Assistance for Trade Reform Project

Summary of the Preliminary Baseline Data on the Time Goods Take to Pass Through Ports in Egypt

PREPARED BY
ATR Team

SUBMITTED TO
USAID

SUBMITTED BY
Nathan Associates Inc

UNDER CONTRACT NO.
PCE-I-00-98-00016-00
Task Order 827

May 6, 2004

Assistance for Trade Reform TR

A joint project of the Government of Egypt and the United States Agency for International Development

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A significant effort is being made to collect data on the time that it takes goods to pass through the ports of Egypt. The purpose of this effort is to establish a baseline to judge the effectiveness of ongoing reforms in the Customs Administration and the control agencies. Currently three datasets are available.[1] The largest dataset, that also covers the longest period of time, is from USAID's Commodity Import Program (CIP). This dataset has more than 3000 observations and provides information on the arrival and clearance dates for all shipments paid for through the CIP program from 1998 to early 2003. In addition to the CIP data, the Customs Reform Unit (CRU) of the Ministry of Finance collected a small random sample of customs declarations for shipments cleared from four ports covering in early March 2003 (40-50 declarations per port). Finally, the Technical Assistance for Policy Reform (TAPR) project obtained data from importers or their agents on 321 shipments on the time that it takes for a shipment to clear through the ports.

All three of these datasets have their own strengths and weaknesses that will be discussed below. However, they paint a relatively consistent picture of the time that it takes for goods to pass through the port of Alexandria, Egypt's most important port. The data in all three datasets indicate that the mean time to clear a shipment at Alexandria is approximately 16 days. However, there is a very large variance in this figure and the median time is around 11 days.

The data are less consistent for the Cairo airport. Clearance times at Cairo Airport are much shorter in the TAPR dataset, with the mean being approximately 6.0 days with a standard deviation of 9.3. The CIP dataset paints a very different picture, with the mean time to clear a shipment from the airport being 18.2 days. The cause for this difference is unclear at this time and should be a subject for future investigation.

The data suggest that there is a fair amount of variation in port clearance time for different commodities.[2] For instance, in Alexandria machinery imports take over 20 days to clear, with animal feed, plastics, and paper and paper products taking much less time. At the

[1] An additional dataset should be available by June 2004 that will examine more closely the impact of GOEIC inspections on port clearance times.

[2] Only the CIP dataset had information on commodities.

Cairo airport, day-old chicks clear customs the same day that they arrive while other shipments take nearly as long, if not longer, than they do at Alexandria. There is no clear evidence that clearance times have improved significantly over the past five years when the data is analyzed on a commodity-by-commodity basis.

The datasets are less consistent when allocating the delays in clearing goods between port/shipping/importer operations and Customs/General Organization for Export and Import Control (GOEIC) delays. The data from the Customs Administration suggest that more than half the delay comes from activities prior to Customs registration (possibly port operations or other activities) while the data from the TAPR survey suggest that the majority of the delay comes from Customs/GOEIC. Given that Customs provided the first data and the importers or their representatives provided the second data, it is possible that sampling bias is affecting both of these results.

The body of this report begins with a description of each dataset and its respective strengths and weaknesses. We then examine the data for Alexandria in detail, looking at patterns within the customs process and across commodities and time. After examining the Alexandria data, we briefly examine the Cairo Airport data and then present summary data on the time that it takes goods to pass through other ports. The final section of the report summarizes the results.

I. The Datasets

A. CIP Data

Each year the United States Commodity Import Program provides approximately $200 million in foreign exchange to traders in Egypt to pay for goods imported from the United States. For internal record-keeping purposes, the CIP program office has maintained information on various aspects of each consignment of goods financed under this program. These data include information on the vessel on which the goods arrived, the port of arrival, the value and type of good involved, the arrival date, and the final clearance date. These data were made available from 1998 to early 2003.[3] The unloading date was available for many shipments but these data were deemed to be unreliable as they were often inconsistent with the arrival or clearance date, or both.

[3] A separate report is being prepared covering the CIP data for the full year of 2003.

One of this dataset's strength is that it is not a sample, but the population of CIP shipments over that period. Therefore there is no sampling bias with respect to CIP shipments but, as will be discussed below, CIP shipments may or may not be representative of all imports. A second strength of the data is the large number of shipments covered over a period of years. This, combined with the information contained in each record on the commodity imported, enables the analysis of clearance times across years and commodities. This analysis is not possible using the other datasets.

The major weakness of the dataset is that it is almost certainly not representative of the population of imports into Egypt. There are two ways in which the dataset is not representative. First, as can be seen in Table 1 below, the commodity distribution in CIP shipments is very different from the commodity distribution of all imports into Egypt. Second, all of the CIP shipments are from the United States while US imports accounted for less than 11% of total Egyptian imports in the first half of 2003. As will be seen below, it is clear that differences in commodity composition matter as clearance times differ significantly by commodity type. The impact of reporting only on imports from the United States is uncertain but will be addressed in later surveys.

Table 1

Commodity Composition of CIP Imports by Value
Compared to Total Imports
2002

HS 2 Digit Commodity	CIP Data	Total Imports
23 Animal Feed	16.4%	2.8%
29 Organic Chemicals	3.8%	2.3%
32 Dyes and Paints	5.7%	1.0%
39 Plastics	28.3%	3.6%
47 Wood Pulp	3.6%	0.1%
48 Paper and Paper Products	8.6%	1.9%
84/85 Machinery	25.2%	17.1%
90 Medical Equipment and Supplies	0.6%	2.0%
Other	7.7%	69.1%

There are other minor limitations in the CIP data. For instance, there is no information on the causes of delay in the processing of CIP goods through the ports as the dataset only contains the date of the arrival of the shipment and the date that it cleared Customs. While the dataset does include data on when some vessels were unloaded, these data are unreliable. It would be useful for future analysis if the CIP staff could ensure that the unloading

data are always collected and are reliable. Another minor issue is the possibility of bias, not due to origin or commodity distribution, but due to the process by which traders apply for and are granted access to foreign exchange under the CIP program. Given that this assistance is not randomly provided to importers, the selection process may introduce some bias in the results but we believe that it is unlikely that this bias is large.

B. CRU Random Sample of Declarations in March 2003

During 2003, USAID initiated the Assistance for Customs and Trade Facilitation (ACTF) project to provide preliminary assistance to the Customs Administration on Customs reform issues. As part of that project, USAID requested that a way to measure reform effectiveness be identified. One measure selected was the amount of time that it takes for shipments to pass through Customs. In order to establish a baseline for this measure, the CRU analyzed a sample of Customs records to collect clearance time information. The sampling approach that was chosen was to seek data from all of the Customs declarations filed during the week of March 1 to 7, 2003 in Alexandria. Problems in data collection resulted in the CRU only collectng 59 declarations from the appropriate time period for Alexandria.[4]

Data was collected from the declarations on certain key steps in the flow of goods through the port and Customs. These included:

- Date of ship arrival
- Date of official registration of the declaration
- Date of physical inspection
- Date of tariff and value review
- Date when documents were sent to GOEIC
- Date of GOEIC approval
- Date of final Customs approval
- Date of payment and release

The same data was collected for shipments through Cairo Airport. Similar but less detailed data were also reported for the ports of Damietta, Port Said, and Ain Sokhna.

The limitations of the CRU dataset are primarily the small sample size, lack of information on the commodities covered, and the fact that it only covers one week in March of 2003. Given the small size of the data set and the lack of any record of the commodities imported under the documents processed, it is impossible to do an analysis of the data by commodity. As we will see below, clearance times differ significantly by commodity and so be-

[4] The Customs Administration keeps the data on all shipments on its computers. Therefore, it should be able to generate excellent data for this analysis. However, it seems that this proved impossible.

ing able to understand the commodity composition of the sample is important if it is to be deemed representative. Moreover, the fact that it only covers one week's worth of data means that it can not shed any light on changes in clearance times over time.[5]

We are also concerned that the process by which the data were collected may have resulted in a bias toward reporting shorter clearance times. The CRU report indicates that not all of the requested declarations were received by its team. This may have simply been due to problems finding the requested data. On the other hand, it might represent a systematic bias against reporting excessive delays. This may not have been a problem, but the fact that the CRU data put the majority of the blame for processing delay on activities before shipments are registered with Customs while the TAPR data indicate that well more than half of the delay comes from Customs raises a question in this regard.[6]

C. TAPR Survey Data

In response to private sector requests for more information on the time and cost required to clear a shipment into Egypt, USAID commissioned the TAPR project to implement a survey of importers on this issue. In preparing the questionnaire for its survey, TAPR analyzed the process by which a shipment arrives in Egypt and then passes through customs. Twenty-seven steps were identified, not including the arrival of the vessel in port.

Ultimately, data on 321 import transactions were collected. These data were collected through a process that began by having TAPR contact importers, agents, and brokers who were already known to the project. These individuals were asked to provide information on one or two shipments for inclusion in the study and then asked for recommendations of other persons who the TAPR team could contact. Through this process, the full set of importers/agents sampled was identified.

The data collected for the surveyed shipments included information on the time taken for each of the 27 steps of the customs process as well as the costs associated with each of the steps. Information was also collected on the type and value of the imported good but we were only provided the information on the value of the goods.

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[5] It is our understanding that the CRU is currently collecting and analyzing the next round of data and will regularly update this analysis. Therefore, in the long run, it will provide a good time series of data to determine changes, in the future, of clearance times over time.

[6] There may be a similar but opposite bias in the TAPR data as discussed below.

The strength of this dataset is the detail that it provides on the steps within the clearance process. No other dataset provides this much detail. A necessary weakness of the dataset is that it cannot be used to say much about changes in clearance times over time as most of the shipments occurred over a period of a single year. However, like the CRU dataset, it can form a baseline against which subsequent surveys can measure changes in clearance time.

A potential weakness in the data is the process by which it was collected. While the chain process of identifying potential respondents was not random, it is unclear that it generated any bias in the results. Of greater concern, however, is the fact that the import transactions provided by each respondent were selected by the respondent. It would not be surprising if the respondents selected cases that put their work in the best light. While we can not show any bias, as discussed above, the TAPR data generally puts more emphasis on delays in Customs processing rather than delays before reaching Customs. Since the delays before reaching customs would be solely the responsibility of the respondent, they may have underestimated the time consumed at this step, thus biasing the sample.

D. Data Consistency Issues

Given that the data in the three datasets were collected by three different organizations for different purposes, it is important to determine how comparable the definitions of events are in the various datasets. For the key dates of the arrival of the vessel and the release of goods, the data definitions seem to be consistent. Whether the definitions of the intermediate steps are the same is not as clear. For instance, the point of "Registration" in the CRU dataset, that is treated as the beginning of the Custom's process in that report, is actually the fourth step in the TAPR report. Prior to registration the trader or his representative may have been seeking, but not receiving, registration by Customs due to any number of problems which may be related to Customs procedures. However, the CRU report treats any time before registration as not being the responsibility of Customs. The TAPR study permits us to identify some instances where problems in obtaining registration may contribute to delay as it breaks down the period before registration into a number of steps, including the possibility that documentation problems that might relate to Customs procedures might have contributed to delay.[7]

[7] Customs would almost certainly argue that if a customer does not present proper documentation, this is not a problem with Customs administration. Alternatively, if Customs requires too many supporting documents for the declaration, then delays due to paperwork problems are, at least in part, the responsibility of Customs.

II. Analysis of the Time that a Shipment Took to Pass Through Alexandria Port – Data from All Three Datasets

Given that the three datasets were not collected in the same way or by related teams, it would not be surprising if they led to different results. Fortunately, this is not the case. In fact, the three datasets yield remarkably similar results for the headline figure of the total time it takes for a shipment to pass through the port of Alexandria. As shown in Table 2 below, the mean time from the arrival of a ship in port until the shipment is cleared is between 15 and 16.5 days in the three studies. Given the large standard deviations of these figures and the different sampling approaches, they results are very consistent. In fact, an F-test for them being equal cannot be rejected, even at the 1% level.

Table 2

Analysis of the Total Time it Took for a Shipment to Pass Through Alexandria Port in 2003

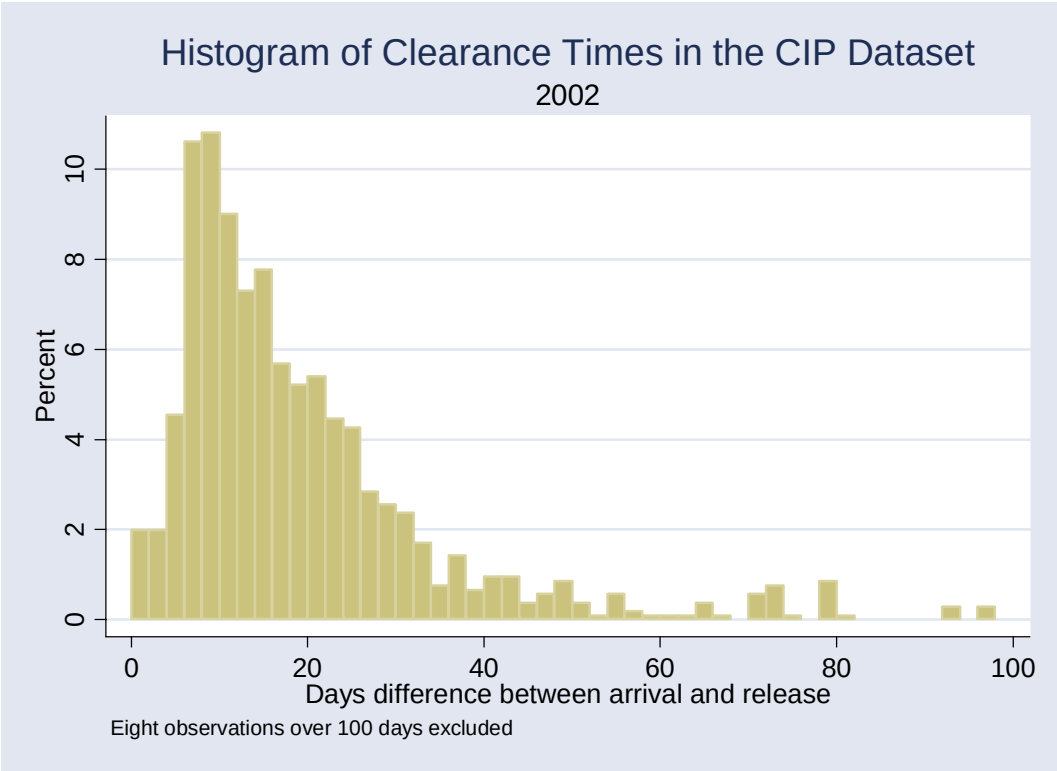
Data Source	Median Time	Mean Time	Std. Dev.
CRU	11	16.0	17.1
TAPR	9	15.0	17.7
CIP*	13	16.5	11.5

* Note that the CIP data selected are only for 2003. The mean for the dataset as a whole, or even for 2002, is much higher.

The median times vary more, ranging between 9 and 13 days, but even these figures are similar and one would expect greater divergence in medians than means. Examining the right hand tail of the distribution more completely, 75% of all shipments have cleared through Alexandria port in between 17 (TAPR) and 24 (CIP) days and 90% of all shipments have cleared in between 28 (CIP and CRU) and 37 (TAPR) days.

The fact that the median is always much lower than the mean is due to the nature of the distribution of clearance times. The distribution is truncated at zero and has a long right hand tail. (See Figure 1 below.) Clearly the standard assumptions about normality of distributions do not apply to these data. That is best illustrated by the fact that the lower limit of zero days for clearance is generally around one to one and a half standard deviations from the mean.

Figure 1

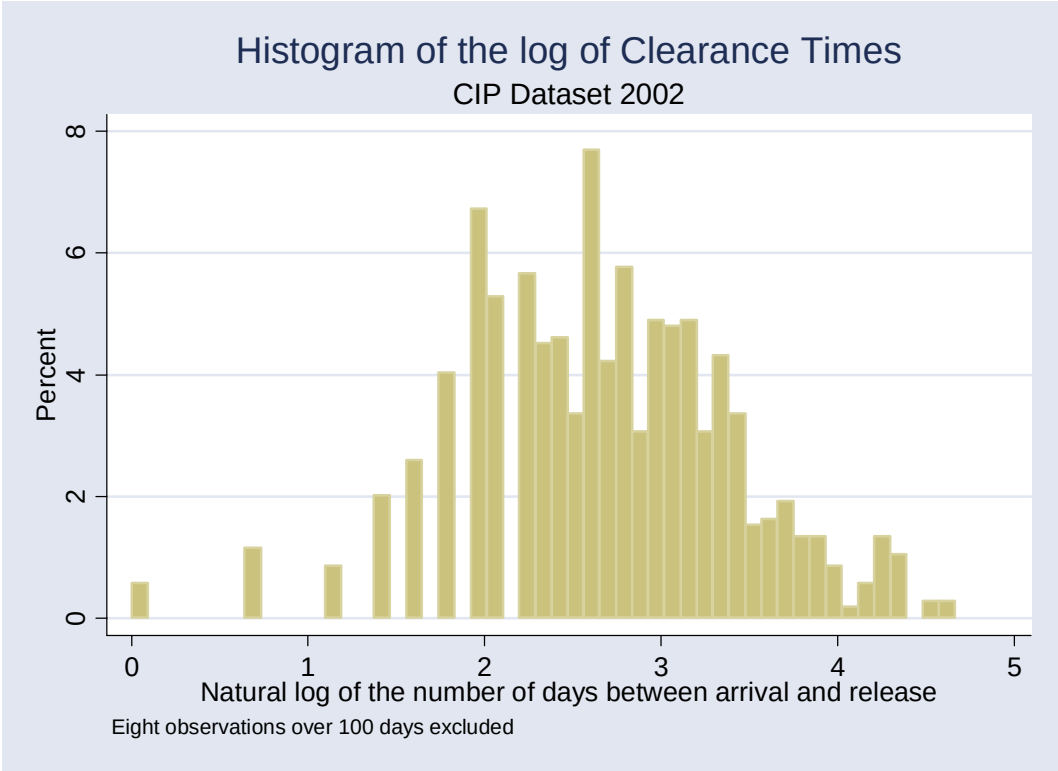


However, if one transforms the data by using natural logarithms[8], the distribution is far closer to normal. (See Figure 2 on the following page.) When transformed in this way, the means and medians of the data are far closer to one another and the standard deviations are much smaller compared to the means. For instance, the means for the CRU, TAPR and CIP data now fall to 11.9, 9.1 and 13.5 days respectively, much closer to the medians, which do not change. Interestingly, when analyzed in logs, it *is* possible to reject that all of the means are the same. While the means of the logs of the CIP and CRU data are close to one another, the mean of the TAPR dataset is quite different.

While the data on mean of the overall time that it takes a shipment to pass through the port of Alexandria are fairly similar across datasets, the allocation of that time between pre-Customs activity and Customs processing differs significantly. As noted in Table 3 below, two of the three datasets (TAPR and CRU) provide some information on which steps in the arrival/clearance process take the most time. The CIP data do not permit this sort of analysis.

Figure 2

[8] To avoid problems with shipments that clear on the same day that they arrive, we first transformed the data by treating shipments that cleared same day as taking one day, shipments that cleared the day after they arrived as taking two days, etc. For the rest of this report, this transformation has not been performed.



The allocation of delay between pre-Customs procedures and the Customs process

Table 3

Allocation of Clearance Time between Pre-Customs and Customs Procedures Alexandria 2003

1) From the time the ship arrives in port until the Customs process begins

Data Source	Median Time	Mean Time	Std. Dev.
CRU	5	9.6	14.5
TAPR	2	5.0	8.9
CIP	N/A	N/A	N/A

2) From the time the Customs process begins until the shipment is released

Data Source	Median Time	Mean Time	Std. Dev.
CRU	5	6.38	5.9
TAPR	6	9.79	14.1
CIP	N/A	N/A	N/A

The data in the table for mean times do not quite add up due to missing data for some variables. All summary statistics exclude observations for shipments that took more than 100 days to clear customs.

was highlighted in the CRU report where it indicated that delays prior to registration with Customs are not the responsibility of Customs. While it is certainly the case that many of the delays that can be experienced prior to registration with Customs are not the responsibility of Customs, for instance port congestion or problems with bills of lading, some delays prior to

registration could be alleviated by changes in Customs practices. For instance, all manifests must be entered by hand in Alexandria and this makes it difficult to register shipments with Customs quickly. If manifests were transferred electronically, possibly before the arrival of the ship as is done in Ain Sukhna, more rapid processing would be facilitated. Similarly, if delays are due to time taken to collect documents that may be required by law to be filed with each shipment but that may not be needed for specific shipments, then changes in the documentation requirement could save time at this stage.

Table 3 reports on the time that shipments in the two datasets took to move from arrival of the vessel at the port to the beginning of the Customs process and then how long the Customs process takes. The CRU data suggest that approximately 10 of the 16 days that it takes the average shipment to pass through the port fall before the Customs process begins. The TAPR data suggest that 10 of the 15 days that it takes an average shipment to pass through the port are accounted for by the Customs process. This difference in the allocation of time between the two datasets is significant and we do not have a good explanation of why it should be so. However, it is interesting to note that the data prepared by Customs puts the blame on the trader and the data provided by the traders puts the blame on customs. Subsequent surveys will seek to resolve this allocation issue.

III. Detailed Analysis of the Sources of Delays – From the TAPR and CRU Datasets

In section II, we discussed the allocation of the time for clearance at Alexandria between pre-registration and post-registration procedures. In this section, we use the data from TAPR and the CRU to identify key choke points within the arrival/clearance process.

Table 4 below is drawn from the TAPR data. These data suggest that the most time consuming parts of the process as well as the portions of the process with the highest uncertainty are from unloading to beginning the Customs process and the time required for valuation. Anecdotal evidence regarding the processing of shipments in Alexandria suggest that a significant cause of delay in beginning the process of clearing goods is waiting for the manifest to be input by Customs as discussed above. This is consistent with the results of the TAPR survey, though other issues may explain the 3.6-day period between unloading and first contact with Customs by the importer.

Table 4

Decomposition of the Time that it Takes for Goods to Be Processed Through Alexandria Port (TAPR Survey Results - 2003)

Activity	Median Time	Mean Time	Std. Dev.
Arrival to Unloading	0	1.3	3.3
Unloading to Delivery Clerk	1	3.6	7.0
Declaration Processing	0	0.2	0.8
Initial Inspection Steps	1	1.0	1.1
Valuation	2	4.9	11.5
Charges Determined	0	0.5	1.8
Payment Order Prepared	0	0.3	0.8
Final Payment and Release	1	1.8	3.9
Total Time for Release	7.5	13.8	17.3

Totals differ from previous summary due to only using observations for which there were no missing variables for all items in this table.

The significant amount of time spent in the valuation phase is not particularly surprising as it is at this point that most disputes likely occur. However, if Customs effectively implements the WTO valuation agreement, it is likely that the time and variability associated with this step should be reduced.

Beyond those two key steps, it is difficult to identify any significant opportunities for improving clearance times. Overall improvements in work procedures and automation may permit a reduction in the time that is taken at the various steps along the way but this will require changes in work processes within Customs.

The data from the CRU, reported in Table 5 below, are not as detailed as those in the TAPR survey and do not offer much of a basis for targeting improvements in Customs procedures.[9] Moreover, it is difficult to correlate these steps with those in the TAPR study. The first step in the CRU data is the same as the first three steps in the TAPR study. If those steps are aggregated, the TAPR data shows that the mean period from arrival to customs registration is 5.2 days, or roughly half what is reported in the CRU data. The difference between the two data sets in this area was discussed above and cannot be resolved without further investigation. Beyond the first step it is not possible to correlate the CRU data with the TAPR data.

[9] It should be noted that the data in Table 5 differ slightly from those reported in the CRU report. In that report, missing values were considered as zeros, thus lowering the means for the GOEIC and GOEIC to Final Approval variables. The data reported in Table 5 treat the missing values as missing.

Table 5

Decomposition of the Time that it Takes for Goods to Be Processed Through Alexandria Port (CRU Data – March 2003)

Activity	Median Time	Mean Time	Std. Dev.
Arrival to Customs Registration	5	9.60	14.46
Registration to Phys. Inspection	1	1.69	1.90
Phys. Insp. to Revision	0	0.60	1.36
GOEIC	1	2.43	4.48
GOEIC to Final Approval	1	1.46	2.10
Final Approval, Payment, and Release	1	1.29	2.01
Total Time for Release	11	15.99	17.07

The totals for median and mean times do not add up due to some steps being taken in parallel.

The CRU dataset does permit us to perform an additional analytical step: it is possible to infer the impact of GOEIC inspections on clearance times.[10] Since the GOEIC process begins at the time of physical inspection and then runs in parallel with the Customs process, it is possible for GOEIC inspection to be completed so quickly that it does not affect the overall time that it takes a shipment to clear.

The CRU data permit us to make an estimate of how often GOEIC's inspections slow shipments down. In those data, it is possible to calculate the total time that it took for all of the steps other than GOEIC and then compare that total with the total clearance time. If that time is not less than the total clearance time, then GOEIC should not have been responsible for any delay.

Based on this calculation, the data suggest that in about half of the cases that were included in the CRU sample that had information on GOEIC's role (23 of 44), GOEIC did not add to the time that it took goods to clear. In the other half of the cases, GOEIC did have an impact on the clearance time and increased the average time to clear the goods by 5.4 days. A limitation in this approach is that if the Customs steps were not pursued by the shipper because s/he knew that the GOEIC inspection was not done, the added delay would be attributed to Customs and not GOEIC.

[10] This analysis is complicated by a GOEIC practice called "Conditional Release." Under a conditional release, if there is no obvious problem with a sample, GOEIC will allow Customs to release the goods without finishing its testing. In that case the importer may then be allowed to remove the goods from the customs warehouse but he will not be able to sell them to the public until GOEIC provides final clearance. How this system works in practice is a key area for investigation in the ATR survey.

IV. Analysis of the Effect of the Type of Commodity Being Imported on Total Time for Importing Goods – From the CIP Dataset

While the CIP dataset does not provide details on the time taken at various steps in the Customs process, it does contain information on the commodities included in each shipment. Given the large size of the CIP dataset, particularly if one uses the data for all years, it is possible to calculate port clearance times by commodity. Table 6 reports these data.

Obviously clearance times, even within one port, differ significantly by commodity

Table 6

Variation by Commodity in the Time for a CIP Shipment to be Released from Alexandria Port 1998-2003

HS 2 Digit Commodity	Median Time	Mean Time	Std. Dev.	Observations
23 Animal Feed	12	13.7	8.6	325
29 Organic Chemicals	14	17.9	12.0	131
32 Dyes and Paints	18	18.8	11.1	219
39 Plastics	12	14.5	11.2	714
47 Wood Pulp	13	17.2	12.4	210
48 Paper and Paper Products	9	11.6	8.4	210
84/85 Machinery	20	25.6	17.9	982
90 Medical Equipment	21	25.2	14.2	13
Other	15	26.1	24.5	223

and many of the differences are statistically significant. For instance, Machinery and Medical equipment take the longest time to pass through the Alexandria port, while animal feed and paper and paper products clear comparatively rapidly.

While the differences are not surprising, it presents a problem as we try to generalize from the three datasets to the population of import shipments. As we noted in the earlier description of the CIP dataset, there is a significant difference between the commodity composition of CIP and all imports could lead to bias in the summary tabulations.

While trends in the mean clearance times over time by HS category will be discussed in the next section, it is important to note that the commodity composition of CIP shipments has changed significantly over the past few years. Of critical importance is the fact that machinery imports, which accounted for over half of CIP imports by value in 1998, accounted for only 15.6% of shipments in the early part of 2003. (See Table 7.) While machinery imports have been falling, imports of other commodities like plastics and animal feed, among

others, have been increasing. Given the significant difference in the time that it takes different commodities to pass through the port, care must be taken in analyzing time trends in clearance times to ensure that trends in the overall figure are not being driven by changes in commodity composition.

Table 7

Change in the Commodity Composition by Value of CIP Imports into Alexandria 1998-2003

HS 2 Digit Commodity	1998	1999	2000	2001	2002	2003
23 Animal Feed	0.9%	2.1%	3.1%	10.4%	16.4%	10.4%
29 Organic Chemicals	1.9%	0.3%	3.1%	4.0%	3.8%	10.2%
32 Dyes and Paints	0.6%	2.4%	6.9%	4.8%	5.7%	16.0%
39 Plastics	6.1%	9.3%	17.3%	20.2%	28.3%	26.6%
47 Wood Pulp	1.2%	2.7%	7.3%	5.5%	3.6%	7.0%
48 Paper and Paperboard	8.0%	2.5%	10.0%	7.5%	8.6%	4.4%
84/85 Machinery	58.9%	74.5%	45.6%	38.2%	25.2%	15.6%
90 Medical Equipment	0.0%	0.0%	1.5%	1.8%	0.6%	2.2%
Other	22.3%	6.3%	5.1%	7.5%	7.7%	7.5%

V. Analysis of Whether Import Delays Have Been Reduced Over Recent Years – From the CIP Dataset

The CIP data also permit the analysis of changes in the time that it takes for shipments to clear across the years. Table 8 below reports the median and mean times for clearing CIP shipments through the Alexandria port from 1998 to 2003. Casual observation of the data suggests that there has been a trend toward shorter clearance times over this period.

Table 8

Change in the Time for a Shipment to be Released from Customs in Alexandria 1998 to 2003

Year	Median Time	Mean Time	Std. Dev.	Observations
1998	17	21.97	17.94	152
1999	16	22.11	17.17	392
2000	14	18.80	14.46	492
2001	14	19.39	16.32	688
2002	15	18.81	15.56	1055
2003	13	16.46	11.52	160

Data Source: CIP

Table 9

Regression Results of the Time for a CIP Shipment to Be Released from Customs in Alexandria

Variable	All Commodities	With Commodity Dummies
Constant	1508.5***	-437.335
	(455.8)	(442.263)
Year	-0.744***	0.232
	(0.228)	(0.221)
Value	$2.15*10^{-6}$**	$0.455*10^{-6}$
	$0.880*10^{-6}$	($0.834*10^{-6}$)
Q1	-1.378	-1.256
	(0.862)	(0.811)
Q2	-3.172***	-3.369***
	(0.811)	(0.763)
Q3	-1.763**	-1.535*
	(0.846)	(0.793)
C23 Animal Feed		-12.299***
		(1.290)
C29 Organic Chemicals		-8.046***
		(1.627)
C32 Dyes and Paints		-7.088***
		(1.405)
C39 Plastics		-11.516***
		(1.133)
C47 Wood Pulp		-8.724***
		(1.665)
C48 Paper and Paper Prod.		-14.449***
		(1.416)
C84 Machinery		0.868
		(1.125)
C85 Machinery		-4.133***
		(1.400)
C90 Medical Equipment		-0.516
		(4.206)
R-squared	0.0128	0.1351

Standard Errors in parentheses

** 5% confidence level
*** 1% confidence level

To determine whether the trend in the table is statistically significant, we performed a regression of the year that a shipment arrived on the period that it takes for a shipment to pass through the port. The results of the regression are reported in Table 9. The "All Commodities" column in that table reports the results of a regression of the total clearance time on the year, value, and dummies for quarters. This simple regression suggests that there has been a statistically significant trend toward more rapid clearance times in CIP shipments over the past five years, with clearance times improving by approximately 0.74 days per year. (Significant at the 1% level.) Somewhat surprisingly, the regression also indicates that higher value shipments take longer to clear than do lower value shipments and that this pattern is statistically significant, increasing delays by approximately one day for each $0.5 million increase in the value of a shipment However, the regression has a very low R-squared statistic, suggesting that very little of the variance in clearance times among shipments has been explained.

While this regression is consistent with the times set out in Table 8, neither the regression nor the data in Table 8 take into account changes in the commodity composition of CIP imports over time. As noted in the previous section, the shift toward plastics and animal feed and away from machinery in CIP imports should have lowered average clearance times even if there was no general trend toward quicker clearance in the data.

To investigate this point, the first regression was augmented with the addition of dummies for the key commodity categories listed in Tables 6 and 7. The result of this regression is reported in the "With Commodity Dummies" column of Table 9 on the following page. In that regression, the coefficient on the time variable changes sign to become positive but is not significantly different from zero while the commodity dummies are generally significant. Moreover, the R-squared improves significantly, though it is still quite low. Clearly, the decline in clearance time shown in Table 8 and attributed to the time variable in the first regression comes from the change in the commodity composition of CIP imports.

Given the relatively large number of shipments in the CIP dataset, it is possible to run separate regressions of clearance times on year, value and quarter for imports in each commodity category, i.e. the same as the first regression in table 8 but for a specific commodity. The coefficients in those regressions for the year variable are included in Table 10 below. Note that the coefficients are more often positive than negative and that the only coefficient that is significantly different than zero, for paper and paper products, is positive. This suggests that at least for the CIP shipments there has not been any significant reduction in clear-

ance times over the past five years. The data do not permit us to test the assertion of the Customs administration that clearance times have improved during 2003.[11]

Table 10

Coefficient on Year in Regressions by Commodity on the CIP Data

HS 2 Digit Commodity	Coefficient	Standard Error
23 Animal Feed	-0.976	0.519
29 Organic Chemicals	-0.108	0.998
32 Dyes and Paints	0.476	0.632
39 Plastics	0.435	0.371
47 Wood Pulp	1.362	0.973
48 Paper and Paper Products	1.218**	0.477
84/85 Machinery	-0.370	0.417
90 Medical Equipment	1.905	5.059
Other	1.426	1.107

** 5% confidence level
*** 1% confidence level

VI. Time for Release of Shipments from Cairo Airport

So far this report has focused on the data for the port of Alexandria because the bulk of the data collected covers that port. This is not surprising given that Alexandira handles the majority of the value of shipments into Egypt. However, some data are available on shipments into other ports. Both the CIP dataset and the TAPR dataset have significant numbers of observations for shipments into the Cairo airport, 314 and 83 respectively. Unfortunately, the CRU report did not cover Cairo Airport. This section reports on the data for Cairo Airport while the next section reports summary data for the remaining ports.

Table 11

Analysis of the Total Time It Takes for a Shipment to Pass Through the Cairo Airport

Data Source	Median Time	Mean Time	Std. Dev.
CRU	N/A	N/A	N/A
TAPR	3	6.0	9.3
CIP	12	18.2	19.7

[11] The new data that covers all of 2003 will permit us to check this claim.

Table 11 reports summary clearance times for shipments through the Cairo Airport. The TAPR data indicate that shipments through the airport are cleared far more expeditiously, in this case an average of six days and a median of 3, than shipments through Alexandria, as one might expect. Surprisingly, the CIP data for the airport and Alexandria show similar times for clearance.[12] This unusual result bears investigation in future surveys, though it may well be due to the commodity composition of the CIP imports.

The CIP imports are highly concentrated in three commodity classes: Livestock (in this case mostly day-old-chicks), Machinery, and Medical Equipment and Supplies. While shipments of day-old-chicks by necessity are cleared very quickly, we saw earlier in Alexandria that shipments of the machinery and medical equipment were the slowest to clear on average. The data on clearance times for Cairo airport for these commodities were similar to clearance times in Alexandria. (Compare Table 12 with Table 6.) The mean time for clearing of machinery through the airport is somewhat faster than through Alexandria while the time for clearing medical shipments is comparable. Note that the machinery is likely inspected by GOEIC while the medical equipment is inspected by the Ministry of Health.

Table 12

Variation by Commodity in the Time for a CIP Shipment to Pass Through the Cairo Airport 1998-2003

HS 2 Digit Commodity	Median Time	Mean Time	Std. Dev.	Observations
01 Livestock (day-old chicks)	0	0	0	58
84/85 Machinery	16	21.61	19.50	115
90 Medical Equipment	21	26.00	20.44	102
Other	10	12.17	10.94	23

We can also use the TAPR data to decompose the time that it takes shipments to pass through various steps in the clearance process at the airport. The results of this analysis are contained in Table 13. Not surprisingly, the arrival to unloading time is much shorter at the airport. The time for valuation is also significantly shorter. These data suggest, if the TAPR mean times are representative of all shipments, that there may not be any easy areas for re-

[12] The results for the CIP data for the airport in Table 11 are for all years while those in Table 2 for Alexandria only cover 2002-2003. This is because there are only two shipments through the airport in the 2003 data. Limiting Table 11 to 2002 and 2003 data for the CIP dataset lowers the mean time to 16.6 days but this is still slightly higher than the clearance time in Alexandria in 2003, though the difference is not statistically significant.

ducing the time to clear shipments at the airport. Instead, improvements in overall procedures there will be required to significantly reduce clearance times.

Table 13

Decomposition of the Time that it Takes for Goods to Pass Through Cairo Airport (TAPR Survey Results - 2003)

Activity	Median Time	Mean Time	Std. Dev.
Arrival to Unloading	0	0.88	3.2
Unloading to Delivery Clerk	0	0.55	1.2
Declaration Processing	0	0.13	0.44
Initial Inspection Steps	0	0.75	2.64
Valuation	1	1.01	1.01
Charges Determined	0	0.56	1.52
Payment Order Prepared	0	0.39	0.85
Final Payment and Release	0	0.92	1.73
Total Time	3	6.30	9.54

Total differs from previous summary due to only using observations for which there were no missing variables for all items in this table.

VII. Time for Release of Shipments from Other Ports

While a significant number of observations are available in the datasets for Alexandria and Cairo, the data on other ports is more limited. (See Table 14 below.) Given the limited number of observations for ports other than Alexandria and Cairo Airport, we will not engage in any detailed examination of those data. However, mean times for release for other ports are included in Table 15 below. It is interesting that the TAPR data for these other ports, like the data for the Cairo airport, shows significantly shorter mean times for clearance than the other datasets. The reason for this difference is an issue for future investigation.

Table 14

Number of Observations by Port

Port	CRU	TAPR	CIP*
Alexandria	56	121	2984
Cairo Airport	0	83	314
Port Said	42	24	23
Suez	0	7	8
Ayn Sokhna	50	7	0
Damietta	46	4	18
Adabiya	0	0	25
Other	0	23	5

* The CIP data covers five years while the CRU and TAPR data have more limited coverage.

Table 15

Mean Times for Release for Other Ports

Port	CRU	TAPR	CIP
Adabiya			9.9 (6.3)
Damietta	22.2 (16.2)		
Ayn Sukhna	10.6 (14.5)		
Port Said	18.3 (13.4)	8.9 (7.1)	21.5 (18.0)
Other		7.2 (6.0)	21.6 (20.4)

Standard deviations are in parentheses. Means are only reported for ports with more than 20 observations.

VII. Conclusions

This report has examined the three datasets that are available on the time that it takes shipments to pass through Egypt's ports. Each data set has its strengths and weaknesses. However, the three datasets provide a relatively consistent picture of the baseline for the performance of Customs in Alexandria.

- ***The mean clearance time from the beginning of the customs process to final clearance at Alexandria port, when all shipments taking more than 100 days are excluded from analysis for all of the datasets, is in the range of 15.0 to 16.5 days.***
- The standard deviations of the distributions are large, in the range of 12 to 18 days.
- 75% of all shipments passed through Alexandria in between 17 and 24 days, depending on the source of the data.
- The CPI data do not provide any support for the proposition that average clearance times have improved significantly from 1998 to early-2003

The data from TAPR and CIP permit us to perform a similar analysis for Cairo Airport. Interestingly, the data from these two sources for this port are significantly different.

- ***The TAPR dataset reports a mean clearance time at the Cairo Airport of six days while the CIP dataset shows a mean clearance time of 18.2 days.***
- If day-old chick shipments are excluded from the CIP dataset, since they must be cleared immediately and generally are cleared the same day as they arrive, the mean clearance time rises to 22.6 days in the CIP dataset, far longer than the mean clearance time from Alexandria.
- The TAPR data suggest that the time take in valuing a shipment through the airport is much shorter than in Alexandria.

The data covering other ports are generally more limited and are inconsistent between studies. Further data collection on shipments through those ports will be necessary to estab-

lish a baseline for purposes of measuring improved performance of the Customs Administration and the control agencies.