FOR AGENDA

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To: Members of the Executive Board

From: The Secretary

Subject: Jordan - Recent Economic Developments

This paper provides background information to the staff report on the 1982 Article IV consultation discussions with Jordan, which was circulated as SM/82/171 on August 19, 1982.

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INTERNATIONAL MONETARY FUND

JORDAN

Recent Economic Developments

Prepared by a staff mission consisting of
Messrs. A.K. El Selehdar, (Head - MED), A. Kayoumy (MED),
D.R. Khatkhate (CBD), and G. Tomasson (MED)

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national income data are not available. These difficulties render an assesment of the relative changes in the level of economic activity very tentative. It is estimated that the GDP growth rate in real terms averaged about 9 per cent per annum over the 1976-80 period despite a major slowdown in 1979 due to a sharp drop in agricultural output. In 1980 the economy's growth rate rebounded sharply, as a result of substantial expansion in agricultural output, and continued rapid growth in manufacturing, construction, and services sectors. In 1981 available information with respect to the revised national income data and the changes in the cost of living indices suggests that the real rate of economic expansion was about 7 per cent, which although smaller than in 1980, was still satisfactory. Some of the factors which led to a slower growth rate in 1981 included a significant slowdown in growth of the agricultural sector as a result of inadequate rainfall, and in the growth rate of other sectors which had enjoyed a rapid increase in the previous year. The contribution of various economic sectors to GDP changed somewhat during the years under review. The shares of mining, manufacturing, and construction rose from 24 per cent of GDP (at current factor cost) in 1976 to 28 per cent in 1981, while that of services declined from 65 per cent to 63 per cent and that of agriculture also dropped despite high levels of output in 1980 and 1981. Mining and manufacturing grew rapidly during this period in response to higher domestic and export demand (Table 1). The rapid expansion of phosphate production (about 20 per cent per year) has established the mining sector as a significant source of income, and a major source of foreign exchange.

2. <u>Agriculture</u>

Over the last several years agriculture has accounted for one tenth of GDP at factor cost, with this ratio declining in more recent years owing to a more rapid growth rate in other sectors and the movement of rural population to urban centers. The agricultural sector generates one fifth of domestic exports and provides employment for about one quarter of the labor force. Agricultural production fluctuates considerably from year to year due to its heavy dependence on the quantity and timing of rainfall. The fluctuations are particularly pronounced in the production of wheat, barley, and other field crops, which are cultivated mostly in rainfed areas located in the highlands. Fruits and vegetables, the other major agricultural products, are grown in both irrigated (located mainly in the Jordan Valley) and rainfed areas and therefore show less marked fluctuations (Table 2). About two thirds of agricultural income is generated in the cultivation subsector, while one third originates from animal husbandry and poultry production.

During the 1976-79 period, four successive droughts adversely affected agricultural output. In addition, yields from field crops declined, and the area under cultivation was reduced as small farmers migrated to urban areas to work in construction and transportation. Wheat production was also hampered by a shortage of high-yield seeds.

Table 2. Jordan: Agricultural Production, 1977-81 1/

(In thousands of metric tons) 2/

	1977	1978	1979	1980	1981 3/
Field crops					
Wheat	62.5	53.3	16.5	133.6	50.6
Barley	12.0	15.6	4.8	49.1	19.2
Lentils	6.0	8.3	0.8	6.3	7.0
Other	13.3	15.6	10.3	15.4	6.4
Vegetables					
Tomatoes	85.7	208.8	171.8	162.9	194.9
Eggplant	24.6	64.1	52.7	52.4	43.0
Cucumbers	13.6	30.1	22.0	38.7	42.4
Other	80.5	107.0	106.8	121.7	124.7
Fruits					
Olives	8.2	37.0	6.8	44.5	18.9
Grapes	22.3	30.7	23.0	18.2	21.1
Citrus	36.5	32.9	29.9	48.5	49.8
Watermelons	28.1	40.3	15.5	40.3	48.3
Other	8.4	36.3	14.5	9.9	11.9
Animal products					
Chicken	23.3	25.0	31.7	33.0	36.0
Milk	39.6	44.0	38.7	40.0	45.0
Eggs (in thousands)	207.3	265.0	287.0	295.0	450.0

Sources: Department of Statistics and Ministry of Agriculture.

1/ East Bank only.
2/ Unless otherwise indicated.
3/ Preliminary estimates.

Following a sharp reduction in output in 1979, as a result of the cumulative effect of the droughts during the previous years and the severity of the drought during the cultivating season in 1979, there was a dramatic expansion in agricultural output in 1980 due to improved weather conditions; value added by this sector rose by about 37 per cent in 1980 compared with a decline of about 25 per cent in 1979. 1/ Output of field crops, particularly wheat and barley, increased by unprecedented amounts in 1980 after having declined sharply in 1979. In 1981 value added by the agricultural sector increased by only 7.4 per cent. The slowdown reflected the sharp decline in output of field crops due to inadequate and untimely rainfall. Also, output of olives and eggplant showed considerable decreases. On the other hand, output of most fruits and vegetables increased in 1981 although not as rapidly as in the previous year. Production of animal products such as poultry and eggs continued to rise rapidly in 1981. Prospects for agricultural output in 1982 remain favorable because rainfall has been adequate and timely.

In order to reduce the large trade deficit in agricultural commodities and to increase farm incomes, the Government's agricultural policy in recent years aimed at stimulating agricultural output for domestic consumption as well as for export. This policy has concentrated on accelerating efforts in introducing improved seeds of existing types of field crops and new seeds so as to add new varieties of field crops, distributing free seeds, and providing price support to the farmers. For the 1980 and 1981 seasons the Government announced floor prices of JD 90 per ton and JD 92 per ton of wheat, respectively, to encourage production and to raise farm incomes. The Jordan Valley Authority, which has responsibility for all development projects within the Valley, has successfully promoted the cultivation of high-value fruits and vegetables during the off-seasons of neighboring countries, thereby generating higher incomes. Yields in the Valley have quadrupled through the use of such techniques as drip irrigation, plastic hothouses, and mulching systems.

The Government is giving high priority to the agricultural sector under the newly formulated Five-Year Development Plan (1981-85). This Plan allocates JD 180 million (or 7.1 per cent of total planned investment) for development of the agricultural sector compared with JD 40.1 million (or 5.2 per cent of total allocations) under the previous Five-Year Plan (1976-80). Moreover, allocations for water and irrigation projects under the current Development Plan amount to JD 522 million (16 per cent of the total) which exceeds substantially the allocations (JD 97.4 million, or 13 per cent of the total) under the previous Plan. The Plan places primary emphasis on expanding export-oriented production (particularly for the expanding Middle Eastern markets) of high-value fruits and vegetables. It places less emphasis on import substitution, particularly for cereals, where yields are low. To achieve these ends,

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1/ Using the old national income data series so as to have uniformity for reasons of comparison. The revised data for 1980 show an increase of over 49 per cent from the level in 1979.

the Plan calls for an integrated development of the Jordan Valley, where the bulk of agricultural investment is to take place. Livestock feed and fodder production in the highlands is also emphasized. The Plan's major projects are designed to increase production of vegetables, fruits, wheat, milk, meat, and eggs. Over 60 per cent of the designated agricultural investment outlays is allocated to three projects: the rainfed farming project, the dairy cows project, and the irrigated farming project. Upon completion of these projects by 1985, vegetable production, mainly tomatoes, is to increase by 90 per cent, wheat production by 36 per cent, and fruit production by 150 per cent. The projects for the expansion of irrigation include the construction of the Maqarin Dam, extension of the East Ghor Canal, expansion of the sprinkler irrigation system in the Valley, and irrigation projects in Wadi Mujieb and the Southern Ghor. Together, these investments are expected to double the irrigated area.

3. Industry, mining, and construction

The industrial and mining sector has expanded rapidly in recent years and as a result its contribution to GDP has increased steadily to approximately 20 per cent or slightly less than the contribution of the trade sector which traditionally has been the major economic sector in Jordan. The index of production by principal industries (Table 3) shows industrial growth to have been uneven over the last several years, with slow growth in 1977 and 1981 relative to the average annual growth rate of about 16 per cent for the five years ended 1981. The index, with the heaviest weights assigned to phosphate mining, manufacturing, and electricity generation, increased 12.7 per cent in 1981 compared with 23.5 per cent in 1980. The slowdown in 1981 was due to less rapid growth in output of phosphates, cement, electricity, pharmaceuticals, and a decline in output of textiles compared with a rise of about 16 per cent in the year before.

Three phosphate mines are in operation with the latest having started in September 1979. Another potentially large deposit of phosphate has recently been located. A series of investments, starting in 1973, has raised the mines' capacities from 1.7 million metric tons per year in 1975 to 4.5 million metric tons in 1981. Ongoing investment is anticipated to push capacity toward 6 million metric tons per annum by late 1982. The production target for 1981 was set at 4.5 million metric tons but actual production fell short of the target by about 6 per cent. Production in 1982 is expected to increase further although demand abroad has weakened somewhat in recent months compared with the level in the last two years.

A large fertilizer factory to convert phosphate to diammonium phosphate is being constructed to augment value added within Jordan from phosphate output. This enterprise, costing about US$300 million, is being undertaken jointly by the Government, the private sector, and foreign investors. The factory will initially have an intake of 1.4 million metric tons per year of high-grade phosphate when it starts production in late 1982.

Table 3. Jordan: Production of Principal Industries, 1977-81 1/

	Unit	Weight	1977	1978	1979	1980	1981
Phosphates (dry)	1,000 tons	33.5	1,769.4	2,320.2	2,828.1	3,911.3	4,243.7
Cement	1,000 tons	5.1	537.6	553.0	623.2	912.7	964.7
Petroleum products	1,000 tons	16.2	1,145.5	1,396.6	1,612.4	1,760.0	2,126.0
Sole leather and wool	tons	0.4	345.6	197.9	190.7	103.0	118.3
Upper leather	million sq.ft.	1.0	2.5	2.8	2.4	2.5	2.1
Detergents	1,000 tons	2.0	6.0	7.0	10.6	15.3	18.8
Liquid batteries	1,000 units	0.4	51.1	44.3	62.9	66.3	57.3
Cigarettes	1,000 tons	10.6	2.5	2.6	3.4	4.2	4.7
Spirits and alcoholic drinks	million liters	2.0	5.7	5.7	7.2	6.8	9.0
Paper	1,000 tons	0.7	5.2	4.6	7.1	8.8	15.4
Electricity	million kwh	7.9	472.6	571.5	774.1	938.8	1,037.1
Iron	1,000 tons	8.3	63.8	65.3	81.0	86.2	134.9
Textiles	1,000 yards	3.1	869.8	1,140.9	1,416.7	1,641.2	1,308.0
Fodder	1,000 tons	6.2	42.0	51.8	51.7	47.9	55.4
Pharmaceutical products							
Liquid products	1,000 liters	1.2	485.2	496.7	607.0	1,216.0	1,423.7
Ointments, tablets, and other	tons	1.4	125.7	142.8	158.1	215.2	155.3
				(1975 = 100)			
Index of industrial production 2/			129.7	159.2	188.0	232.1	261.5
				(In per cent)			
Rate of change			3.8	22.7	18.1	23.5	12.7

Source: Central Bank of Jordan.

1/ East Bank only.
2/ Weights used in the index are based on 1975 values.

Another large, export-oriented, joint venture project is under construction for production of potash from the Dead Sea by solar evaporation and refining. This project, costing almost US$350 million, is scheduled to start production in late 1982 with full production capacity to be reached by 1984. Sales agreements have already been signed with several agents representing different regions of the world. The price in these contracts will be based on the price for Saskatchewan potash, f.o.b., Vancouver.

Production in other existing large industries such as cement, petroleum refining, and electricity has been constrained by capacity limitations. Annual cement production stagnated at about 550,000 metric tons for a number of years before rising in 1979 and 1980 under an expansion program which aims to increase capacity to 1.6 million metric tons by the end of 1982.

With limited indigenous energy resources, Jordan is largely dependent on imported oil for its energy needs. Imported crude oil is processed in the local refinery at Zarka. The petroleum refinery, which had been operating close to capacity, was expanded in 1978 and 1979 to meet rising domestic demand with a production level of 2.4 million metric tons of petroleum products per year. Electricity consumption has been constrained by generating capacity and the limited distribution network, but the distribution grid is being enlarged and capacities at power stations in Amman and Aqaba are being augmented to meet rising requirements.

A large number of small-scale plants established mainly in the Amman-Zarka region are engaged in light manufacturing with much of the output being exported. In 1980 and 1981 a number of new companies were established. Most of the existing factories are engaged in food processing (olive oil refining, dairy product processing, distilling, brewing, and bottling), and clothing manufacturing. Other products include chemicals (detergents, plastics, paints, and matches), pharmaceuticals (disinfectants, cosmetics, other toiletries, and patent medicines), and building materials (pipes, wire mesh, ceramic tile, and other fabricated iron forms). Light manufacturing has recently benefited from buoyant exports to neighboring oil producing countries.

Comprehensive data on construction activity in Jordan are not available, but data on the area covered under building permits issued for the cities of Amman and Zarka (Table 4), bank credit extended for construction, and cement production are believed to reflect fairly adequately the general trend of activity in this sector. These data suggest that construction activity increased in 1976, stagnated during the subsequent two years, rose sharply in 1979 and 1980, but slowed down somewhat in 1981. Over the period as a whole, construction activity rose very rapidly, and a number of factors accounted for this rise. First, a considerable part of the remittances from Jordanians working abroad has been invested in real estate, including newly constructed buildings. In addition, domestic savers are also believed to have invested in real

The 1976-80 Five-Year Development Plan envisaged an average annual rate of growth in real GDP of about 12 per cent on the basis of a total investment outlay of JD 765 million in 1975 prices (Table 6); in this section, all references with respect to national accounts data for the 1976-80 Plan period and the 1981-85 Plan period are based on the old series rather than on the revised series in line with the procedure used by the Planning Council. The financial objectives of the Plan included a reduction in budgetary dependence on foreign grants through revenue growth averaging 16 per cent per year while limiting current expenditure growth to an average of 7 per cent per year. With these trends it was projected that revenue would account for 52 per cent of overall budgetary expenditure in 1980 compared with 41 per cent in 1975. Balance of payments projections were for an average annual growth of 24.2 per cent for exports and only 7.3 per cent for imports, implying a reduction in the trade deficit from JD 184 million (66 per cent of GDP) in 1975 to JD 131 million (16 per cent of GDP) in 1980.

Available information about performance under the 1976-80 Plan indicates that a fairly high degree of fulfillment was attained in respect of certain targets. The actual rate of growth in GDP (at factor cost) was about 8.5 per cent per year (Table 7). Realized total Plan investment was about JD 725 million in 1975 prices, JD 1,222 million in current prices, or JD 1,463 million in 1980 prices. Fiscal developments indicate an average annual rate of growth of 17.1 per cent for domestic revenue and 14.6 per cent for current expenditure; by 1980 domestic revenue accounted for 45 per cent of total expenditure reflecting a four percentage point improvement over 1975. Exports averaged a 26.5 per cent annual rate of growth compared with 13.3 per cent for imports; however, since imports started off with a much larger base the trade deficit widened to JD 543 million (69 per cent of GDP).

2. The 1981-85 Five-Year Development Plan

The current Five-Year Plan (1981-85) has incorporated the basic investment and policy aspects of the 1976-80 Plan. The macroeconomic targets of the 1981-85 Plan project an annual growth rate of 11.1 per cent in real GDP (at factor cost) with investment expenditure of JD 3.3 billion 1/ or more than thrice the amount under the 1976-80 Plan. Consumption and investment outlays are projected to increase by 8 per cent per annum and 12.2 per cent per annum, respectively (compared with actual annual increases of 9 per cent and 18 per cent, respectively, during the previous five years).

1/ Of which JD 1,795 million represents the public sector's investment and the remaining JD 1,505 million that of the private sector.

Table 6. Jordan: Distribution of Investment in the 1976-80 and 1981-85 Development Plans

(In millions of Jordan dinars and in per cent)

	1976-80 Plan				1981-85 Plan	
	Plan Target		Actual			
Sector	Total 1/	Per cent of total	Total 2/	Per cent of total	Total 3/	Per cent of total
Agriculture	40.1	5.2	51.7	4.2	234.5	7.1
Water and irrigation	97.4	12.7	73.8	6.0	521.7	15.8
Manufacturing and mining	229.2	30.0	316.8	26.0	758.8	23.0
Construction	24.4	3.2	33.5	2.7	65.7	2.0
Electricity and energy	42.9	5.6	99.3	8.1	163.4	4.9
Commodity producing sectors	434.0	56.7	575.1	47.1	1,744.1	52.8
Trade and supply	3.8	0.5	16.7	1.4	37.0	1.1
Transport and communication	140.0	18.3	276.2	22.6	652.3	19.8
Education and health 4/	46.5	6.1	50.9	4.2	344.7	10.5
Labor and housing 5/	129.6	16.9	298.3	24.4	508.1	15.4
Others	11.4	1.5	4.8	0.4	13.8	0.4
Service sectors	331.3	43.3	646.9	53.0	1,555.9	47.2
Total	765.3	100.0	1,222.0	100.0	3,300.0	100.0

Source: National Planning Council.

1/ In constant 1975 prices.
2/ In current prices.
3/ In constant 1980 prices.
4/ Includes culture and information.
5/ Includes vocational training and social work and municipal and rural affairs.

Table 7. Jordan: Major Macroeconomic Growth Rate

	Average Annual Rate of Growth		
	1976-80		1981-85 Plan
	Plan	Actual	(In 1980 prices)
	(In 1975 prices)		
GDP at factor cost	11.9	8.5	11.0
Indirect taxes	9.5	25.0	11.0
GDP at market prices	11.6	10.8	11.1
Imports (goods and nonfactor services)	7.8	17.8	13.7
Total resources	10.0	11.4	12.5
Consumption	7.2	8.9	8.0
Investment	9.1	18.0	12.2
Change of stocks	...	...	8.5
Exports (goods and nonfactor services)	23.0	26.5	21.7
Total uses	10.0	11.4	12.5
	(As percentage of GDP)		
	1980	1981	1982
Memorandum items:			
Consumption	122.7	125.6	106.5
Investment	41.7	44.9	43.6
Exports (goods and nonfactor services)	48.5	52.7	76.6

Source: National Planning Council.

About 53 per cent of the investment allocation of JD 3,300 million (Appendix Table 31) is projected to go to the commodity producing sectors including agriculture 7.1 per cent, water and irrigation 15.8 per cent, mining and manufacturing 23 per cent, and construction 2 per cent. The services sectors are projected to account for about 47 per cent of investment (compared with 43.4 per cent projected in the 1976-80 Plan), and this increase in emphasis is to be felt in all subsectors, especially for education and health which will receive 10.5 per cent of total investment (compared with 6.1 per cent in the previous Plan) as the Government shifts strategy to provide for more basic needs. Transport and communication (19.8 per cent) and labor and housing (15.4 per cent) will, however, still receive the bulk of investment allocation in the services sectors.

As regards budgetary performance, the rise in domestic revenue is projected to be 10.9 per cent per annum in real terms while growth in current expenditure is to be limited to about 3 per cent per annum in real terms, reflecting the authorities' intent to apply restraint and close the gap between domestic revenue and current expenditure by 1985. Total national domestic savings to be generated are estimated at JD 594 million. With the anticipation of this development, foreign grants and loans (net) are projected to provide JD 2,706 million or 82 per cent of the resources for the 1981-85 Plan compared with 86 per cent realized under the 1976-80 Plan (Appendix Table 32).

With regard to external trade, exports and imports are projected to grow at annual rates of 28.2 per cent and 13.8 per cent, respectively (Appendix Table 33). The trade deficit is projected to decline from 69 per cent of GDP (at factor cost) in 1980 to 58 per cent in 1985. Over the Plan period, export composition is to change significantly as the traditional exports, viz., consumer goods and phosphates (accounting for 68.8 per cent of exports in 1980), are projected to account for 46 per cent of exports by the end of the period while new items--potash, fertilizer, and cement--are projected to account for 26.4 per cent. The import (goods and nonfactor services)/GDP ratio is projected to rise from 130 per cent to 146 per cent over the Plan period, highlighting the dependence on external supplies. Nevertheless, the authorities hope to raise consumption taxes during the 1981-85 Plan period and the strategy is to lower the consumption/GDP ratio over the period from 122.7 per cent in 1980 to 106.5 per cent in 1985.

An essential characteristic of the planning process in Jordan has been the rising capital intensity of successive plans. This has been reflected in the rising incremental capital output ratios (ICOR) of the plans formulated; for example, these ratios were 5.4 for the 1981-85 Plan and 2.3 for the 1976-80 Plan. This strategy of high capital investment approach has been prompted by the ready availability of foreign assistance, Jordan's better potential in some large projects, ease of attracting foreign financing for a few large well-defined projects, and increasing shortages of skilled and unskilled labor. The selection of large "enclave" projects with a substantial input from foreign contractors and skilled labor is partly an attempt to avert domestic labor bottlenecks. The 1981-85 Plan goes a long way toward ameliorating this problem by emphasizing vocational training through universities, vocational colleges and centers, and apprenticeship schemes.