not include the representation of all of the key stakeholders and may need to be modified or have some of its responsibilities delegated to the proposed Executive Committee.

1.3 Develop Detailed “Options Analyses” for the Final Plan

A number of key policy and financial decisions critical to the overall direction of the enhancement plan need to be completed. Most of these tasks involve the restructuring of Tier 1 and the adjustments that will result from the creation of Tiers 2 and 3. Analysis of key projections and data will then lead to decisions that will shape the overall enhancement program and give the GOE a blueprint to make the transition to it. The key primary tasks that need to be completed within 12 months include:

1.3.1 Complete Actuarial Study

The EMT will complete the actuarial study that is currently underway. Once completed, the EMT will be in a position to recommend the adjustments required to design the detailed enhancement plan.

1.3.2 Analyze Cash-Flow Payments from NIB

The EMT will perform a preliminary cash-flow analysis of NIB payments that are accruing to the SIS and determine a methodology to fund the liabilities under Tier 1. This analysis will strengthen the accuracy of the projections necessary to move to a diversified Tier 1, 2, and 3 program.

1.3.3 Determine the Desirability of a Minimum-Benefit Guarantee and Replacement Rate

The EMT will determine if a minimum-benefit guarantee under Tier 1 is advantageous and what implications it would have. If desirable, the EMT will prepare the options for setting the minimum guarantee under Track B. If it is determined that the minimum guarantee is not desirable, the EMT will prepare an analysis to determine the optimum replacement rate.

1.3.4 Analyze Options for Reducing Contribution Rates

The EMT will prepare a range of options and the implications of reducing contribution rates for both employees and employers. This analysis will assist the Executive Committee in arriving at a decision on the adjustment of the defined benefit and defined contribution formula and a schedule for phasing in the adjustment over a period of years.

1.3.5 Determine How Contribution Streams will be Allocated Between Tiers 1 and 2

Once the contribution-rate analysis is complete, the EMT will develop a formula to determine the optimal allocation of contribution streams among Tier 1, Tier 2, and Tier 3. This analysis will help determine how Tier 1 liabilities will need be offset, and establish possible parameters for designing Tier 2 and 3 defined contribution programs.

1.3.6 Analyze the Options for Using Notional Contribution Accounts

The EMT will assess the potential for using Notional Contribution Accounts to link defined benefits to actual accounts as a transitional strategy to move to a defined contribution program. If viable, the EMT will design the Notional Contribution Account as a part of the enhancement of Tier 1.

1.4 Enhancement Plan Design and Stakeholder Consultation: Process and Activities

An essential activity of Track A is the overall design of the enhancement plan with the active input of all stakeholders. Developing the outer limits of the program with the consensus of stakeholders will strengthen the overall plan, reflect agreement from key agencies, and accelerate approvals for implementation. Key tasks that the EMT will perform include:

1.4.1 Conduct Policy Workshops for Stakeholders

The EMT will sponsor several one-day workshops on the objectives, strategies, and techniques of the overall enhancement program for key actors in the sector. These workshops will familiarize key officials from various agencies with the main issues in the

sector and with the workplan of the committee itself, and establish common ground on the core elements of the overall enhancement plan.

1.4.2 Prepare and Circulate Initial Enhancement Plan to Key Stakeholders

At this stage, the EMT will be in a position to draft the general enhancement plan in sufficient detail to present it to the Executive Committee and the key stakeholders. The EMT will present the plan with a number of key options and decisions requiring action. The EMT will present findings and provide support for essential elements of the plan and facilitate agreement on the basic foundation of the plan sufficient to move forward to the detailed design stage.

1.4.3 Revise Draft Plan to Reflect Basic Consensus

Based on the reaction and input from the Executive Committee and the key stakeholders, the EMT will revise the enhancement plan and secure agreement on the key elements. Policy workshops may also be used to demonstrate how the revised plan meets the objectives of the key stakeholders sufficient to move to the detailed design stage.

1.5 Policy and Management Training

Throughout the twelve-month period, a variety of training programs will be required to facilitate awareness, understanding, and support for the enhancement plan. The Action Plan features a variety of training programs aimed at a range of stakeholders. The Executive Committee and the EMT will sponsor the training and arrange for all technical, administrative, and logistical activities and the needs of the participants. This will assure policy coordination and demonstrate an inclusive approach to capacity building and the preparation of the enhancement plan.

1.5.1 Design and Conduct Four to Six In-Country Workshops for MOSI and Executive Committee

In order to create consensus and support for the enhancement plan within MOSI itself and among the executive committee, the EMT will design and deliver four to six workshops on the basic elements of the enhancement plan and on the options and decisions required to move into the detailed design stage. The workshops will focus on the Tier 1, 2, and 3 programs and how they interrelate, and on the strategies and techniques for regulation and supervision in the industry.

1.5.2 Design and Conduct Four to Six In-Country Workshops for SIFGE and SIFPPSE on Fund Management

Managers of existing funds also will require training on all aspects of the enhancement plan, its implications, fund management techniques, and regulation. The EMT will design and deliver four to six workshops on securities analysis, portfolio theory, regulation techniques, and the overall enhancement plan.

1.5.3 Design and Conduct Two “National High-Level” Conferences on Pension Enhancement

During the first year of the time-phased Action Plan, the EMT will conduct two national conferences (one-day programs) on the objectives, strategies, and options to enhance the SIS. The conferences will be attended by a variety of stakeholders and will serve to elevate the national dialog on why, how, and when the enhancement program will be conducted and to address and obviate the concerns and misunderstandings that are naturally part of such a complex policy initiative.

1.5.4 Design and Conduct Four to Six Workshops on Multi-Tier Pension Models for Officials from Ministry of Economy, NIB, Ministry of Finance, Capital Market Authority, and Other Key Sectors.

To facilitate the detailed design of the program and to build the capacity of non-MOSI agencies on the issues involved in pension enhancement, the EMT will design and deliver four to six workshops on financial, tax, and economic issues. The training will feature options and implications of various financial policy choices and lead to a broader acceptance of the enhancement plan and implementation strategy.

1.5.5 Design and Conduct Two to Four Workshops on Pension Fund Regulation for EISA and CMA

Under the preliminary plan, EISA and CMA will retain regulatory authority for some elements of the SIS but will need to strengthen their regulatory duties and capacity. The EMT will design and deliver two to four workshops on techniques of regulation, prudent-man and self dealing standards, licensing procedures, and investor protection.

1.5.6 Design and Conduct 2 workshops on Fund Supervision and Monitoring for MOSI

In the enhanced framework, MOSI will be required to become a more active supervisor and monitor of both defined benefit and defined contribution plans. The EMT will design and deliver two workshops for MOSI staff on all aspects of supervision and monitoring. This will accelerate MOSI capacity building for the proposed MOSI Monitoring and Public Information Office.

1.5.7 Design and Conduct One Workshop on Managing Pension Advisors and Asset Allocation for MOSI, SIFGE, and SIFPPSE

MOSI and the MOSI funds will need to hire independent pension advisors to assist them in developing investment policy statements, developing asset allocation models, preparing and reviewing performance records, and developing requests for proposals (RFPs) for hiring new fund managers. In order to ensure that MOSI is selecting and managing their outside advisors optimally, the EMT will prepare a training program on “Managing Pension Advisors and Understanding Asset Allocation”

1.6 Public Awareness and Outreach Activities

While the enhancement plan is being developed it is important for MOSI to begin the design of a public awareness and outreach program to ensure that all beneficiaries understand and take advantage of the Tier 1, 2, and 3 plans. By designing the public awareness plan in the initial 12 months, MOSI can assure that it is ready for launching at the earliest possible time consistent with the implementation of the final enhancement plan. Institutionally, MOSI will also have to be organized to manage the public awareness and information program for years to come. The EMT will conduct the following sub-tasks

1.6.1 Design Public Awareness and Outreach Campaign

The EMT will design the public awareness and outreach program and recommend the appropriate strategies to maximize consumer understanding and participation

1.6.2 Prepare Public Awareness Media and Educational Products

The EMT will prepare the appropriate strategy for using “content” and “process” media and educational products. The EMT will develop a RFP to engage Egyptian public relations firms to assist MOSI in implementing the public awareness program.

1.6.3 Prepare MOSI Regional and Local Offices for Public Information Functions

The EMT will prepare a strategy to utilize and prepare MOSI regional and district offices to participate in public information activities. A plan will be developed to establish a public information department on the enhancement program and informational brochures or answers to “Frequently Asked Questions” from pensioners about the implications of the enhancement program.

1.6.4 Design MOSI Public Information Office and Related Capacity-Building Assessment

Institutionally, MOSI will need to create the capacity internally to respond to the needs of consumers and to manage the public information program. EMT will design a strategy for the creation of a MOSI Public Information Office and prepare a capacity-building needs assessment for the regional and district offices to implement the public information aspects of the enhancement program.

1.7 Legal and Regulatory Initiative

An essential task that must be initiated early in the Action Plan process, is the development, drafting, and passage of a legislative “package” to codify the Social Insurance System enhancement plan. While some of the final versions of the legislative package will have to be completed in Year 2 or 3 of the Action Plan, a substantial amount of progress can be achieved in the first 12 months of the Action Plan. The EMT will conduct a number of key legal and regulatory design tasks including:

1.7.1 Prepare a Legal Review Strategy

It will be important to conduct a legal review to determine which SIS activities under consideration for alteration can be addressed by amending the current Social Insurance Act, by preparing new ministerial or executive decrees, and by developing new legislation or executive regulations. The EMT will prepare a legalization strategy that will recommend how to expedite the elements of the enhancement plan that require immediate implementation versus those policies that can be implemented over time.

1.7.2 Amend Legislation to Alter Contribution Rates and Develop New Pension Products

The EMT will determine the legal strategy to alter contribution rates and to introduce legislation for the new pension products envisioned in the detailed design of the enhancement program.

1.7.3 Establish Tier 1 Program Legislation

The EMT will develop a legal strategy and recommendations to make the adjustments to the Tier 1 SIS program, and will draft initial enabling legislation.

1.7.4 Establish Tier 2 Program Legislation

The EMT will develop a legal strategy and set of recommendations to establish the legal basis for the range of programs envisioned in the proposed mandatory Tier 2 defined contribution plans. Studies will be conducted to determine if there are any legal constraints to any aspect of Tier 2 that may restrict GOE policy options.

1.7.5 Establish Tier 3 Program Legislation

The EMT will develop a legal strategy and set of recommendations to establish the legal basis for the expansion of Tier 3 defined benefit occupational plans and voluntary defined contribution plans. Analysis will be performed to ensure that a variety of products under consideration are permissible under law. If they are not permissible under existing law, recommendations will be made to overcome such constraints.

1.7.6 Develop Regulatory Framework and Legislation

The EMT will prepare an overall legal strategy for strengthening the range of regulatory actions required under the enhancement program. EMT will assess the framework and the implementing rules and regulations of each proposed part of the enhancement program.

1.7.7 Develop Regulatory Body for Tier 2 and 3 for Defined Contribution Plans

EMT will design the enabling legislation to establish the regulatory body for Tier 2 and 3 defined contribution plans. The EMT will prepare the draft legislation and the draft

executive regulations and procedures for the proposed regulatory body once the legislation is approved.

1.7.8 Establish MOSI Monitoring and Public Information Office

EMT will prepare the draft ministerial decree, organizational chart, and staffing plan for the creation of the MOSI Monitoring Department and Public Information Office.

1.7.9 Develop Functional Regulatory Capacity

EMT will develop an action plan to make the new regulatory body operational in time for the introduction of the enhancement plan and recommend activities to “ramp up” the regulatory body’s capacity over time.

II. TRACK B: ENHANCING SOCIAL INSURANCE: MULTI-TIER DETAILED DESIGN

In this component or Track, a number of detailed technical tasks will be performed to finalize the enhancement plan. The EMT will conduct analysis and submit detailed recommendations to the High Committee and Executive Committee for the implementation of the enhancement plan for Tiers 1, 2, and 3.

2.1 Tier 1 Design and Transitional Strategies and Options

2.1.1 Determine the Benefit Formula: Flat Benefit Versus Minimum Guarantee

In this task EMT will recommend options for introducing a new defined benefit formula. EMT will evaluate the merits of introducing a flat benefit or a minimum guarantee, and how the benefit would be accounted.

2.1.2 Determine Appropriate Contribution Rate

Based on previous analysis in Track A, EMT will prepare a financial model and analysis to establish new contribution rates under Tiers 1, 2, and 3, and how to “unbundle” non-pension elements from the contributions over time (i.e. disability, life insurance, unemployment, etc.)

2.1.3 Prepare Guidelines to Determine Eligibility

In this task EMT will prepare guidelines to reflect upgrades in the eligibility criteria in the enhanced SIS program. The new guidelines will provide MOSI and other regulators with a strategy to efficiently determine and monitor eligible participants.

2.1.4 Develop Recommendations for Increasing Retirement Age to 65

In concert with the recommendations for revising the contribution rate, it will be essential for the EMT to analyze the impact of changing the retirement age. EMT will

analyze and recommend a strategy to correlate the change in contribution rates with an increase of the retirement age to 65 years of age. A strategy for phasing in and “grandfathering” participants will also be completed.

2.1.5 Prepare Investment Allocation Parameters for Tier 1 Funds

The EMT will prepare recommendations for revising the investment allocation parameters for Tier 1 investments for MOSI-directed funds. These investment restrictions and limits will be developed to encourage greater diversification and reduce risks.

2.1.6 Prepare Domestic and International Investment Model Portfolios

The EMT will prepare a model portfolio, which will include limited international blue-chip equities, to serve as a simulation for MOSI funds. The recommendation to include international equities as a diversification hedge will include analysis of the maximum limits and the legal requirements to amend existing investment restrictions.

2.1.7 Conduct Bidding to Engage Pension Fund/MOSI Consultants

The EMT will prepare a RFP and evaluate the bids to select pension consultants for MOSI and the two MOSI funds. As stated previously, these advisors would help MOSI determine allocation strategies, develop reporting systems, and prepare information memoranda. The criteria, bid package, and preparation of the consultants’ SOW will be completed in sequence over a one-year period.

2.1.8 Enhance MOSI Monitoring Department

Once the MOSI monitoring department is designed, EMT will prepare a plan to improve the capacity of the department to supervise Tier 1 defined benefit plans. Recommendations will include concrete plans to enter into twinning and exchange programs with similar supervisory departments in other countries and a strategy for upgrading information technology.

2.2 Examine Options and Establish a Tier 2 Program

In this component, EMT will prepare a detailed design to establish the mandatory savings pension program to augment Tiers 1 and 3. As Tier 2 is perhaps the most difficult of the plans to establish, the EMT will initially design the options and legal strategy for establishing Tier 2 in the first year of the Action Plan. Once the design is accepted, the detailed implementation of Tier 2 will commence. Thus, Tier 1 and 3 programs will be designed and implemented relatively early, while Tier 2 will be phased in over time.

2.2.1 Design Decentralized Defined Contribution Accounts (Mandatory)

The EMT will prepare the options for and the design of the mandatory savings program to complement Tiers 1 and 3. A variety of options will be examined, including incentives to promote greater savings and to support greater returns.

2.2.2 Determine the Percentage of Contributions Applied to Personal Accounts

As part of the foregoing task, the EMT will prepare an analysis determining the maximum and acceptable limits of contributions that may be applied to personal accounts in Egypt.

2.2.3 Design Regulatory Body for Tier 2

As described in the tasks for the legal and regulatory initiative, in this task EMT will prepare the detailed design of the new regulatory body to supervise Tier 2 and 3 defined contribution plans. EMT will prepare the organizational design, by-laws, board of directors, executive rules and regulations, supervisory powers, administrative procedures, staffing plan, and a draft decree to establish the body.

2.2.4 Develop Licensing Procedures for Tier 2 Pension Managers

In this task EMT will prepare licensing procedures and develop bid documents to select and license fund managers for Tier 2 defined contribution plans. EMT will develop procedures in coordination with existing authorities such as CMA and will recommend improvements in the licensing and oversight of the fund managers and establish procedures for their reporting requirements and fiduciary responsibilities.

2.2.5 Develop Implementation Plan for Operationalizing Regulatory Body

In order to ensure that the regulatory body is operational by the time the Tier 2 and 3 plans are on line, EMT will develop a plan to provide the regulatory body with minimum operating capacity by the end of the first year. This will include an action plan as well as a staffing plan and strategy to ensure that chairpersons, board members, and staff are selected and in place by the time the body needs to be a functional regulator.

2.3 Establish and Expand Tier 3 Program

In this component, Tier 3 defined benefit programs will be analyzed and improved and defined contribution plans will be designed and implemented.

2.3.1 Design Parameters for Defined Contribution Plans and Voluntary Investment Products

EMT will design the parameters for new defined contribution plans and voluntary products including tax-advantaged plans, as well as an action plan on how they will be implemented. EMT will also make recommendations for improving the defined benefit plans by recommending a “rebalancing” of the contribution ratio between employers and employees and allow greater choice for employers to offer compensation packages consisting of occupational defined benefit and defined contribution plans.

2.3.2 Design Maximum Investment Limits for Tier 3 Plans

EMT will design and recommend the maximum investment limits allowable under a defined contribution plan.

2.3.3 Establish and Revise Investment Allocation Restrictions (If Needed)

EMT will design and amend investment allocation limits or restrictions on voluntary defined contribution plans, and recommend adjustments of restrictions on defined benefit plans to allow insurance products and other investments to enter portfolios.

2.3.4 Amend Tax Legislation to Implement the Designed Tier 3 Plans

EMT will recommend changes in tax legislation to conform to the design objectives of defined contribution plans to create incentives to save for retirement.

2.3.5 Develop Licensing and Regulatory Procedure’s to Oversee Tier 3 Plans

EMT will establish licensing and regulatory procedures to govern all occupational pension plans and products.

2.3.6 Promote Competition and Participation by Licensed Fund Managers in Tier 3 Plans

EMT will develop programs to encourage competition and maximize participation among fund managers in Tier 3 plans.

2.3.7 Evaluate Licensing and Compliance for Tier 3 Funds

EMT will provide assistance to other regulatory bodies to evaluate fund manager bids and recommend strategies to promote quality and competition in the fund management industry.

2.4 Action Plan Performance Indicators

In this task, EMT will develop a self-monitoring plan to ensure that progress is made on the implementation of the Action Plan and that the overall program is advanced in a timely manner. EMT will develop a monitoring plan based on performance indicators that can be verified by the Executive Committee. Illustrative indicators would include:

- 2.4.1 Design detailed monitoring plan for the Action Plan
- 2.4.2 Design social safety net enhancement indicators
- 2.4.3 Design rate-of-savings (mandatory and voluntary) targets
- 2.4.4 Develop regulatory oversight performance indicators
- 2.4.5 Establish targets for increasing ratio of funds under private fund managers
- 2.4.6 Set targets for shifting burden for financing retirement by X percent between defined benefit and defined contribution plans
- 2.4.7 Set timetable for sequencing transition plan

SCHEDULE OF ACTION PLAN TASKS

The attached timelines illustrate the recommended sequencing of Track A and B tasks over a three-year period. Many of the detailed design and regulatory tasks are deliberately “front-loaded” to reflect the time lags required between design, consultation, and implementation.

CAPACITY BUILDING FOR THE MINISTRY OF SOCIAL INSURANCE

Introduction

The purpose of this chapter is to identify ways to assist MOSI in preparing for its important and challenging role in enhancing Egypt's Social Insurance System. The discussions in Chapters 4-6 make it clear that MOSI will need to continue to play a major and pivotal role in many functional areas in order to ensure the future success of Egypt's SIS. To ensure the successful design and implementation of the multi-tier pension system recommended in this report, enhancing the skills of MOSI staff to manage its technical, legal and regulatory, financial, administrative, accounting, auditing, operational, and oversight (monitoring) responsibilities will be a priority.

In this chapter, we recommend specific training, assistance, and information technology that we believe MOSI needs to meet these future challenges. We begin with a brief overview of MOSI's role in the multi-tier pension system. Next we provide a brief training needs assessment for MOSI, followed by specific recommendations for capacity building and training. Our recommendations include various domestic and international training programs/workshops, international twinning assignments and study tours for senior-level MOSI staff, some short-term foreign internship assignments, and technical assistance. We also make some important recommendations for updating and modernizing MOSI's information technology capabilities in order to carry out its lead role in managing and overseeing Egypt's SIS efficiently.

Important to note is that these recommendations represent the minimum capacity building and information technology requirements that MOSI's central staff must meet in order to implement the proposed recommendations. The capacity-building and information-technology requirements for MOSI regional and district staff are substantial and are not addressed in this chapter. However, the design of the Action Plan and the thrust of the recommendations call for an enhanced role for MOSI regional and district officials. MOSI regional and district staff are currently responsible for a large portion of the information, supervision, and collection responsibilities of the system.

In the enhanced system regional and local officials will be the key point of contact with the Tier 1 benefits program. Most importantly, they will spearhead the public information, education, and consumer relations function. Moreover, MOSI regional offices will be responsible for a substantial portion of the supervision and monitoring of Tier 1 and 3 customer satisfaction. Thus, the capacity-building requirements for the thousands of MOSI staff whose roles will be enhanced and functions altered will be significant.

This chapter focuses only on the minimum capacity-building requirements of MOSI central staff to implement the Action Plan. Once initiated, MOSI central staff and task team

members will need to develop a detailed capacity-building plan for MOSI regional and district offices featuring:

- A needs assessment for enhancing pensioner relations;
- The public information and awareness role of MOSI in the enhanced SIS;
- Information technology upgrades for MOSI at the local level; and
- Supervision and monitoring capacity-building plans

By preparing the MOSI central staff to meet the challenge of planning and implementing the Action Plan, MOSI can then prepare the capacity plan to integrate MOSI regional and local offices and staff into the implementation of the overall program.

MOSI'S Lead Role In The Multi-Tier Pension System

As discussed above, demographic changes in many emerging-market countries will place increasing financial strains on their currently unfunded PAYG DB pension systems. Egypt is no exception. This report recognizes that MOSI will need to take the lead role in responding to its own dynamic demographic changes and in enhancing Egypt's SIS to ensure that the appropriate changes take place in a timely fashion and in a fair manner for all of Egypt's citizenry.

Throughout the recommendations in this report, MOSI has key responsibilities to discharge in all three tiers of the multi-tier pension system. MOSI's role begins with supervising the design of the Tier 1 PAYG DB pension system that will provide the solid foundation needed for Egypt's entire SIS. MOSI will also assume responsibility for the administrative and operational aspects of the Tier 1 pension system in Egypt. The Tier 1 element of the SIS is best managed by MOSI because its objective is closely aligned with the national goal of alleviating poverty.

MOSI will also provide leadership and supervision in the development of Tiers 2 and 3 of the multi-tier pension system. Its role will involve supervising the development of newly created, fully funded, defined contribution pensions in Egypt. One important future task includes the determination of appropriate formulas for determining contribution and benefit levels for mandatory Tier 1 and Tier 2 pensions. Of particular importance is how benefit and contribution levels should be divided between the two tiers at various levels of income. Other tasks include supervising the development of the legal and regulatory framework for defined contribution pensions as well as the operational procedures and administrative responsibilities of both MOSI and private-sector investment fund managers.

To date, MOSI has carried out its existing SIS responsibilities with limited resources. For MOSI to take the lead role in the development of the multi-tier pension system, we have prepared a series of recommendations for addressing its future needs. We begin with a training needs assessment.

Training Needs Assessment

To carry out the administrative, operational, and regulatory responsibilities of the multi-tier pension system, MOSI will require a highly skilled administrative management team complemented with financial analysts, accounting and auditing professionals, management information system specialists, public information and communication specialists, and legal and regulatory experts. Each of these specialty areas is discussed briefly below.

The successful operation of MOSI will begin with and depend largely on the strength of its administrative management team. Highly skilled management is needed to explore how MOSI can best be mobilized to achieve its new SIS goals and to design an optimal organizational structure. The management team will need to oversee any restructuring needed to put this optimal structure in place. The top administrative management team will also need to hire highly skilled specialists (financial analysts, accounting and auditing professionals, management information system specialists, and legal and regulatory experts) to manage the major functional areas at MOSI.

Financial Analysts will be needed to manage several key functional matters:

- Ensure and maintain actuarial soundness of Tier 1 pensions;
- Monitor investments by the current three outside investment funds;
- Design the financial component of Tier 2 defined contribution pensions;
- Develop switching policies for current pensioners as the new pension system is introduced; and
- Make recommendations to other government authorities on the tax status of Tier 2 and Tier 3 defined contribution pensions.

Management Information Systems Professionals are needed to:

- Design the management information system needed at MOSI to facilitate information needs and the flow of information;
- Handle daily computerized operational aspects of MOSI, including data entry and report preparation;
- Design and maintain an internet web page and electronic (e-mail) communications;
- Maintain the security and privacy of the information system; and
- Provide technical assistance and information technology training to MOSI staff.

Accounting and Auditing Professionals are needed for some of the following tasks and responsibilities:

- Prepare financial statements (balance sheets, income statements, statements of cash flows) summarizing MOSI's pension operations;

- Conduct financial audits of contributions and payments, and coordinate outside audits of financial flows at MOSI; and
- Recommend accounting standards for investment firms that participate in Tier 2 and Tier 3 pensions.

Legal and Regulatory Experts are needed for some of the following tasks:

- Design the regulatory framework for the multi-tier pension system;
- Prepare guidelines for information disclosure by the investment fund managers who invest funds in the capital markets under Tiers 2 and 3;
- Design and draft new laws (if necessary) to ensure that both public (Tier 1) and private (Tiers 2 and 3) pensioners have adequate legal protection; and
- Work with the Capital Markets Authority to coordinate regulations regarding investment of defined contribution pensions in Egypt’s capital markets.

Public Information and Education Specialists are needed to:

- Assist MOSI to plan and implement the public information campaign and develop customer service programs; and
- Develop “troubleshooting” activities to ensure that pensioners are receiving benefits and comply with procedures.

Supervision and Monitoring Specialists are needed to:

- Assist MOSI to oversee the Tier 1 program, and interface with regulatory bodies to ensure compliance and performance standards in Tier 2 and Tier 3 defined contribution plans; and
- Oversee ongoing improvements in the system and recommend upgrading strategies.

It is essential that MOSI identify and hire high-caliber, talented administrative, financial, accounting, and legal/regulatory professionals to discharge these important managerial and technical responsibilities. A one to three year plan is recommended where senior-level MOSI officials, working together with outside technical assistance, review the Ministry’s key managerial and technical positions to ensure that staff have appropriate credentials. In most cases, managers in leadership and key technical positions should possess advanced degrees and have professional experience in their respective fields of specialization. It would be highly desirable for some to have international experience and to have experience in private sector operations within their specialty areas.

Minimum Training Requirements for MOSI Staff

We recommend a series of both short-term in-country and international training workshops during the next one to two years to help MOSI prepare for its expanded role in managing and overseeing Egypt’s SIS. In addition to training programs, we recommend a

capacity-building program that includes study tours, twinning, and internships. These are discussed in turn below.

Short-Term In-Country Training Workshops

A series of short-term (one to two week) in-country training workshops is proposed over the next one to two years. The in-country workshops would focus on the day-to-day specific operational aspects and details of social security programs and pension fund management. International faculty from both developed and emerging-market countries with technical and managerial experience in social security/pension fund design and management would be identified for these in-country training programs.

The in-country programs could also include short, one-day overviews of important issues for senior-level staff and managers at MOSI; these one-day workshops would focus more on strategic and managerial issues and less on day-to-day operational aspects.

Specific in-country training programs would include the following workshops focused on the following areas:

Social Security and Pension Fund Management - would focus broadly on the major issues of social security and pension fund management, including economic justifications and implications of social security, pay-as-you-go versus fully funded pension systems, social security reform, multi-tier pension systems, defined benefit and defined contribution pensions, linking pension funds to the capital markets, performance of pension funds, effects on corporate finance, international investments for pension funds, regulation and taxation issues, and international case studies

Securities Analysis - would focus on analysis of capital market investments. Specific topics would include economic and industry analysis, dividend discount models, price-earnings valuation models, free cash flow, the effects of inflation on security values, determining required rates of return, stock prices and the business cycle, international equity investments, and bond valuation and fundamentals.

Defined Benefit and Defined Contribution Pensions - would focus on advantages and disadvantages of each type of pension, full funding versus pay-as-you-go pension systems, the multi-tier pension approach, risk and insurance features, agency problems, implications for the labor market, corporate finance issues, and the implications for capital markets in an emerging-market country.

Asset Allocation - would include a discussion of the portfolio management process, asset allocation strategies for pension funds, asset classes for pension fund investments, diversification strategies, correlation and portfolio risk, risk and return issues, equities versus bonds, dynamic and tactical asset allocation strategies, market timing and market efficiency, long-term asset returns for various securities, international portfolio optimization, and portfolio allocation in practice.

Fiduciary Management - would focus on issues related to the fiduciary management responsibility of pension investment managers, establishing principles for sound pension fund management, the “prudent-man” standard, ethical considerations, establishing proper investment objectives, making a pension plan operational, the importance of managing risk through achieving effective portfolio diversification, establishing proper investment objectives, complying with investment regulations, and filing and reporting procedures.

Accounting and Auditing - would focus on understanding financial statements (balance sheets, income statements, statements of cash flows, other reporting requirements), establishing accounting information decisions, using accounting information, financial ratio analysis, financial audits of contributions and payments, filing and reporting issues, use of accounting reports to ensure compliance with investment regulations, and the tax treatment of private pension plans.

Regulation and Monitoring of Pension Funds - would cover the design of the regulatory framework for a social security and pension system, designing and drafting new laws to ensure adequate legal protection for workers and pensioners, monitoring the plan, registering private pension plans, protecting private pension plan assets, and guidelines for information disclosure by investment fund managers.

International Training Workshops

International workshops are recommended for senior-level managers and staff at MOSI. These workshops would focus more on the strategic and managerial aspects of social security programs and capital market development. A key advantage of the international workshops is that a relatively large number of different faculty with diverse backgrounds and experience can provide a broad range of coverage in a short (two to three week) period. Another key advantage is that the workshops can include site visits to both public social security offices and private pension fund management sites in host countries.

The international training workshops could include many of the same topics addressed in the in-country training, but more at a strategic level with less focus on day-to-day operational aspects.

International Practical Study Tours

Our recommendations also include international study tours for some of MOSI’s senior-level officials to visit and meet managers at institutions involved in social security and pension fund management outside Egypt. Site visits could include public social security offices at national and state levels, financial institutions (banks, investment companies, brokerage firms, etc.) that manage private pension funds, regulatory institutions, and stock exchanges.

We recommend four specific study tours; the locations and foci of study are given in Table 7.1.

Table 7.1

International Study Tours

Location	Focus of Study
Chile	Pension Fund Management and Reform
Australia	Regulation and Monitoring
United States	Capital Markets and Pension Funds
Poland	Defined Benefit and Defined Contribution Pension Plans

Twinning

We recommend several six-week twinning assignments for key MOSI personnel at several international locations. One twinning assignment would be at American Insurance Group (AIG) in New York City, with the purpose of obtaining general fund management experience. Another recommended twinning assignment would be at Poland’s Office of Pension Regulation for upper-level MOSI managers involved in legal and regulatory issues. A third twinning assignment is recommended in Bolivia. Participants would be managers at MOSI involved in the linkage between pension fund investing and capital markets development. The Ministry of Social Insurance in Bolivia has implemented a remarkable “capitalization” program in which pensioners can invest their accounts in “blue chip” utility enterprises with low risk and attractive returns. This stimulated Bolivia’s capital markets and provided pensioners with better returns and diversification.

Internships

We also recommend various short-term (two to three week) international internship assignments for junior MOSI personnel over the next two years. In the internship assignments, MOSI personnel would be able to observe the managerial and administrative activities of professional managers and directors in public social security offices and private pension fund institutions. Some suggested internship locations include Chile, the United Kingdom, Poland, Australia, and the United States.

Information Technology and Computer Equipment

MOSI will need significant enhancements in the area of information technology. The enhancements will include computer hardware, software, Internet, and communications packages. Specific recommendations for providing MOSI with the information technology resources needed to discharge its SIS responsibilities include:

- A network of Pentium computers, laser and ink-jet printers, and scanning devices;
- State-of-the-art memory/storage capability with backup and a security monitoring system for individual account records;

- Advanced accounting/financial database software to track contributions and payments, and to monitor individual Tier 2 and Tier 3 accounts
- A statistical package for financial analysts at MOSI to forecast trends, conduct actuarial studies, and analyze data and conduct economic analysis;
- An office software package, including word processing and spreadsheet capabilities;
- An electronic (e-mail) communications package; and
- Internet access for data gathering and keeping abreast of international financial markets

We recommend that information technology specialists conduct an information systems analysis of MOSI to determine its specific computer and information needs, and then design an integrated management information system for MOSI. Details of such an information system are beyond the scope of this report. Without such an information technology program, MOSI's administration of the SIS will be severely challenged, and increasing administrative costs will be a large burden on MOSI's operational efficiency and financial systems. Without even a modest investment in information technology, MOSI's costs of administration will escalate and MOSI will not have taken advantage of the remarkable savings and efficiency gains that management information systems can yield.

Computer-related training for MOSI personnel should be planned and implemented as MOSI's computer resources are modernized and updated. Specific recommendations for computer training are beyond the current scope of this report, but should be an important consideration in the next stage of the enhancement program. The importance of MOSI enjoying access to both the computer infrastructure (computers, software, networking) and the training and capacity building necessary to integrate information technology effectively into day-to-day operations must not be overlooked or minimized; it will be critical to MOSI's success in moving toward the multi-tier pension system recommended in this report.

General Program Needs

A more general needs assessment should also be considered to ensure that MOSI has the range of resources and personnel needed to take on the challenges of enhancing Egypt's SIS. The needs assessment should consider whether MOSI is adequately staffed to carry out the expanded responsibilities and activities recommended in this report. The "adequate-staffing" consideration should assess both the level of staffing as well as the education and skill level of current staff. Telecommunications, executive support, out-sourcing strategies, operations, and general office equipment requirements should also be assessed.

Summary

This chapter has highlighted ways to enable MOSI to carry out its responsibilities for enhancing Egypt's SIS in accordance with the recommendations made in this report. The recommendations for both domestic and international training workshops, international twinning, internships and study tours, technical assistance, and improving the management

and information technology system at MOSI must be addressed if MOSI is to continue to play a major and critical role in ensuring the future success of Egypt's SIS. Once the overall enhancement plan is initiated, MOSI should elaborate a detailed plan to address some or all of these strategic investments in MOSI's best resource, its people.

Next Steps: Enhancing Egypt's SIS

The report prepared by TAPR identifies steps for MOSI to take in its preparation for the important and challenging role of enhancing Egypt's SIS. The report stresses that *MOSI will need to continue to play a major and critical role in many functional areas in order to ensure the future success of Egypt's SIS*. The report lays out an action plan to implement the recommendations made, with a focus on ways to enhance MOSI's capacity to play a leadership role over the next 12 to 18 months.

The main parts of the action plan are as follows:

Design and launch a comprehensive training program based on workshops and seminars to build capacity within MOSI to play a leading role in SIS enhancement development and monitoring

Ensuring the successful design and implementation of the multi-tier pension system recommended in this report requires enhancing the skills of MOSI staff to handle its technical, legal and regulatory, financial, administrative, accounting, auditing, operational, and oversight (monitoring) responsibilities. The TAPR recommendations include various domestic and international training programs/workshops, international twinning assignments and study tours for upper-level MOSI staff, some short-term foreign internship assignments, and technical assistance. The report also makes some important recommendations for updating and modernizing MOSI's information technology capabilities in order to efficiently carry out its lead role in managing and overseeing Egypt's SIS.

Build consensus among the main stakeholders in Egypt for the recommended program to enhance Egypt's SIS, and develop a public awareness campaign

This activity involves conducting workshops, preparing and revising a SIS enhancement plan, and management training for key stakeholders in Egypt for enhancing the social insurance system. These stakeholders include the Ministry of Economy, the NIB, the Ministry of Finance, and the Capital Market Authority. It also involves a public awareness campaign to explain the objectives and benefits of SIS enhancement.

Begin analysis of options on transitional Tier 1 issues, such as contribution rates and retirement age, to make Tier 1 an efficient safeguard for minimum pension guarantees

MOSI's role begins with supervising the design of the Tier 1 PAYG DB pension system that will provide the foundational underpinning of Egypt's entire SIS system. MOSI will also assume the responsibility for the administrative and operational aspects of the Tier 1 pension system in Egypt. This Tier 1 element of the SIS is best handled by MOSI because its objective is closely aligned with the national goal of alleviating poverty in Egypt.

Design Tier 2 and Tier 3 program actions.

MOSI will provide leadership and supervision in the development of Tiers 2 and 3 of the multi-tier pension system. This will involve supervising the development of the newly created, fully funded, defined contribution pensions in Egypt.

Draft new legislation to establish program

It will be important to conduct a legal review to determine which SIS activities that are under consideration for alteration can be addressed by amending the current Social Insurance Law, preparing new Ministerial or Executive decrees, or developing new legislation or executive regulations.

Design regulatory framework

It will be essential to prepare an overall legal strategy for strengthening the range of regulatory actions that are required under the enhancement program. The key will be the design of the enabling legislation to establish the Regulatory Body for Tier 2 and 3 defined contribution plans. The institutional design of this body will require the preparation of the organizational design, by-laws, board of directors, executive rules and regulations, supervisory powers, administrative procedures, a staffing plan, and a draft decree to establish the body.

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