

The Share of Financial Services in Jordan Economy Dr. Ali Hussein Magableh

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A research Paper

By

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The Share of Financial Services in the Economy of Jordan

Abstract

An increasing Share of financial services in Jordan economy emerged strongly since the start of the fourth quarter of the last century. Services share of GDP increased from 54.5% to 69.9% between 1975 and 2000. In the same period financial services increased from 11.1% to 20.6%, while the share of services of the labor force increased from 64.7% in 1975 to 69.4% in 1999.

Because of the importance of financial services in terms of their increasing productivity and well being of workers, we investigated the sectoral distribution of Jordan GDP during the period aforementioned; using the central bank published data.

The results were consistent with these of the other countries, even the industrial ones, showing the strong share of services in which Jordan has a relative advantage, such as health services and higher education services. Financial and tourism sectors should be given special attention to compete in today's world of WTO. Services could be the rewarding and promising sector in Jordan.

The Share of Financial Services in Jordan Economy

Introduction:

An increasing role of financial services in Jordan economy is witnessed since 1975. The production of services had risen as a percentage of Jordan GDP from 186.4 million J.D in 1975 (equal to 54.5% at market prices) to 3656.3 million J.D equal to 69.9% of GDP at market prices in year 2000. An accompanying shift in financial services from 43.6 million J.D. in 1975 (11.1% of GDP) to 1503 million (20.6% of GDP) in 2000.

Labor employed in service sector has also increased from 219 thousand workers in 1975, to 702 thousands in 1996, and the shift was from 64.7% of the overall employed labor force in 1975 to 69.4% in 1999.

This has been a strength, rather than a weakness of Jordan economy. Similar developments took place in U.S.A. and some western countries.

The share of services in the U.S.A. economy increased from 53.8% in 1948 to 67.6% early 1990^s. Mack Ott (11), justified that by stating “High productivity growth in manufacturing and agriculture and a long-term effects of American investment in education have made the faster growth of the service sector possible”.

(*) All numerical data of this paper are taken from tables (1), (2), and (3). The research also made some measurements.

The origin of the data in these tables, were taken from C.B

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publications of Jordan and from Talafhah (15)**

In case of Jordan, the third cause, is a long term effects of Jordan investment in education, which is a valid and significant cause in growing share of services in the economy.

The problem of this paper is that services sectors is not given enough attention in developing countries, who run after manufacturing activities, in which they do not have comparative relative advantages, to lead to economic development. It's goal is to investigate the sectoral distribution of GDP in Jordan in order to highlight the trend of financial service sector in terms of production, and also in terns of labor force in that sector.

The importance of this topic comes from the fact that the rising share of services in general, and financial services in particular is most likely reflecting the increasing productivity and well being of workers. Nevertheless the services sector in Jordan, in terms of its share, importance, effects... etc, never have been tackled by any researcher, while the issue of services is given what it deserves of attention in the western literature. Surprisingly enough the 60-65% contribution of services to GDP was reported and found by numerous researchs in many industrial countries (Mack Ott for U.S.A), Kassem, from United Arab Emirates)

We, in this paper analysed, the GNP data of Jordan during the last quarter of the last century, published by the central bank of Jordan. This is together with data about labor statistics. The commodities sector

includes agriculture, manufacturing, mining and construction industries. In turn, agriculture include forestry and fishing.

The services sector include transportations communications, utilities, wholesale trade, retail trade, finance, and other services industries. Finance include banking, thrift, finance and real estate. Other services include personal services, business services, auto repair, health services, legal services and miscellaneous professional services.

During the 1973 postwar era the output of Jordan economy as measured by GDP increased from 269.4 million J.D at cost price (or 340.5 at market price) in 1975 to 4400 at cost price (or 5230.8 at market price in 1998), 50 GDP increased by almost 15 times during a quarter of century from 1975. Because economy of Jordan has been growing, we will consider proportional shares rather than levels of output and labor.

Services sector employment in general increased from 219 thousand worker (or 64.7% of the total labor force employed in the economy) in 1975 to 701 thousand worker (69.4% of the total labor force employed) in 1996. The service sector has grown apace, while employment in the commodity sector has grown much more slowly. In agriculture, employment decreased from 14.9% in 1975 to 9.4% in 1996 (from 50.2 thousands out of 338.1 total, to 94.9 thousand out of 1010 thousands total).

Construction from 36.2 thousand or 10.7% in 1975 to 97.9 or 9.7% in 1996. Transportation, as well as finance and real estate increased from 12.7% of the GDP at market price in 1975 to 2.7.8% in year 2000.

That occurred, given the fact that Hill (7) elegantly defined services as the change in condition of an economic unit which results from the activity of another economic unit where changes in goods will affect the physical condition of them such as cleaning, but changes in services affecting persons influence their physical and mental conditions, such as transportation, or education. Services are consumed as they are produced simultaneously. The consumption of services cannot be detached from their production as in the case of goods.

Railroads lost their dominance in freight and passenger markets to airline and trucking. The decline in railroads share of transportation came as a result of

substitution of private capital for public capital in transportation. In sum the shift of Jordan economy toward services has been pervasive. All sectors of services other than government have become more capital intensive, but all these sectors including government have become larger. The service activities which have grown fastest since 1975 was characterized by capital investment, both in human skills and in physical equipment, and have been substantial. This fact reflects a substantive shift in the occupational characteristics of Jordan labor force.

It is theorised that there are two interrelated reasons for the rise in the service sector's share of employment in the recent developments in world economies, and these are: slower growth in labor productivity and faster growth in the demand for services. In Jordan annual labor productivity as measured by the ratio of output per worker or (GDP divided by the number of workers) increased from 1013 J.D at market price per worker in 1975 to 4553 J.D

In 1996, or it increased by more than 4.5 times over a period of 20 years. The financial service sector labor productivity rate of increase was slower than that in goods sector. This could be measured by dividing the service sector productivity over the number of workers in that sector in a particular year. The average annual rate of growth in financial service sector productivity per worker was 0.068, but it was 0.074 over the period 1975-1996.

A supporting example is that the productivity of Jordanian manufacturing sector increased at an average annual rate of 13.2%, but labor productivity average annual growth rate was 0.078 during the same period, and this is a strong indication of declining labor input (rising capital input) in the manufacturing sector. These results say that service sector of Jordan moved toward capital intensity. It should be noted that the declining productivity growth in services was not uniform across its subsectors.

Another feature of Jordan service sector was the increasing of part-time employment, but this is not the case in the financial sector, where the bank employee as example, used to work longer hourse, more than any service or goods sector at all. This fact about the banking sector during the last quarter of the past century resulted in higher financial sector production, and higher productivity per worker, and this is on the contrary to the fact about other services subsectors.

The financial sector of Jordan is a picky, when it comes to recruitment, where they select their employees from the highly educated human capital, so the financial sector rising labor productivity resulted from the increase in the proficiency of workers, the increase in the financial sector nonhuman capital is also a reason. Actually the capital-labor ratio in services grew faster than in manufacturing.

The financial sector production increased from 43.6 million J.D in 1975 to 1502.8 in 1998, at an average annual rate of 15.9%, while the government service grew from 65.2 to 944.1 million J.D in the same period at an average annual rate of 11.6% only (it was 13.2% in the manufacturing sector as we mentioned earlier).

There is a considerable evidence that the rise in service share of Jordan GDP during the last quarter of the past century was also due to the increase in the demand for services, parallel to the increase in the relative price of services. The relative price of consumption services measured in terms of the price of durable consumption goods had increased and doubled many times since 1975. The relative price of all services, producers as well consumers, measured in terms of the price level has risen by more than five times (started from 57.7%, where 1980 = 100).

The contradiction that might appear here is that the demand for services in general, and financial services in particular increased during the years where their prices soared. The explanation for this phenomenon emerges from the fact that the quality of services has risen. The share of financial services in Jordan GDP is the highest among all services sectors during the study period. It was 20.6% in year 2000.

Educational services is also a good example in this respect. As a result of economic development and economic growth that Jordan witnessed, rising income was directed toward luxurious goods of which services predominante. This last same reason that justifies why services share of GNP in industrial countries is considerably high.

Clark (1951) found that

“in the most advanced countries the demand for manufactured goods tends to settle down finally at about 20-25 percent of the national income. The demand for farm products falls to 10 percent of national income, and will fall lower as income advances further. It follows that in the most advanced countries the demand for services, including building and handicrafts and the products of small scale manufacture, will rise to 70 percent or more of national income

Labor shares in the Jordan Economy

The principle feature of Jordan economy and labor distribution over the period of the research has been the rising productivity of labor, and labor share successively in services in general and financial services in particular. The steady deterioration in the share of agriculture in labor force (14.9% in 1975, to 8.9% in 1998), was associated with steady rise in the proportion of labor force in service sector, particularly in the financial services (64.7% in 1975 to 69.8% in 1998 in service sector and 7.6% in 1975 to 23.3% in 1998 in financial services sector). The decline of the labor force in agriculture was accompanied by a decline in the proportion of labor force in commodity sector.

From the figures about agriculture and labor, we can state that most, or roughly all of the labor released from agriculture went to services production. Every category share to service sector rose strongly. The shift of employment from commodity to services productions has been both persistent and steady.

Conclusions:

The analysis of Jordan economy in the last quarter of the last century we did here, shows that the share of Jordan output in services in general, and financial services in particular has risen steadily. That was accompanied by a shift of consumer demand toward these services, not only that, but also labor input has continuously risen in financial services production, and particularly in those services subsector, primarily whose activities require particular skills such as health services, and higher education services. Jordan, the small country enjoys a spread of highly qualified range of hospitals, and more than twenty eight universities. The tourism sector potentials in Jordan are very unique actually, not only on regional level, but also on international level. Jordan tourism potentials are very rich and

very rewarding whether historical, recreational, or medical tourism.

Recommendations:

There is a growing desire in Jordan to promote service industries and enhance their regional and international competitiveness, and this is actually because Jordan enjoys comparative advantages in services specially in health, higher education, tourism, and with somehow a less degree in financial services.

This awareness of Jordan services facts and potentials should be materialised through official economic policies. The proven mismanagement paralised these efforts in Jordan. Without any doubt, the time is not over to conduct successful policies in this respect.

Table (1)
Gross National Product of Jordan at market prices(in millions J.D)

Products/years	1975	1976	1977	1978	1979	1980
<u>Industries</u> Agriculture	26.0	37.3	41.7	58.6	43.6	64.6
Forestering and Fishing						
Mining	16.3	17.8	19.9	22.9	27.5	39.9
Manufacturing	30.5	54.7	58.2	71.4	94.1	127.2
Electricity and Water	3.1	3.6	5.5	7.2	10.1	17.1
Construction	16.1	23.3	36.8	51.0	70.5	97.5
Wholesale, Retail, Hotels	46.3	64.9	94.2	102.5	123.6	166.5
Financial Services, Real Estate, Transportation	43.6	65.9	94.9	138.8	168.2	204.5
Social and Personal services	8.5	6.1	8.8	10.2	12.0	14.9
Banking Services	(2.9)	(3.01)	(3.4)	(5.4)	(8.1)	(10.5)

(Accounted for)						
Government Services	65.2	81.7	84.4	95.0	129.1	170.2
Non-Profit Services	5.0	5.5	9.1	10.5	11.2	13.9
Household Services	0.7	0.7	0.8	0.9	1.0	1.5
Gross Domestic Product (at cost Price	269.4	358.5	450.9	563.6	682.8	907.3
+Net Indirect Taxes	9.2	43.2	74.3	81.0	84.4	91.1
Gross Domestic Product	27.6	401.7	525.2	644.6	767.2	998.4
+Net income from foreign investment	63.9	140.8	145.9	148.8	168.3	205.8
Gross Domestic Product at Market Price	342.5	542.5	671.1	793.4	935.5	1204.2

Source C.B of Jordan

Products/years	1981	1982	1983	1984	1985	1986
Industries Agriculture Forestering and Fishing	76.6	85.3	105.4	111	104.5	96.6
Mining	43.2	46.2	37.9	44	52.8	68.3
Manufacturing	165.1	170.3	176.6	193	185	193.9
Electricity and Water	21.,0	24.3	28.3	32	41.2	44.2
Construction	110.6	119.2	126.8	127	135	144.3
Wholesale, Retail, Hotels	196.7	222.8	228	241	265	273.5
Financial Services, Real Estate, Transportation	254.4	294.2	272.3	301	453	560.6
Social and Personal services	19.1	22.5	27.2	30	35	39.4

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Banking Services (Accounted for)	(13.0)	(14.8)	(22.2)	(25)	(31)	(38.8)
Government Services	191,2	225,6	232	241	338	365,1
Non-Profit Services	15.8	16.4	20.2	20	16.5	19.7
Household Service4s	2.4	2.5	3.5	4	5.5	5.8
Cross Domestic Product (at cost Price	1083.1	1214.5	1236	1319	1600.5	1772.2
+Net Indirect Taxes	123.1	152.1	197.5	204	305	342.4
Gross Domestic Product	1206.2	1366.6	1433.5	1523	1905.5	2114.6
+Net income form foreign investment	318.5	345.0	346.7	362.1	-12.2	-17.3
Cross Domestic Product at Market Price	1524.7	1711.6	1780.2	1885	1893.3	2097.3

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Products/years	1987	1988	1989	1990	1991	1992
Industries Agriculture Forestering and Fishing	126.6	114.5	131.7	179.6	174.3	204
Mining	66.9	82.4	154.5	158.8	124.9	116.1
Manufacturing	213.6	197	254.7	345.2	343.7	426.0
Electricity and Water	48.5	50.6	52.8	53.3	62	70.9
Construction	126	118.4	106.7	111.6	125.7	152.4
Wholesale, Retail, Hotels	269.1	257.2	180.6	207.9	254.7	269 .9
Financial Services, Real Estate, Transportation	570.7	678.5	737.8	736.5	821.6	946.7
Social and Personal services	40.3	46.1	45.6	51.6	66.2	67.8
Banking Services (Accounted for)	(39.3)	(49.5)	(55.3)	(39.9)	(53.7)	(61 .4)
Government Services	383.7	415	427.8	444.9	471.3	555
Non-Profit Services	20.4	21.6	25.2	20	24.1	27.6
Household Service4s	5.9	5.6	6	6.2	5.3	7.4
Cross Domestic Product (at cost Price	1832.4	1901.4	2068.1	2275.3	2420.1	2782.4
+Net Indirect Taxes	330.3	317.0	261.8	337.2	359.3	474.6
Cross Domestic Product	2162.7	2218.4	2329.2	2612.5	2779.4	3257
+Net income form foreign investment	-50.2	-88.5	-123.5	-236.6	-220.3	-98.4
Cross Domestic	2112.5	2129.9	2206.4	2375.9	2559.1	3158.6

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Product at Market Price						
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Source C.B of Jordan

Products/years	1993	1994	1995	1996	1997	1998
Industries Agriculture Forestering and Fishing	193.3	193.2	171.8	160.7	147.5	132
Mining	106.9	102.4	157.7	166	169.2	174.3
Manufacturing	427.3	561.4	579.7	528.6	592.1	609.9
Electricity and Water	78.7	84	98.1	104.1	117.4	122.1
Construction	283.7	299.4	297.5	252.5	222	224.2
Wholesale, Retail, Hotels	317.2	377	414.6	469.3	517	548
Financial Services, Real Estate, Transportation	1109.8	1179	1294	1384.4	1437.5	1502.8
Social and Personal services	88.8	109.6	128.6	147.3	155.8	168.3
Banking Services (Accounted for)	(66.4)	(73.9)	(75)	(77.2)	(081)	(85.1)
Government Services	619.1	666.9	756.4	872.3	890.7	944.1
Non-Profit Services	38.9	47	50.4	51.4	52.8	54.9
Household Service4s	7.6	6	5.9	5.3	5.2	5.1
Cross Domestic Product (at cost Price	3204.9	3552	3879.7	4019.7	4226.2	4400.6
+Net Indirect Taxes	653.8	694.9	681.1	691.3	719.6	836
Cross Domestic	3858.7	4246.9	4560.8	4711	4945.6	5236.6

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Product						
+Net income form foreign investment	-149.1	-151.4	-116.8	-112.3	-47.4	-5.8
Cross Domestic Product at Market Price	3709.6	4095.5	4444	4598.7	4898.4	5230.8

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Source C.B of Jordan

Table (2)

Jordan Output Shares by Industrial Sector (1975-2000)

Sector/Years	1975	1976	1977	1978	1979	1980	1981	1982	1983
Agriculture	9.7	10.4	9.3	10.4	6.4	7.1	7.1	7	9.0%
Manufacturing	17.4	20.2	17.3	16.7	17.8	18.4	19.2	17.8	16.3
Electricity and Water	1.6	1	1.2	1.3	1.4	1.9	1.9	2	2.3
Construction	7.9	6.5	8.2	9	10.3	10.7	10.2	9.8	10.3
Sum of Commodities sector	36.6	38.1	36	37.4	35.9	38.1	38.6	36.6	37.9%
General Trade	17.2	18.1	20.5	18.2	18.1	18.6	18.2	18.3	18.6
Transportation	8.9	9.5	11.6	12.5	13.2	12.8	13.4	13.7	11.2
Financial Services and mortgage	8.4	8.9	9.9	10.6	11.4	9.8	10.1	10.5	11.1
Government Services	26.2	23.6	19.8	17.9	19.5	19.2	18.2	19.3	18.9
Other Services	2.1	1.8	2.2	3.4	1.8	1.5	1.7	1.6	2.3
Sum of Services Sector	63.4	61.9	64	62.6	64.1	62.1	61.6	63.4	62.1%
Gross Domestic Product	100	100	100	100	100	100	100	100	100%

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Source C.B of Jordan

Sector/Years	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Agriculture	7.9%	8.8%	7.7%	6.8%	7.7%	7.7%	7.7%	11.4%	10.9%	6.4%	6.3%
Manufacturing	17.3	17,5	15.0	16.3	16.9	16.1	16.4	15.8	16.2	18.2	18.5
Electricity and Water	3.0	3.1	3.5	3.7	4.2	3.3	3.4	3.0	3.0	3.2	3.2
Construction	8.1	7.0	7.5	7.4	8.1	8.4	8.9	7.6	7.5	8.8	8.6
Sum of Commodities sector	36.3%	36.4%	33.7%	34.2%	36.9%	35.5%	36.4%	37.8%	37.6%	36.6%	36.6%
General Trade	16.6	16.3	12.8	13.0	11.5	4.2	3.9	3.4	3.5	4.8	4.9
Transportation	11.2	11.1	13.5	12.6	8.3	14.7	15.2	14.4	15.2	13.4	13.5
Financial Services and mortgage	11.9	11.9	17.0	18.2	19.8	21.2	20.9	20.0	19.7	21.5	21.4
Government Services	21.1	21.3	21.1	20.7	22.3	23.1	22.5	21.7	21.4	21.4	21.3
Other Services	2.9	3.0	1.9	1.3	1.3	1.3	1.1	2.7	2.6	2.3	2.3
Sum of Services Sector	63.7%	63.6%	66.3%	65.8%	63,1%	64.5%	63.6%	62.2%	62.4%	63.4%	63.4%
Gross Domestic Product	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source C.B of Jordan

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Sector/ Years	1997	1998	1999	2000
Agriculture	6.0%	4.8%	3.7%	3.8%
Manufacturing	16.7	18.4	18.7	18.7
Electricity and Water	3.7	2.9	2.6	2.6
Construction	6.5	4.6	4.7	4.5
Sum of Commodities sector	32.9	30.2	29.7	29.6
General Trade	4.9	12.6	12.4	12.9
Transportation	15.7	16.8	18.0	17.8
Financial Services and mortgage	22.5	20.6	20.5	20.6
Government Services	21.3	17.1	17.2	17.6
Other Services	2.7	2.7	2.2	1.5
Sum of Services Sector	67.1	69.8	70.3	70.4
Gross Domestic Product	100%	100%	100%	100%

Source C.B of Jordan

Table (3)
The Distribution of labor Force According the Economic Activity in Jordan (1000 workers)

Year	Workers in the Economy	Agriculture		Industry		Construction		Services	
		number	%	number	%	number	%	number	%
1975	338.1	50.2	14.9 %	32.8	9.7%	36.2	10.7%	218,9	64,7%
1976	361.3	49.5	13.7	34.1	9.4	39.6	11.0	238.1	65.9
1977	371.0	48.0	13.0	34.8	9.4	43.4	11.7	244.7	65.9

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1978	380.9	46.6	12.2	35.5	9.3	47.0	12.3	251.9	66.1
1979	391.1	45.1	11.5	36.1	9.2	50.8	12.9	259.4	66.3
1980	405.3	41.4	10.2	38.6	9.5	50.9	12.6	274.4	67.7
1981	418.4	39.0	9.3	42.2	10.1	52.5	12.6	284.5	68.0
1982	431.8	35.8	8.3	45.5	10.5	52.6	12.2	297.9	69.0
1983	445.3	32.8	7.4	48.7	10.9	52.7	11.8	311.1	69.8
1984	458.5	34.9	7.6	52.0	11.3	52.7	11.5	318.9	69.6
1985	472.3	36.9	7.8	55.1	11.7	51.9	11.0	328.5	69.6
1986	492.5	37.4	7.6	58.1	11.8	54.2	11.0	342.8	69.6
1987	509.3	37.7	7.4	62.1	12.2	53.4	10.5	356.2	69.9
1988	521.8	39.7	7.6	62.2	11.9	52.6	10.1	367.0	70.3
1989	523.5	37.7	7.2	61.8	11.7	51.8	9.9	373	71.3
1990	524.2	38.3	7.3	60.3	11.5	51.9	9.9	373.8	71.3
1991	525.0	40.8	7.4	64.3	11.6	54.0	9.8	393.0	71.2
1992	600.0	44.4	7.4	68.4	11.4	60.0	10.0	427.0	71.2
1993	859.3	55.0	6.4	97.1	11.3	60.2	7.0	647.1	75.3
1994	949.0	61.7	6.5	111.0	11.7	90.1	9.5	686.2	72.3
1995	690.0	66.2	6.9	122.9	12.8	96.0	10.0	674.9	70.3
1996	1010.0	94.9	9.4	116.1	11.5	97.9	9.7	701.1	69.4
1997	1068	97.2	9.1	119.6	11.2	101.5	9.5	749.7	70.2
1998	1115	98.1	8.8	129.3	11.6	100.4	9	787.2	70.6
1999	1129	100.5	8.9	136.6	12.1	103.9	9.2	788	69.8

Source Talafhah (15)

References

1. Austrian, Ziona, and Thomas Ziatoper., “ The role of export services”, REI-Review, Fall 1998, PP 24-29.
2. Baldwin, R., “An impact analysis of recent trends in U.S trade competitiveness” University of Wisconsin — Madison, Feb. 1992, Mimo.
3. Beeson, Patricia E., and Michael F. Bryan. “The Emerging services economy, FED of Cleveland, Economic Commentary, June, 1996.
4. Central Bank of Jordan, many issues
5. Gilmer, Robert W. “ Identifying service sector exports from major texas cities”. Economic Review, Vol. 65, No. 3, Aug. 1989, PP 2 17-227.
6. Groshen, Erica L. “ Can services be a source of Exports led growth?” . Economic Review, FED Cleveland, No.3, 1997, PP 2-15.
7. Hill, T.P, “ on goods and services”, The Review of Income and Wealth. Conn. U.S.A, Dec. 1987, PP 3 15-338.
8. Kassem, Sami, and Ghazi, Habib “The strategic management of services in the Arab Gulf states.” Walter De Gruyter, New York 1989, PP. 134-151.
9. Lipsey, Robert E., and Irving B. Kravis.” The Competitiveness and comparative advantage of U.S.multinationals, NBER working paper No. 2051, October 1996.
10. Murray, Alan. “The service sector productivity problem”, wall Street Journal, Feb. 2, 1987.
11. Ott, Mack “ The services in U.S economy”, Review, FED, St. Louis * U.S.A, June, 1988, PP 8-20.
12. Perna, Nicholas S. “ The shift from manufacturing to services:

A concerned View, "New England Economic Review, Jan. 1997, PP 30-37.

13. Sapir, Andre, "Trade in Services: policy issues for the eighties". The Colombian Journal of World Business, fall 1995, PP 77-83.
14. Strongin, Steven. "Services also slow down". FED-Chicago Letter, Aug. 2000.
15. Talafhah, Hussein, and Khamis Fahdawi, "Analytical Study of employment Problem in Jordan economy," Yarmouk-Jordan Studies Center, 1998.
16. Testa, William A. "Producer services: trends and prospects for the seventh district"., Economic perspectives, FED: Chicago, U.S.A, May June 1992, PP 19-27.