

**THE IMPACT OF THE AQABA SPECIAL ECONOMIC ZONE ON THE
JORDANIAN ECONOMY**

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EXECUTIVE SUMMARY

In this paper, we present estimates of economic activity in Aqaba and the rest of Jordan based on several growth scenarios. We compare trend estimates for growth with actual outcomes for the recent past, as well as growth trends both with and without the forecast investment that have been developed since the creation of the Aqaba Special Economic Zone Authority (ASEZA.) The extraordinary regional growth that may follow inception of such economic reforms strengthens arguments for their wider adoption throughout Jordan.

For the 2000-2005, the Aqaba Governorate gross regional product (GRP) grew by 13 percent, almost three points above what we estimate the underlying trend to be prior to ASEZA's creation. This generated JD 180 million in additional output for Jordan as a whole by 2005, of which approximately JD 100 million went to Aqaba and JD 80 million went to the rest of Jordan. Measured in employment terms, Jordan gained a total of 10,000 jobs by 2005, evenly split between Aqaba and the rest of the country.

Over the next 10 years, we expect growth in Aqaba to be extremely strong. We conclude this not only based on the underlying rate (10 percent per year) which would more than double Aqaba's output by itself, but after taking account of planned investment of more than JD 4.4 billion (2005 dinars) over the next 10 years. We project a growth rate of more than 13 percent per year barring capacity constraints. Using this projection, we estimate that the change in total output in all of Jordan will be JD 4.8 billion by 2015 as a result of Aqaba's growth, fully JD 860 million above what the trend rate would have produced. Aqaba will see JD 2.6 billion of the output change, while the rest of Jordan will get JD 2.3 billion. The national employment gain is nearly 56,000 above the trended value post-ASEZA, with increases of 35,000 and 21,000 jobs in Aqaba and the rest of Jordan, respectively.

Our estimates make no allowance for shortages of any factors of production, specifically labor or capital. With the likely influx of workers that such strong growth implies, some shortages seem likely, particularly for labor and housing. Price responses to shortages may also occur, exerting downward

Table II.3
Aqaba Governorate Regional Product
Baseline Projections, 1995 – 2015.

(JD 2005 millions)

Economic Activity	1995	2000	2005 ^P	2010 ^P	2015 ^P	Annual growth rate 1995 – 2015
1. Agriculture, forestry, hunting	1.8	2.4	3.1	4.2	5.6	6.0
2. Mining and quarrying	0.3	0.3	1.6	7.1	7.8	17.3
3. Manufacturing	26.0	32.3	54.3	113.0	135.5	9.6
4. Electricity and water	2.3	6.2	8.3	14.4	25.0	11.7
5. Construction	6.7	32.0	82.2	207.5	394.1	17.0
6. Wholesale/retail trade	12.7	29.2	59.7	123.8	256.7	15.7
7. Hotels and restaurants	10.0	12.9	19.2	46.5	69.7	13.8
8. Transport, storage, communications	42.7	72.7	127.4	202.1	320.8	9.7
9. Finance and insurance	3.0	5.4	11.7	20.9	37.6	12.4
10. Real estate, renting, business activities	13.1	30.0	54.1	120.2	266.7	17.3
11. Public administration, defense, social security	16.5	21.4	24.0	46.3	79.7	12.8
12. Education (private)	0.7	1.0	1.3	1.7	2.2	5.1
13. Health and social services	0.8	1.2	2.0	2.8	3.8	6.4
14. Other community, social, personal service activities	2.3	2.7	3.1	4.6	7.3	9.0
15. Private households with employees	0.0	0.1	0.1	0.1	0.2	7.4
16. Imputed bank charges	-1.2	-2.9	-6.3	-12.8	-22.5	13.6
17. Gross domestic product (at basic prices)	137.8	246.6	445.7	902.6	1590.4	13.6
18. Net taxes on products	0.0	0.0	3.7	7.5	13.2	13.6
19. Gross domestic product (at market prices)	137.8	246.6	449.4	910.1	1603.5	13.6

Note: ^P = Projected.

Source: AZEM (2005). Projections by Nathan Associates, Inc.

pressure on growth. We believe our projections should be revised as firmer investment plans materialize. We also stress the need for better data with which to monitor and model development of the regional economy and its linkages with the rest of Jordan.

THE IMPACT OF THE AQABA SPECIAL ECONOMIC ZONE ON THE JORDANIAN ECONOMY

The creation of the Aqaba Special Economic Zone (the “Zone”) in 2001 was intended to accomplish a wide-ranging set of objectives, among which were to manage and oversee the development of activities that would transform the zone into a leading center of commerce, trade, industry, and leisure. By making the role of the private sector paramount and by eliminating the inefficiencies created by burdensome regulation, an improved business climate would lead to greater economic growth. This growth would benefit not only the residents of the Zone, but the rest of Jordan, as well, through spillovers from the Zone in the form of interregional trade. As a model for deregulation and local autonomy, the creation of the Zone is an experiment. Success may lead to more extensive reforms throughout Jordan, and thus the Zone's social and economic performance requires careful scrutiny.

In this paper, we examine the results achieved by the Aqaba Special Economic Zone Authority (ASEZA) in stimulating economic growth. We recognize that after only four full years in existence, drastic improvements attributable to the creation of the Zone are unlikely. Nevertheless, ASEZA and the related commercial development agency, the Aqaba Development Corporation (ADC), have succeeded in significantly stimulating investment in the region, with JD 4.4 billion estimated as new investment over the 2006-2015 period. Construction has already started or is soon to be underway on several major residential developments, as is work on reconstruction of Port of Aqaba (the “Port”), now privately-managed since ASEZA's creation, promising greater operating efficiency and increased throughput once work is completed.

The process by which regional economic growth results from investment should be viewed as involving multiple stages: By stimulating investment, both short- and long-run economic output will increase. Local output grows initially because of increases in construction activity. This stimulates a number of regional businesses engaged in supply of services and materials in support of construction. Local workers benefit with income earned directly on the projects, as do local merchants who see additional revenue from sales enabled by those construction wages. The construction impact is largely coincident with project expenditures and continue for as long as projects are active. These are the short-run impacts of the investment.

From the perspective of economic development, however, construction itself rarely has effects that persist much beyond the actual time needed to complete a project. Thus, the initial phase has only transitory benefit to the local economy. More important are the effects of having new businesses and social activities operating in the completed facilities. If new housing is built, the stream of expenditures derived from new residents are an important increment to local output. Similarly, if new businesses locate in the region or more efficient operations result from the investment, higher incomes earned by proprietors and investors make their way into the local economy. Furthermore, if urban development results, the aggregation of business and residents may concentrated enough to become an attractive factor all by itself (often called an “agglomeration” externality), drawing in new firms and potentially additional investments to exploit the market. But, the time-lag between the creation of opportunities and their recognition by investors can be a very long one.

Despite misconceptions that abound in the economic and business literature about the contemporaneous effect of investment on output, it is one that can extend many years beyond initial construction. For this reason, any evaluation of ASEZA’s impact on either the Aqaba or Jordanian economies needs to be done over both the short-run, as we are doing now, and repeatedly over a much longer time span, allowing the full effects of investment and its

consequences to play-out. Follow-on evaluations will reveal whether ASEZA's creation and the reforms it embodies are able to achieve the goals set for it.

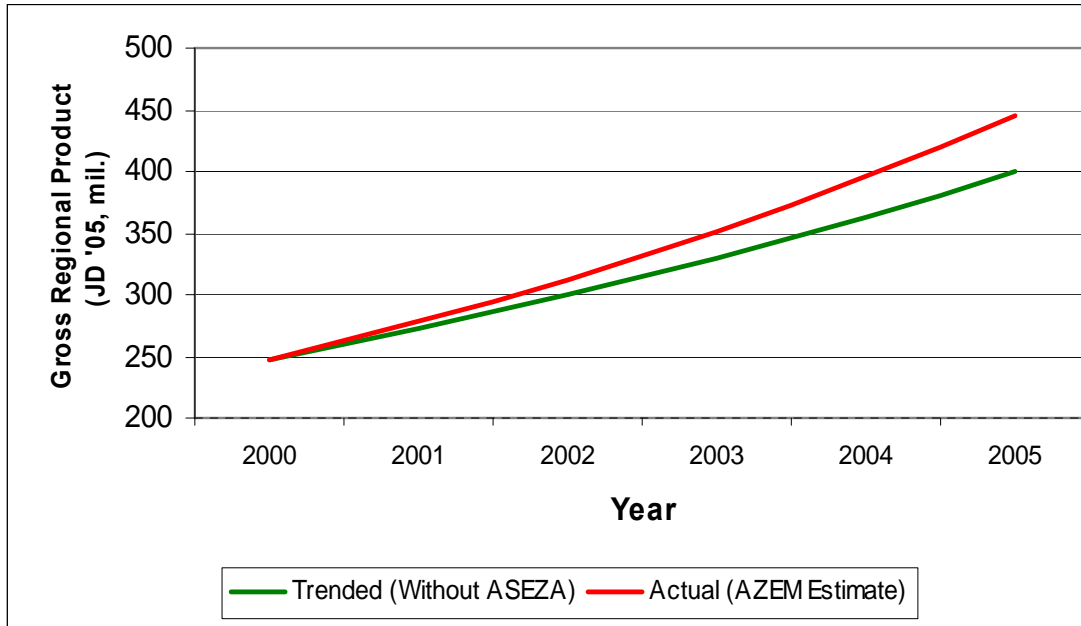
This report is presented in three parts: First, we present historical data on the performance of the Aqaba Governorate economy for the 2000-2005 period. We show the growth of output and employment over the period and compare this to the trend of the growth established before ASEZA came into existence. We also describe the impact of changes in the Governorate economy and their impact on the rest of Jordan using the Aqaba Regional Input-Output model. In the second part, we present projections for growth for the 2006-2015 period, and compare these against a baseline trend-projection. As in the first part, we identify the impacts of changes in the Zone's economy output on the rest of the Jordanian economy. Finally, in the third part, we discuss a series of methodological issues regarding the figures presented here, as much of our work is based on a very sparse set of data regarding the Governorate economy. The need for better data, both in terms of scope and timeliness is discussed. These are critical to performing objective evaluations of ASEZA's performance.

THE IMPACT OF THE ZONE ON RECENT ECONOMIC PERFORMANCE

We begin by examining the recent performance of the Aqaba Governorate economy and comparing it to the expected performance had the Zone not come into existence. We estimate the "without ASEZA" growth path for gross regional product (GRP) for the Governorate simply by continuing the trend from 1995 to 2000 period for the 2001 to 2005 period, as shown in Chart 1. This was done separately for each of the GRP components shown in Table 1 so that activity-specific growth dynamics would persist. The results are shown under the column labeled "2005 Trend" We see that actual growth exceeded trended growth by approximately JD 45 million, approximately 10 percent higher than the Trend would have generated.¹

¹ This figure is the change in total gross product after all inter-industry multiplier effects have occurred. These figures correspond to the total output, total employment, and total employee compensation discussed below in reference to the Aqaba and Jordanian input-output models.

Chart 1
Aqaba Governorate Gross Regional Product, 2000-2005



There are a number of problems with estimating the “without-ASEZA” performance this way, but in view of the near complete absence of Governorate-level economic data, the set of projection tools shrinks quickly. The best data we have are the Governorate-level gross product accounts. These were prepared as a special tabulation by AZEM. They were not prepared by the Department of Statistics, which limits itself to national level accounting data issued with several years’ lag. Proxies for local product account data, such as personal income data by type and/or by industry, annual income tax filing data for individuals and businesses, payroll earnings data, employment and unemployment data, output by industry, or shipments and/or sales data by industry simply do not exist. Given the data constraints, use of short-run trend projections without ad hoc adjustment is one of the few unbiased options available.

We caution users of these estimates that the figures presented in this section (and next) do not established a cause and effect relationship between the actual performance of the economy and the hypothetical “without ASEZA”

projection. While it is evident that the Governorate's growth rate increased in the years immediately after ASEZA was created, we do not claim that this is due to changes instituted by ASEZA. In view of the available data, the best we can say at the present time is that higher growth and the existence of ASEZA appear to be correlated. This conclusion bears more rigorous testing as data become available.

The figures presented in Table 1 indicate that the sectors with the highest growth increase *above the trend* were transportation/communications/storage, manufacturing, and trade. Taken together, increased production in these sectors accounted for 90 percent of the difference between the Actual and Trend values. We also note the decline in the public administration/other services category. This category includes a number of public and private service activities (including ASEZA's), which showed no actual growth 2005, but which had a modest growth rate historically, resulting in an estimated Trend projection JD 5 million higher than actual. Similarly, electricity and water utilities showed actual growth below the Trend projection by approximately JD 3 million.

We transform the gross product-change figures to their approximate direct output form based on historical ratios of value-added to output, with the reasons for so doing explained in the next paragraph. These data are presented in Table 2. As shown, the difference in the 2005 actual and trended values is nearly JD 64 million. This is the increase in Aqaba output *above* what the already remarkable 10 percent per year historical growth rate would have produced.

We compute the change in output levels coincident with the arrival of ASEZA, as inputs to both the Aqaba regional input-output model and the Jordanian national input-output models. These models, shown in Appendix B of the AZEM-“Regional Economic Develop Plan” (2006), are used to estimate total economic impacts from changes in output level for any of 47 industries and labor that define the regional and national economies. Because the GRP growth figures shown in Table 1 are inclusive of multiplier effects, we need to factor these out first so as to correctly estimate the direct output change for both the Aqaba and national economies.

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