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Credit and Investment in Egyptian Agriculture: Future Perpectives in the Light of the Economic Liberalization Policies

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Abstract. In Egypt the agricultural sector is the backbone of the economy. It absorbs about 36% of the total employment and contributes to about 17% of the gross domestic product (GDP). Agriculture is also considered to be the main supplier for basic goods. This sector has been for a long time subjected to attrition by the other economic sectors through different development strategies which had a negative impact on self-investment in agriculture and even resulted in the fact that its share in investments decreased in the various development plans.

The above factors have led to the deficiency of the agricultural sector to satisfy food needs in Egypt. Dependences on imports consequently satisfies more than 50% of these needs. In an attempt to amend these unsuccessful policies, the agricultural sector was subject—like other economic sectors—to an economic reform and liberalization. The aim was to limit the government's role in production, marketing and pricing, and to increase the role of the private sector regarding investments in order to give the necessary momentum to enable Egyptian agriculture to achieve the social and economic goals of development.

On the basis of a field study covering forty investment projects, this chapter reviews the steadily increasing role of the private sector's investments in agriculture, considering their availability and potential, as well as the most persisting problems they encounter. Moreover, it focuses on demonstrating the particular importance of agricultural credit and its role in financing agricultural production.

It appears that it is very important to link credit, extension and research services together, since a massive increase in production rates has been realized as a result of such linkage. The study demonstrates that there is a clear tendency towards increasing the amount of agricultural credit directed to various activities financed by the Principal Bank for Agricultural Development and Credit. Meanwhile, the loans provided by the bank cover only 50% of production costs. In addition, the financial structure of the bank leads to the rise of credit costs which necessitates the structure to be adjusted. It is also showed that the unavailability of real estates to secure loans is one of the major problems encountered by credit extension, in addition to problems that may result from economic reform programs.

Keywords. Private and public investment – Agricultural investment enterprises – Agricuttural credit – Loans – Guarantees

Résumé. Le secteur agricole est un secteur très important dans l'économie égyptienne (36% de l'emploi et 17% du PNB). Il est soumis à une politique de réforme économique visant à limiter le rôle de l'Etat dans la production, la commercialisation et la fixation des prix, et à encourager le rôle du secteur privé dans l'investissement. Dans ce chapitre, on analyse l'accroissement constant de l'investissement du secteur privé ainsi que son potentiel. Les problèmes majeurs que rencontre l'investissement dans le secteur agricole sont analysés à partir d'une étude couvrant 40 projets.

L'analyse démontre l'importance particulière du crédit agricole dans le financement de la production agricole. L'accent est mis sur le lien entre le crédit, la vulgarisation et la recherche et la coordination entre eux comme facteur de l'augmentation de la production.

En outre, l'étude montre : que les emprunts accordés par la Banque du Crédit Agricole et du Développement ne couvrent que 50% des coûts de production, que la tendance est à l'augmentation du coût du crédit, et que le principal problème au développement du crédit agricole est celui des garanties, en plus des problèmes qui résultent du programme de réforme économique.

I - The Role of Investments in Agricultural Development in Egypt

1. The Importance of the Agricultural Sector in the Egyptian Economy

The agricultural sector is still dominant in the Egyptian economy. This conclusion is drawn from a number of factors, the first being that it is directly connected to the rural population which constitutes more than 56% of the total population. *Table 1* shows that, according to 1986/1987 estimates, about 36% of

the total manpower (i.e., 4.45 million labourers) work in agriculture, representing about 65% of total employment (i.e., 12.27 million labourers).

According to *Table 1* the total annual wages in 1986/1987 were estimated at L.E. 15.35 milliard among which L.E. 5.57 milliard were directed to the agricultural sector. On the other hand, estimates indicate that the share of the agricultural sector in GDP is about L.E. 12.3 milliard (or 17%) and about 29% of the commodity sectors. Thus, agriculture ranks third after the industrial sector (29.6%), and the trade and finance sectors (21%). Yet, it is the first commodity sector in the line of income structure, as it provides about 19.6% of the total national income (L.E. 44.5 milliard). The agricultural sector surpasses the trade and finance sectors in terms of earned income which represents more than 26.7% of the total income.

Concerning the contribution of agriculture in foreign trade, estimates1 indicate that, in 1986, Egyptian agricultural exports were L.E. 486 million, representing about 23.7% of total exports (L.E. 2,054 million that year). It is worth mentioning that a great deal of non-agricultural exports consists of agricultural raw materials (e.g., spinning and weaving exports and leather products).

Despite the significant role of the agricultural sector in generating income on the one hand and absorbing manpower on the other, and its role in foreign trade and supplying people with basic goods, it has not received its fair share of investments. As is indicated in *Table 1*, the capital accumulation in 1986/1987 did not exceed L.E. 1.12 milliard, i.e., only 10.4% of the total capital accumulation of the national economy which amounts to L.E. 5.95 milliard.

Three sectors precede the agricultural sector considering their shares in investment: transport and communication, industry and housing. Their shares of the total national investment are 22.7%, 22.6% and 15.3% respectively.

This chapter shows that development strategies in Egypt—like in other developing countries—have relied mainly on creating a compulsory surplus in the agricultural sector to be transferred to other sectors—particularly the industrial sector—in order to finance the development of the national economy as a whole. Concerning the evaluation of the applied strategic policies, it can be said that they have not fulfilled their objectives since they were applied for long periods which, in turn, weakened and exhausted the agricultural sector and made it unable to meet the society's needs of basic goods. Moreover, the industrial sector could not meet the agricultural sector's requirements of machinery, fertilizers and pesticides which are still provided mainly by imports. Furthermore, the compulsory surplus derived from the agricultural sector was not transferred for investments, but rather to the consumption sector which had a negative impact on the national economy.

In response to these negative factors, emerged the present economic liberalization policy including the agricultural sector to stop the attrition it was exposed to for decades and to achieve more fair interexchange rates.

2. The Development of Agricultural Investment in Egypt

The agricultural sector—like other sectors of the economy—was affected not only by the agricultural policies but also by other economic and national policies. The influence of some of these policies was tangible in the short run, while other policies had their effects in the long run.

Egypt's economic agricultural history and investment policy has taken place according to three phases.

The first phase. It is mainly the pre-1952 revolution, known as "the capitalist stage of the Egyptian economy", and distinguished by the prevailing free economy. During this stage, the state's role was limited to enforcing different agricultural legislations and supervising pests control, research and extension, determination of cotton varieties and cultivated areas, and the maintaining of public utilities, without intervention by the state in the crop composition or pricing or even in the trade or distribution of production inputs. During this phase, the Egyptian economy relied on the private enterprises which enjoyed custom protection and free economic atmosphere. There had been few restrictions on private sector activities which contributed to about 87% in the GDP. The agricultural sector was dominating the economic activities.

The second phase. After the revolution, many laws were issued in 1953, 1954 and 1957 aiming at promoting foreign investment in the country. These laws provided tax exemption on investments and permitted the re-export of the full invested capital. The Agrarian Reform laws were also in practice. They were indicators for the start of government intervention, confiscation and nationalization of private properties. In addition, the 1956 Suez War was the beginning of a rapid shrinkage of the role of the private and foreign sectors and the nationalization of foreign enterprises. This forced the state to carry out the management and to direct the economic activities. In 1957, the government started an industrialization plan so that 90% of the total investments became under state control in the First Five-Year Plan presented in 1960–61. Because private investments had been limited to less than 10%, the state tried to encourage it by issuing law No. 65 of 1971 which guaranteed the protection of invested capitals. This law also included tax and custom exemptions and monetary facilities. Hence the private sector's share increased from 6.6% to 10.5% of the total investment in industry, transport and communications, construction and housing.

During the Second Five-Year Plan (1955–66/1969–70), the negative consequences of the 1967 War burdens have been aggravated, resulting in the government's inability to fulfill some scheduled projects. Besides, inflation pressures began to appear. This forced the state to adopt contracting financial and monetary policies which led to the decline of investment rates from 18.1% in the early years of the Plan to 13.7% during the period 1965–66/1973.

Investments dropped from L.E. 389 million in 1965–66 to L.E. 300 million in 1967–68. Starting from 1968–69, the state adopted expanding policies in all sectors but not for agriculture. These policies mainly focused on investments in the processing and extracting industries sectors.

The third phase. The private sector's response was not encouraging or sufficient due to the political situation in the region before the war of October 1973. Consequently, Law 43 of 1974 on Arab and foreign investments and free zones was initiated. It was later amended by Law 32 of 1977 aiming at enhancing Egypt's economic relations with the Arab countries and attracting foreign capitals. To assert this orientation, Egypt joined the Arab Investment Guarantee Organization. Consequently, the private sector responded effectively and its investments increased from less than 10% before 1974 to about 25% of the national investment in 1986–87.

The First Five-Year Plan 1982–83/1986–87 witnessed a steady growth of private investments in terms of their absolute and relative size since the annual average of private investment increased from L.E. 460.6 million in the period 1974–81 (which represented 18.5% of the total investment) to L.E. 1,789.9 million during the middle of the First Five-Year Plan 1982/83–1986/87, representing 25.2% of the total executed investments on the average.

The government tended to allow the private sector to play an increasing role in the development process. It therefore planned to increase the private investments in the Second Five-Year Plan 1987/88–1992/93 to reach an annual average of L.E. 3,600 million which represented 39.3% of the total targeted investments.

Table 2 shows the growth of the annual average of public and private investments from 1950 to the desired target at the end of the Second Five-Year Plan 1987\88–1992/93. Whereas *Table 3* shows the agricultural public and private investments during the period 1970/71–1986/87, and also illustrates that the average annual investments during the period 1982/83–1986/87 in the agricultural sector reached a sum of L.E. 668.6 million representing only 9.7% of the total targeted annual investments of the Plan. This extremely small portion does not reflect the importance of the agricultural sector in the Egyptian national economy whether in it share to the national income or the absorption of manpower and creation of job opportunities. The private sector's contribution to total agricultural investments in the plan was 35.3%. The First Five-Year Plan included L.E. 1.122 milliard for the private sector's investments in agriculture. This sum represented about 27.3% of the total investments in agriculture in the First Five-Year Plan which amounted to L.E. 3.7 milliard. According to the Plan, the private sector would invest L.E. 210 million on irrigation and drainage. However, 89.6% of the targeted sum was fulfilled in the agricultural sector, and 86% of the targeted investment in irrigation and drainage despite the poor investment directed to agriculture and irrigation as a whole.

The private sector's investments in the Second Five-Year Plan amounted to L.E. 18 milliard, of which L.E. 9.6 milliard was allocated to the commodities sectors. This sum represented 53.3% of private investments and 40% of the total national investments. The private investments in the productive project enterprises reached L.E. 1.7 milliard which represented 9.5% of the private sector investments and 24.2% of the total national investments directed to these activities. Investments in the social areas amounted to L.E. 6.7 milliard representing 37.2% of private investments and 45.8% of the total national investments directed to these activities.

Regarding the commodities producing sectors, the private sector's share increased in the various agricultural and land reclamation projects (e.g., plant production, livestock, poultry, and fish production). It geared all its potential in this domain to replace the public sector which partly withdrew from such activities. Private investments in agriculture and land reclamation were estimated to be L.E. 2.65 milliard, representing 53.7% of the total investments in this domain, estimated at L.E. 4.9 milliard.

3. The Private Agricultural Investment Projects Subjected to the Investment Laws

A. The Investment Laws and the Agricultural Sector

Investment projects subject to investment laws are divided into two categories: in-land and free-zone enterprises. They differ in that free-zones projects—though enjoying the same privileges and legal immunity as in-land enterprises—are exempted from custom duties on export and import. In addition, their profits are perpetually exempted from taxes as they are subjected to annual fees to be paid to the General Investment Authority with a maximum of 1% of the value of their imports and exports.

By the end of 1990, the number of approved investment for in-land and free-zone enterprises amounted to 1,755 enterprises, among which 1,492 were in-land enterprises representing 85% of the total. Fifteen percent were public and private enterprises in the free-zone. The total capital of all these enterprises reached L.E. 11,122 milliard, with L.E. 9,780 milliard for in-land enterprises (88%). The investment costs for investment enterprises amounted to L.E. 20,052 milliard by the end of 1990, the in-land enterprises costs being L.E. 18,114 milliard, which represented 90.30% of the total costs. The ratio of the approved capital to the total investment costs amounted to about 55.5% in all investment enterprises.

Industrial enterprises rank first, with 42.5%, followed by service enterprises (18.9%), processing (17.5%), and construction (13.1%). Therefore, agricultural enterprises represent the smallest percentage (i.e., 7.9%) of the total number of approved investment enterprises, despite their relatively low investment costs and capitals compared to other enterprises.

Accordingly, it is quite clear that the greatest portion of investment enterprises was directed to non-agricultural activities. This implies that the agricultural sector failed to attract investors to recognize the importance of agricultural investments in the development of agriculture and the national economy in Egypt. This may be attributed to the low capacity of agricultural enterprises in generating profits, compared to the non-agricultural ones.

In spite of less capital and lower investment costs, the approved agricultural enterprises—according to available data—are more profitable for one invested pound, since the ratio of the expected production value to its costs is 1:0.8 while it is 1:1.1 for industrial and construction enterprises and 1:1.5 for service enterprises.

The published data on workers' productivity in agricultural projects, derived from feasibility studies, revealed that it is estimated at an average of L.E. 76,000/worker. This is considered to be the highest productivity compared to other enterprises.

It must be noted that employment in the agricultural enterprises was relatively more dense than in the industrial and services enterprises. Meanwhile, the wages in agricultural enterprises were lower than in other sectors, excepting construction.

A study of enterprises at a productive stage shows that agricultural enterprises are bigger than the average size of approved enterprises in terms of capital and investment costs. Whereas, construction and service enterprises are smaller than the average in terms of capital and investment costs.

The above outlines the importance of agriculture in development, whether for production increase and in solving the unemployment problem or on account of its absorption of non-skilled workers and its relatively small capital. In addition, its capital and costs do not necessitate a great deal of foreign currency compared to other projects. Such characteristics should basically be found in development projects.

B. Different Fields of Agricultural Projects Subject to the Investment Law

There has been a diversity of agricultural investment enterprises which were licensed to work in Egypt. The Investment Authority divides them into four categoriess: (i) land reclamation and cultivation; (ii) animal and poultry production; (iii) agro-industrial integration; (iv) and fishing and fish farms.

Nevertheless, this division does not mean that the activities of an enterprise should be restricted to a certain field. For instance, land reclamation and cultivation also include agro-industrial activities since the law stipulated that lands should be reclaimed and cultivated for producing industrial crops, for nurseries, seed production, animal or plant production, and general enterprises to reclaim and cultivate land with various crops.

Similarly, livestock and poultry enterprises include activities related to agricultural development, food security, agricultural services, fodder production, veterinary facilities and agro-industrialization projects.

As for agricultural integrated projects, they comprise seed production, sugar beet production, agricultural work, livestock production, greenhouses and agro-industrial projects.

Animal production and poultry projects attracted a large number of investors in the agricultural sector. By the end of 1990, there were 74 projects representing 63% of the total approved agricultural projects, followed by land reclamation and cultivation projects (19), agricultural integrated projects (18), fish farms projects (7).

The small importance of Arab and foreign involvement in agricultural enterprises indicates that these enterprises are less attractive to Arab and foreign funds than other investment sectors: either because the facilities introduced did not fit these projects or the efforts for the external promotion of agricultural projects were insufficient, or because the obstacles confronting the Arab and foreign investors were great.

Therefore, a proper plan for the marketing of agricultural projects in the Arab countries and for facilitating the license process would increase the contribution of the Arab and foreign funds. Arab and foreign investors prefer to contribute to projects in which the private sector's share exceeds that of the public sector.

C. Employment and Wages in Agricultural Investment Enterprises

The target for employment in the approved agricultural enterprises is 14,987 thousand job opportunities and annual wages of L.E. 31,889 million. The average number of workers in agricultural enterprises ranges between 219 workers in agro-industrial integrated projects and 51 in fish farming (*Table 4*). The average worker's annual wage ranges between a maximum of L.E. 2,908 in agro-industrial integrated projects and a minimum of L.E. 1,667 in livestock and poultry projects. Generally, a worker's annual average wage in agricultural projects is L.E. 2,128. In addition, agro-industrial integrated projects and land reclamation projects are characterized by relatively dense employment. Thus, as they can create new job opportunities, they are given priority in the promoting programs for investment enterprises. Meanwhile, agricultural integrated projects involve big capitals.

Once they have been established, investment enterprises will create 232 thousand job opportunities with annual wages of L.E. 496 million, and an additional 3,600 job opportunities for foreigners with annual wages amounting to L.E. 58 million.

D. Problems of Agricultural Investment in Egypt

Problems and obstacles confronting agricultural investment vary from one country to another and from one type of investment to another. However, the first step in solving and smoothing away these problems is to spotlight them.

According to a study conducted by Radwan (1991)¹ on a sample of forty existing agricultural projects,

□ Heavy taxes are the main factors of reduction of investments in Egypt. The capital revenue, which must exceed the bank interest rates, is the leading motive for investment in different sectors. The same study outlines that the average capital revenue ranges between 8% and 14%, which is less than the bank interest rates. This is due to the nature of the agricultural projects in terms of low return earned during early years, increasing inflation rates which greatly affect the currency value, high prices of production inputs, and the rising taxes and loans payment. It is worth mentioning that according to the 1981 law, the tax rates on commercial and industrial profits reached a maximum of 32% for revenues exceeding L.E. 4,500. If the inflation rate (ranged between 25%–45%) is added, the profit erosion rates become tangibly significant. Consequently, the net return on the capital declines.

□ High expenses for land reclamation and cultivation in terms of the rent price of land levelling, modern irrigation techniques and wages, etc. The desert land needs a sum of L.E. 9,000/feddan most of which is paid in the

early years of the project. This decreases the current flow of cash money into the projects for the desert land.

Absence of coordination among decision-making ministries, especially concerning the horizontal expansion in the desert land. The contradiction leads to dramatic crises, especially, after taking the necessary measures and agreements, the investors of a project are surprised by the fact that their areas are allotted to be reclaimed and cultivated by government in order to be distributed later among the new graduates.

☐ The changing interest rates on loans which range between 10% and 19% due to the project's duration, the type of activity and the lending bank, in addition to the firm procedures adopted by the banks in case of insolvency.

☐ Unavailability of the spare parts and some equipment which have to be imported and the associated difficulties (e.g., payment in foreign currencies, permission from the Investment Authority, and the high costs of the customs procedures).

II - Development of Agricultural Finance in Egypt

It can be said that there had not been regular agricultural credit bank or funding systems in Egypt before the establishment of The Agrarian Credit Bank in 1931. Before that, farmers got the money they needed either from village leaders, land owners or usurers. That period was characterized by the absence of a specialized source to lend to farmers, especially smaller ones, under conditions that could keep up with the nature of the agricultural production and its peculiarity, among other economic activities. Stages of agrarian credit in Egypt could be divided into the following:

1. Irregular, Unspecialized Agricultural Credit

This stage lasted from 1880 to 1923 during which a few financial bodies provided the agricultural credit that was mainly directed to serve large landholders. Nevertheless, land mortgage was the basis to grant loans regardless of the loan purpose, in addition to the high interest rates imposed on these loans. The economic crisis of 1907 led to the bankruptcy of members of these banks.

2. Ineffective Governmental Intervention (1923–1931)

The economic crisis that swept Egypt at the end of the first stage resulted in the expropriation of many farms. Accordingly, the government passed the five-feddan law in 1913. This law stipulated that ownership less than five feddan should not be exposed to expropriation. Nevertheless, this law led to an aggravation of the agricultural credit circumstances because the banks stopped financing small farmers.

In 1923, the first cooperative legislation was issued, according to which the government allowed the cooperatives to receive loans from a governmental credit deposit in Misr Bank. By the second agricultural cooperative law issued in 1927, the government allocated a sum of L.E. 250,000 in Misr Bank for loans to agricultural cooperatives.

Nevertheless, the rise of the interest rate and the cooperatives lack of collaterals led to a decrease in the number of cooperatives benefitting from such loans. In 1929, the Agricultural Reserve was established. It was a governmental credit of L.E. 4 million, from which the Ministry of Finance representatives in the villages were entitled to withdraw for the interest of holders of less than thirty feddans. These loans were confined to the farmers of export crops (i.e., cotton, rice, and corn). Though directed to productive agricultural purposes, only one million L.E of the loan was employed in productive activities while the rest was used to finance cotton purchasing from the farmers or for loans to farmers against the cotton mortgage. The inevitable result of using this money improperly was the default of payment for many years. Consequently, the government found it imperative to establish a financial organization specialized in agricultural credit operations.

3. The Organized Agricultural Credit Stage

This stage started in 1931 with the establishment of the Agrarian Credit Bank. The precursors of this stage had started in 1930 during the early years of the economic crisis and the sharp decline in cotton prices. The main functions of the bank were:

- a) to extend the seasonal crop credit instead of the long term real estate credit, whose dates of repayment were not in conformity with that of the harvest season, in addition to its high costs;
- b) to protect the Egyptian real estates from being transferred to non-Egyptians through foreign banks;
- c) to alleviate the sharp economic crisis arising from the severe fluctuations of crop prices in view of the dependency of the Egyptian economy on international economy, which eventually led to severe economic fluctuations; and
- d) to support the cooperative movement by providing appropriate financial source from which members can get the necessary funds.

The foundation decree of the Agrarian Credit Bank of Egypt included a number of encouraging factors in order to avoid previous problems and difficulties. In addition, the government, in its endeavour to attract private capital, guaranteed that shareholders would get an annual profit on the invested capital not less than 5%. The government also gave a pledge to bear any possible losses of the bank against having 25% of the net profit after excluding the aforementioned 5% in order to raise confidence in the seriousness of the bank. However, the bank's foundation capital was L.E. one million which was divided between the government and the commercial banks.

4. The Cooperative Conversion Stage

Among its main functions the Agrarian Credit Bank of Egypt had to maintain the cooperative movement by providing the cooperatives with loans at an interest rate of less than 2% of that of individual dealings. The bank was also authorized to receive deposits from all sorts of cooperatives in addition to the banking services it would provide. However, in order to enable the bank to maintain the cooperative movement, it was agreed that the cooperatives should be represented in the bank. So, in December 1948, it was named "The Cooperative Agrarian Credit Bank". Accordingly, the capital was increased to L.E. one million and a half. The cooperatives and the government equally contributed to the increased sum. Moreover, cooperatives were represented by two members in the bank's board of directors. So, the bank continued its effective support to the cooperative movement. In 1957, a Five-Year Plan was made to transform the Bank completely into a cooperative bank that will be exclusive to cooperatives' dealings.

In 1964, the bank was converted into a public organization and named: "General Egyptian Organization for Cooperative and Agricultural Credit". This period witnessed a tangible expansion in credit grants. In addition, the bank approved crops to be among the accepted collateral as the governorates' banks were the main bodies responsible for the cooperative marketing of the major crops.

5. The Developed Agricultural Credit Stage

Farmers were receiving loans from the Agrarian Credit and Cooperatives until the beginning of 1976. However, this system resulted in diverting the main role of the cooperatives (i.e., to promote agricultural production) and made it limited to the distribution of inputs. On the other hand, interference of functions and responsibilities between the Agrarian Credit Bank and the Agricultural Cooperatives supervised by

other bodies made credit services rather loose and unlimited. Accordingly, farmers' accounts were inaccurate and confused. So, Law 117 of 1976 was issued and the Principal Bank for Development and Agricultural Credit (PBDAC) was established in order to finance agricultural activities. Thus, agricultural credit and agricultural cooperatives were again separated. The PBDAC was authorized to provide services to both farmers and cooperatives. Meanwhile, cooperatives were specifically authorized to provide services related to organizing and directing the agricultural sector. During that period, the concept of integrated credit, research and extension services was adopted. This concept was extremely effective as it allowed the development of credit services to all farmers, especially small ones. The bank also extended its activities to include 801 village banks distributed among all the productive agricultural regions in such a way that the distance between any farmer and the place where he can obtain credit services should not exceed 5 km.

A. Components of the Current Agricultural Credit Policy of PBDAC

The sound connection between various agricultural production factors leads to increasing the farm income and consequently to a higher living standard. When there is scarcity or shortage of capitals in relation to other production factors, any additional capitals will necessarily raise the economic efficiency of other resources involved in the production process. However, the interest to be paid for these additional capital should be considered. In fact, farmers need long, middle and short-term loans to cover all their investment costs as well as their daily expenses as farm incomes are seasonal. Farmers' savings are small as they are used as one of the financial resources. Consequently, most of the farmers, especially small ones, cannot afford increasing their capitals or improving their farm's productivity in an adequate time. They cannot apply modern technological methods. The aforementioned aspects of agricultural production (i.e., seasonality, smallness of the individual savings, vulnerability to risks, and uncertainty) led to the withdrawal of many financial organizations from participating in agricultural credit. However, the PBDAC provided farmers with credit services under different forms since its inception, even though the applied credit policy was constantly being changed according to the prevailing political and economic circumstances.

Generally, the agricultural credit policy can answer the following questions:

- a) Who are the beneficiaries of the credit service? Big farmers or small ones? Are they both the landowners and tenants or only landowners? What are the accepted guarantees (real estates or the crop)?
- b) What are the types of loan offered? What are their terms? In other words, what is the most frequent type of loan? Short, middle or long term loans? Are loans always offered in cash, in-kind or in both forms?
- c) Lending levels or lending expenses?
- d) Lending conditions, i.e., interest rates, dates and provisions of repayment, are they soft loans or bullet loans?

B. The beneficiaries of loans

After reviewing the current credit policy, it can be said that the credit services provided by the bank cover all farmers, whether big or small landowners, or tenants. This is due to a structure characterized by the domination of small, less-than-five feddans, holdings (67% of the cultivated areas and about 95% of the farmers).

Credit services depend on the nature of the activity to be financed by the bank. Loans are mainly given to farm holders (i.e., recognized landowners and official tenants possessing agricultural holding cards, whether of ownership or cash tenancy). This is applied to the old land of the Nile Valley. Yet, the new lands have their own rules since loans are given to:

- (i) registered landowners;
- (ii) owners having pre-contracts of sale given that a trilateral contract should be signed between the selling body, the bank and the land purchaser; and
- (iii) tenants with long-term leases.

But those who have temporary holding cards are provided with in-cash inputs only and after the necessary in-the-field verification.

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So, crop-sharing tenants, specific crop tenants and lay holders are not provided with either loans or inputs.

C. Guarantees

Guarantees vary according to:

- . the nature of the activity,
- . the size of the loan, and
- . the loan duration.

Generally, there is a diversity of approved guarantees for loans. The most important ones are: the cultivated land, the "personal guarantee" (for the rich), guarantees by institutions, such as cooperatives, and "collective guarantees" (given to a group of individuals).

But the real guarantee is the project itself, its economic feasibility, and the confidence in the owner's (the customer) ability to operate it successfully to get the expected return and thus repay the loan.

When the bank was established, loans were mainly secured by real estates. But, because the majority of farmers in Egypt are small holders (2.5 million farmers), guarantees developed so that loans became the right of the holders, whether they were owners or tenants.

D. Different Types of Loans

The PBDAC has recently adopted a credit policy aiming at realizing the objectives of the agricultural policy in Egypt. To achieve this purpose, it provides a variety of cash and in-kind loans to finance the agricultural production, in addition to the cash loans necessary to finance other related activities.

1) Short-Term Loans

Providing short-term loans has been one of the main services of PBDAC since its inception. The loans are provided, in legal forms, to the cultivators, whether natural or judicial persons, aiming at promoting crop production and other agriculture-related activities and projects.

Crop production loans provide an in-kind part of the inputs (seeds, fertilizers, pesticides, etc.). Additionally, they provide part of the cash funds necessary for some agricultural operations (agricultural labour, rental value, equipment, land preparation, harvesting, etc.). In-kind loans follow the technical ratios defined by the Ministry of Agriculture and depend on the availability of these inputs in the bank.

Cash loans depend mainly on cash credit limits and the liquidity available in the bank, in addition to the extent of the bank reassurance that loans will be repaid. Terms of loan repayments differ according to the nature of the crop and the marketing system of the final product.

Meanwhile, a part of the short-term loans is given to some agricultural projects in order to meet the running costs (e.g., for poultry and livestock production). Yet, the interest rate on short-term loans for such projects is not similar to those of crop credit. Generally, short-term loans do not exceed 14 months, and their due date is always connected with crop harvest and marketing by giving the project output.

2) Medium-Term Loans

These loans are provided to farmers whether individuals, groups, societies, companies to promote agricultural production or finance related activities. They concern farm animals purchase, poultry farms, fodder factories, agro-industry projects, fish farm projects, agricultural machinery and equipment, the establishment of orchards and protected agriculture, the development of irrigation techniques, the improvement of marketing services, etc.

The size of the loan depends on the nature of the activity, the customer's financial status and his ability of self-finance as well as on results of the technical and economic feasibility studies and the size and

importance of the guarantees presented by the customer. The duration of the medium-term loans ranges between 14 months and five years.

3) Long-Term Loans

The duration of such loans ranges between five and fifteen years. They provide land reclamation and cultivation, construction of agricultural buildings and the establishment of orchards. In all cases, the due date of the loan should not exceed 75% of the expected life time of the assets which secure the loans. This type usually includes a period of grace that varies in length according to the nature of the project and the timing of its first output. These loans are not provided unless there are adequate guarantees such as real estates.

E. Credit Categories

The determination of real credit categories for any farm activity is a difficult task. What makes it more difficult is that this classification relies on the prevailing technological dealings and price levels. Admittedly, these dealings and levels of the inputs necessary for the activity under study are not fixed in terms of time and place. On the other hand, classifying credits for each activity implies an implicit assumption that all customers of the same activity are similar in terms of managerial and self-financing abilities. Nevertheless, determining a maximum level for loans in each case is favourable for banking operations. In view of the dynamic nature of these classifications, the PBDAC has recently readjusted many of them according to changes in the prevailing economic and social circumstances. Table 5 presents the credit categories of the main crops and their counterparts in the livestock and poultry projects.

It is worth mentioning that in projects such as establishing incubators or agro-industrial units and the like, it is difficult to determine a fixed credit category for such activities. This is due to the fact that the size of the needed finance depends on the modernity of the applied technologies, the project size and the value of the presented guarantee.

F. Loans Interest

The interest rate on the agricultural loans is a controversial issue. One believes that it should be less than its counterpart in the financial market on the grounds that small farmers constitute the majority of the beneficiaries of these loans, and they have to be subsidized. Also, the low interest rate on agricultural loans could be viewed as a way of income redistribution. Another point of view is that cheap finance is always followed by misuse of the available money, and in some cases, by reluctance to repay the loans.

The interest rates applied by PBDAC are determined according to the nature of the loan. The bank has recently fixed the interest rate subsidy at an annual level of L.E. 1.5 million. This subsidy is to be distributed among the crops that are still subjected to state intervention and also oil and sugar crops, in addition to the new activities encouraged by the bank, as well as the projects of land reclamation and for improving the irrigation system. The other activities are subject to market interest rates which depend on the costs of financial resources and are seasonally changed according to the changes in finance costs.

III – Development of the Size of Agricultural Loans

In conformity with the agricultural sector development policies, loans have been extended to cover various purposes and terms. The structure of loans distribution has witnessed a tangible progression.

Tables 6 and 7 show that the total short-term loans granted by the PBDAC in the plant production domain have steadily increased from L.E. 211 million in 1980–81 to L.E. 1,264 million in 1989–90. This indicates that the credit policy target was to provide farmers with the necessary funds to enable them encounter the continuous rise in the costs of production, on one hand, and to adopt the modern methods in this domain, on the other. This policy, together with other agricultural policies, have resulted in achieving productivity levels per feddan that have not been reached before in most crops. Wheat productivity,

for instance, has increased from about 9.2 ardabs/feddan in 1981 to 15.25 ardabs/feddan. Rice productivity has increased from 2.2 tons/feddan in 1981 to 3.2 tons/feddan in 1991. Maize productivity increased as well from 12 ardabs/feddan in 1980 to 17.5 ardabs/feddan in 1990.

In addition, operational short-term loans directed to agricultural projects have steadily increased from L.E. 69 million in 1980–81 to L.E. 1,505 million in 1989–90. It is worth mentioning that most of these short-term loans were directed to poultry and livestock projects and that the relatively high demand on loans for poultry dropped from 41% of the total operational short-term loans to only 10% in 1989–90.

Medium and long-term loans (*Table 8*) have increased from L.E. 90 million in 1980–81 to L.E. 965 million in 1989–90 to reach a total of L.E. 3,860.5 million over the whole period. Taking into consideration that 30% of the capital of these projects were financed by the bank, it came out that, for these activities, the size of the investment projects carried out by the private sector, during the period 1980/81–1989/90 would reach L.E. 18,855 million. Reviewing the distribution of these loans among the various activities, it came out that most of these loans have been directed to livestock production and agricultural mechanization projects since each of them received about one third of these loans. Then come poultry projects followed by rural development loans including local industries and rural women development projects.

IV – Agricultural Credit in Egypt and Problems Encountered by Small Farmers

Small farmers encounter certain difficulties in getting the necessary loans.

1. Loans Sufficiency

Small farmers need to finance production operation and to cover the daily needs of their families. Due to seasonality of agricultural production, it is quite natural that, at times, farmers become short of the liquidity necessary to cover their daily living. Some of them have to use the loans fraudulously in order to provide their daily living rather than for production itself. Accordingly, PBDAC and other agricultural banks, in an attempt to stop such fraudulence, have resorted to in-kind credit. Nevertheless, some farmers sell the in-kind loans (of production input) at lower prices than the real prices in order to alleviate their financial stress.¹

In view of the economic liberalization policies which necessitated the bank to abandon its monopoly of inputs distribution and to lift the subsidies of interest rates and inputs prices, farmers would no more be able to transfer the inputs loans into cash money. However, in spite of the extension in all types of credit, it can finance only 50% of the production costs which are steadily and rapidly increasing.

2. Credit Costs

Studying the financial structure of the PBDAC reveals that it relies mainly on:

- a) the capital and reserves which constitute a sum of L.E. 130 million;
- b) deposits and savings amounted to L.E. 1,400 million; and
- c) loans from commercial banks which reached L.E. 1,500 million.

Hence, it is obvious that loans from commercial banks constitute nearly 50% of the financial structure of PBDAC. In view of the liberalization of interest rates, this financial source has become extremely expensive. Moreover, PBDAC has to cover its relatively big administrative expenses, which reached 4%.

3. Problems of Guarantees

Guarantees are one of the major impediments that hamper agricultural producers to get the necessary funds for their activities. For instance, in the case of plant production, though loans are secured by the growing crop, the farm holding, whether ownership or tenancy, should be officially registered. Accordingly, crop-sharing farmers do not have access to the loans.

The same is applied to the tenants of the newly reclaimed lands, since the owner of the land, i.e., the government, has the right to annule the contract at any time.

In spite of the successful policy of considering the project as a guarantee, PBDAC prefers to have additional real estate security. This applies to short-term loans provided for covering the running costs, and to medium-and long-term loans as well. Hence, small investors cannot benefit from these loans.

4. Backing the Production Loans Only

In spite of the great size of finance provided by PBDAC through loans, it is quite clear that these loans centre mainly on the production stage rather than on the pre-production or post-production stages.

Pre-production stages include the purchase of agricultural equipment necessary for seed preparation, establishing the irrigation and drainage networks, soil improving, manufacturing and distributing agricultural inputs. Whereas the post-production stages, which the Bank does not finance, include: sorting, grading, packing, manufacturing, transport and handling of plant and animal production.

Backing the production stage only causes farmers to face marketing problems and make them more vulnerable to price fluctuations, on account of the increasing marketing margins, and the high percentage of wastes during the post-harvest stage.

V – The Strategy of PBDAC During the Economic Liberalization Phase

The Egyptian government, in its endeavour to carry out the adopted economic reform programs, has imposed certain procedures aiming at liberalizing the national economy by removing government intervention, transforming the governmental ownership towards the private sector, liberalizing exchange and interest rates and leaving prices to the forces of the free market. Among these procedures, the following are related to agriculture:

- (i) abolition of the state-imposed pricing of agricultural crops;
- (ii) elimination of government control on the cropping pattern;
- (iii) abolition of the forced delivery of agricultural crops;
- (iv) removal of the subsidy of production inputs;
- (v) removal of the subsidy of interest rates of agricultural loans; and
- (vi)exclusion of the PBDAC from the distribution of production inputs to leave them to both the private and cooperative sectors.

In view of these procedures, the PBDAC strategy has been oriented to keep up with the new changes in the coming phase by:

- readjusting the bank financial structure by boosting its services to attract deposits and savings so that they might become the major financial source, and to boost the requested current account service. This may lower financial expenses and consequently increases the credit volume directed to small farmers:
- ii) updating credit classifications according to various activities in order to adjust to production costs; the Bank must stop providing in-kind loans, and extend cash loans;
- iii) extending the credit base and opening new areas for the integration of both production and marketing processes (whether the marketing or distribution of products or inputs);
- (iv)providing the necessary financial means for storage service (for fertilizers, fodder factories and other inputs);
- v) establishing a new system for marketing of bank services to promote the various PBADC activities and respond quickly to the customer's needs in accordance with market conditions;
- vi) enhancing, continuously and effectively, the performance of credit operations for lowering credit expenses to a reasonable level;

vii) creating new forms of guarantees in conformity with economic changes, especially those in relation with the landowner-tenant relationship.

In this context, collective guarantees are among the proposed alternatives.

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Table 1. The Importance of the Agricultural Sector in the Egyptian Economy in 1986–87

	Total National I	Incor	ne	Labour		Wages		Capital Accumulation		
Sectors	Billion		Million		Million		Billion		Billion	
	L.E.	%	L.E.	%	Labourers	%	L.E.	%	L.E.	%
Agriculture	12.3	16.9	8.7	19.6	4.45	36.3	5.57	36.3	1.12	10.4
Industry	21.6	29.6	7.9	17.8	1.73	14.1	2.17	14.1	2.44	22.6
Oil	3.0	4.1	2.0	4.5	0.03	0.3	0.04	0.3	0.18	1.7
Electricity	0.9	1.2	0.5	1.1	0.08	0.7	0.1	0.7	0.88	8.2
Construction	4.6	6.3	2.2	4.9	0.05	4.6	0.71	4.6	0.22	2.0
Total Commodity Sectors	42.4	58.2	21.3	47.9	6.85	55.8	8.59	56	4.84	44.9
Transport & Communications	5.1	7.0	3.9	8.8	0.55	4.5	0.68	4.4	2.45	22.7
Trade & Finance	15.4	21.1	11.9	26.7	1.24	10.1	1.55	10.1	0.11	1.0
Housing	0.7	1.0	0.7	1.6	0.31	1.7	0.26	1.7	1.65	15.3
Public Utilities	0.2	0.2	0.2	0.5	0.08	0.7	0.09	0.6	0.97	9.0
Other Services	9.1	12.5	6.5	14.6	3.34	27.2	4.18	27.2	0.77	7.1
Total Services	30.5	41.8	23.2	52.1	5.42	44.2	6.76	44	5.95	55.1
Total	72.9	100.0	44.5	100.0	12.27	100.0	15.35	100	10.79	100.0

Source: CAPMAS, 1990.

Table 2. Annual Average Public and Private Investments in Egypt During the Period 1950–1992

Period	Total Investment	Public	Sector	Private Sector			
	Million L.E	Million L.E	%	Million L.E	%		
1950-51	133.0	25.0	18.8	108.0	81.2		
1952-56	107.4	48.0	44.7	59.4	55.3		
1959-65	293.7	276.2	94.0	17.5	6.0		
1966/67-1973	359.9	322.2	89.5	37.7	10.5		
1974-81/1981	2 486.5	2 025.9	81.5	460.6	18.5		
1982/83-1986/87	7 099.4	5 309.5	74.8	1 789.9	25.2		
Proposed for:							
1987/88-1992/93	9 163.3	5 563.3	60.7	3 600.0	39.3		

Source: Al-Sa'adani, 1992.

Table 3. Agricultural Investment in the Public and Private Sectors, 1970/71-1986/87

Years	Public sector		Private sector		Total
	Million L.E	%	Million L.E	%	Million L.E
1970/1971	50.1	94.5	2.9	5.5	53.0
1971/1972	42.3	95.7	1.9	4.3	44.2
1973/1974	54.9	96.3	2.1	3.7	57.0
1974	51.2	95.3	2.5	4.7	53.7
1975	87.6	93.6	6.0	6.4	93.6
1976	91.2	93.8	6.0	6.2	97.2
1977	126.9	88.3	16.9	11.8	143.8
1978	164.6	87.9	22.7	12.2	187.3
1979	216.2	84.5	39.6	15.5	255.8
1980/1981	239.6	84.8	43.9	15.5	283.5
1981/1982	368.1	64.1	206.1	35.9	574.2
1982/1983	323.7	64.1	181.3	35.9	505.0
1983/1984	369.2	71.1	149.8	28.9	519.0
1984/1985	416.8	62.8	247.0	37.2	663.8
1985/1986	533.3	79.6	232.7	30.4	765.9
1986/1987	519.0	58.4	370.0	41.6	889.0
Average					
82/83–86/87	432.4	64.7	236.3	35.3	668.6

Source: Al-Sa'adani, 1992.

Table 4. Economic Indicators of Approved Agricultural Investments Enterprises up to 31/12/1990

Area	Average Capital (L.E. Million)	Average Costs (L.E. Million)	Average Number of Workers	No. of Workers/ L.E. Million invested	Average Worker's Wage (L.E.)	Production Value/ Investment Costs	Production per Worker (L.E thousand)
Livestock and poultry	2 865	5 738	91	15.9	1 667	1.9	130 917
Land reclamation & cultivation	1.73	3.63	206	56.8	2 110	1.3	22 915
Agro-industrial integration	8 787	18 859	219	11.6	2 908	0.65	56 503
Fish farming	3 349	4 484	51	7.9	3 434	0.43	54 234
General average	3 315	7 444	127	17.06	2 128	1.3	67 653

Source: Al Sa'adani,1992.

Table 5. The Current Credit Categories for the Major Field Crops, Poultry and Animal Production in 1991–1992

Crop	Credit C L.E./fe	• •	Animal Production	Credit Category L.E./head				
	Subsidized*	Unsubsidized	Projects	Old Lands	New Lands			
Wheat Broad beans Lentils Onion Garlic Nili potato Tomato Cotton Rice Maize Sugarcane Soybean	250 200 650 50	179 50	Calves fatting Fatting projects Dairy local cows Dairy buffalo Mixed friesian Local friesian Imported friesian Poultry Egg	400 600 500 600 700 700 1000 1.2 L.E/Chick. 4.5 L.E/Chick.	750 1 200 1 000 1 100 1 400			

 $^{^{\}star}$ The subsidized interest rate is about 9%.

Source: PBDAC, unpublished data.

Table 6. Loans to the Plant Production Project during the Period 1980/81-1989/90

	In-kind Loans		In-cash loans		Total
Years	Value		Value		
	L.E. Million	%	L.E. Million	%	L.E. Million
1980/1981	104.6	49	107.1	51	311.7
1981/1982	135.9	50	135.7	50	271.6
1982/1983	173.1	54	144.8	46	316.9
1983/1984	183.1	56	142.2	44	325.3
1984/1985	206.1	58	151.9	42	358.0
1985/1986	224.2	52	209.4	48	433.6
1986/1987	346.3	51	330.4	49	676.7
1987/1988	373.4	46	433.7	54	806.1
1988/1989	441.4	45	545.3	55	986.7
1989/1990	592.0	47	671.9	53	1 264.9

Source: PBDAC, Information System Section, unpublished data.

Table 7. Distribution of Short-Term Loans According to their Various Purposes (1980/1981–1989/1990)

Livestock		Poultry	,	Fish Farm	Fish Farming		iculture Agro-Industry Ot		Other	Other		
L.E. Million	%	L.E. Million	%	L.E. Million	%	L.E. Million	%	L.E. Million	%	L.E. Million	%	L.E. Million
55.2	80	9.7	14							4.3	6	69.2
90.9	62	40.4	28							15.1	10	146.5
93.0	52	72.2	41							13.2	7	178.5
181.2	64	74.8	26							27.2	10	283.4
325.2	72	98.5	22							27.6	6	451.2
513.3	79	103	16							35.9	5	652.3
781.6	81	168	17							17.8	2	967.5
876.7	82	147.7	14							31.2	2	1 055.6
1 261.3	85	147.0	10	0.8	0.1	0.1		8.5	0.6	57.8	4	1 475.4
1 279.1	85	148.7	10	1.2	0.1	0.1	0.1	11.9	0.8	64.5	4	1 505.7

Source: PBDAC, Information System Section, unpublished data.

Table 8. Distribution of Medium-Term Loans According to Their Purposes (1980/1981–1989/1990)

	ck	Poultr	y	Mechanization		Fish farming		Apiculture		Agro-Industry		Other Activities		Total
LE Million	%	LE Million	%	LE Million	%	LE Million	%	LE Million	%	L E Million	%	LE Million	%	LE Mil
34.0	26.5	17.8	19.7	30.7	33.9	0.4	0.5	1.1	1.2			16.5	7.2	90.4
53.0	27.5	44.1	13.4	39.9	31.3	0.1	0.1	1.2	0.6			51.7	22.2	189
63.8	38.6	39.7	14.0	43.1	35.5	1.8	1.1	1.5	0.9			16.4	9.9	165.4
105.3	44.4	40.3	17.0	63.3	26.3	1.8	0.8	1.9	8.0			35.6	10.8	337.0
146.7	46.3	43.3	13.4	89.4	38.3	0.6	0.2	1.8	0.6			35.7	11.2	316.6
333.9	45.9	55.6	11.4	134	27.5	0.8	0.1	3.9	0.8			69.8	14.2	488.1
383.3	43.1	60.6	9.0	163.4	34.1	0.9	0.1	6.2	0.9	3.3	0.5	157.3	23.3	275.0
79.5	19.0	36.7	8.7	153.5	36.6	1.3	0.3	4.9	1.2	39.0	6.9	114.4	27.2	419.5
119.6	33.3	57.4	11.2	190.3	37.0	3.4	0.5	6.1	1.2	44.9	8.7	93.3	18.1	513.9
365.3	37.8	93.1	9.5	319.7	33.1	4.3	0.4	8.5	0.9	50.5	5.2	135.3	13.0	965.6
L	34.0 53.0 63.8 105.3 146.7 333.9 383.3 79.5 119.6	34.0 26.5 53.0 27.5 63.8 38.6 105.3 44.4 146.7 46.3 333.9 45.9 383.3 43.1 79.5 19.0 119.6 33.3	34.0 26.5 17.8 53.0 27.5 44.1 63.8 38.6 39.7 105.3 44.4 40.3 146.7 46.3 43.3 333.9 45.9 55.6 383.3 43.1 60.6 79.5 19.0 36.7 119.6 33.3 57.4	34.0 26.5 17.8 19.7 53.0 27.5 44.1 13.4 63.8 38.6 39.7 14.0 105.3 44.4 40.3 17.0 146.7 46.3 43.3 13.4 333.9 45.9 55.6 11.4 383.3 43.1 60.6 9.0 79.5 19.0 36.7 8.7 119.6 33.3 57.4 11.2	34.0 26.5 17.8 19.7 30.7 53.0 27.5 44.1 13.4 39.9 63.8 38.6 39.7 14.0 43.1 105.3 44.4 40.3 17.0 63.3 146.7 46.3 43.3 13.4 89.4 333.9 45.9 55.6 11.4 134 383.3 43.1 60.6 9.0 163.4 79.5 19.0 36.7 8.7 153.5 119.6 33.3 57.4 11.2 190.3	34.0 26.5 17.8 19.7 30.7 33.9 53.0 27.5 44.1 13.4 39.9 31.3 63.8 38.6 39.7 14.0 43.1 35.5 105.3 44.4 40.3 17.0 63.3 26.3 146.7 46.3 43.3 13.4 89.4 38.3 333.9 45.9 55.6 11.4 134 27.5 383.3 43.1 60.6 9.0 163.4 34.1 79.5 19.0 36.7 8.7 153.5 36.6 119.6 33.3 57.4 11.2 190.3 37.0	34.0 26.5 17.8 19.7 30.7 33.9 0.4 53.0 27.5 44.1 13.4 39.9 31.3 0.1 63.8 38.6 39.7 14.0 43.1 35.5 1.8 105.3 44.4 40.3 17.0 63.3 26.3 1.8 146.7 46.3 43.3 13.4 89.4 38.3 0.6 333.9 45.9 55.6 11.4 134 27.5 0.8 383.3 43.1 60.6 9.0 163.4 34.1 0.9 79.5 19.0 36.7 8.7 153.5 36.6 1.3 119.6 33.3 57.4 11.2 190.3 37.0 3.4	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 0.1 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 1.1 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 1.2 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 1.5 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 1.9 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 1.8 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 3.9 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 6.2 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 4.9 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5 6.1	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 1.1 1.2 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 1.2 0.6 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 1.5 0.9 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 1.9 0.8 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 1.8 0.6 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 3.9 0.8 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 6.2 0.9 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 4.9 1.2 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5 6.1 1.2	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 1.1 1.2 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 1.2 0.6 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 1.5 0.9 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 1.9 0.8 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 1.8 0.6 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 3.9 0.8 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 6.2 0.9 3.3 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 4.9 1.2 39.0 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5 6.1 1.2 44.9	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 1.1 1.2 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 1.2 0.6 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 1.5 0.9 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 1.9 0.8 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 1.8 0.6 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 3.9 0.8 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 6.2 0.9 3.3 0.5 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 4.9 1.2 39.0 6.9 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5 6.1 1.2 44.9 8.7	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 1.1 1.2 16.5 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 1.2 0.6 51.7 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 1.5 0.9 16.4 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 1.9 0.8 35.6 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 1.8 0.6 35.7 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 3.9 0.8 69.8 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 6.2 0.9 3.3 0.5 157.3 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 4.9 1.2 39.0 6.9 114.4 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5 6.1 1.2 44.9 8.7 93.3	34.0 26.5 17.8 19.7 30.7 33.9 0.4 0.5 1.1 1.2 16.5 7.2 53.0 27.5 44.1 13.4 39.9 31.3 0.1 0.1 1.2 0.6 51.7 22.2 63.8 38.6 39.7 14.0 43.1 35.5 1.8 1.1 1.5 0.9 16.4 9.9 105.3 44.4 40.3 17.0 63.3 26.3 1.8 0.8 1.9 0.8 35.6 10.8 146.7 46.3 43.3 13.4 89.4 38.3 0.6 0.2 1.8 0.6 35.7 11.2 333.9 45.9 55.6 11.4 134 27.5 0.8 0.1 3.9 0.8 69.8 14.2 383.3 43.1 60.6 9.0 163.4 34.1 0.9 0.1 6.2 0.9 3.3 0.5 157.3 23.3 79.5 19.0 36.7 8.7 153.5 36.6 1.3 0.3 4.9 1.2 39.0 6.9 114.4 27.2 119.6 33.3 57.4 11.2 190.3 37.0 3.4 0.5 <

Source: PBDAC, Information System Section, unpublished data.