TURKISH ECONOMIC ASSOCIATION

DISCUSSION PAPER 2004/5
http://www.tek.org.tr

1680-1747 OTTOMAN BUDGETS AND DEFICITS SUSTAINABILITY IN A PERIOD OF FISCAL TRANSITION: WARS AND ADMINISTRATIVE CHANGES

Hakan Berument and Nuray Oğuz

February, 2004

1680-1747 Ottoman Budgets and Deficits Sustainability in a Period of Fiscal Transition: Wars and Administrative Changes

Hakan Berument*
Department of Economics

Nuray Oguz
Department of Ottoman History
Bilkent University

_____
* Corresponding Author: Department of Economics, Bilkent University 06800, Bilkent Ankara, Turkey. E-mail: berument@bilkent.edu.tr; tel:+90 312 266 2529; fax:+90 312 266 5140.

1680-1747 Ottoman Budgets and Deficits Sustainability in a Period of Fiscal Transition: Wars and Administrational Changes

Abstract

This paper studies the sustainability of the Ottoman budget for the period from 1680 to 1747, during different sultanates and war eras. Moreover, we investigate whether the relationship between government revenues and expenditures changes in the period of *culus*. The empirical evidence gathered in this paper suggests that during the sample period, except for the sultanate era of Mahmut I, the Ottoman budget was not sustainable. The other interesting result of the study is that *culus* payments had a significant tax increasing effect. Moreover, the distribution of *culus* deteriorated the sustainability of budget.

I. Introduction

1680-1750 period was a transition period in Ottoman history. In the period of the Köprülüs' grant vizierates, there were attempts to reinstate the system of traditional autocracy. However, these efforts were total failures in the war period of 1683-1699. In the 18th century, local powers and provincial families increased, so the 18th century was a decentralisation interval for the Empire. After the siege of Vienna (1683), the period of *stagnation* closed and a period of *decline* started. The chief problems of the period were the budget deficit and its sustainability.

This paper examines the Empire's central budget deficit sustainability in the period from 1680 to 1747. The data set obtained from Tabakoğlu (1985)[i] contains cash revenues and cash expenditures. The sources translated from Ottoman language were Ottoman budget documents *ruznamçe*[ii] and budget yearbooks. According to the *ruznamçes,* income and expenditure accounts were expressed in local currency, the *Akçe*. The aim of this study is to determine the deficit sustainability of the sultanate intervals and the continuous war periods during this transition era. Our estimates suggest that the budget deficit was not sustainable in either the sultanate eras of the sultans or the war eras. The only exception is seen in the reign of Mahmut I, when the deficit was sustainable. When we sought the reasons for these estimation results, we found that there is a correlation between deficit sustainability and each of the following conditions: increased expenditures in war periods, payments made to *Janissaries* and policies applied by the sultans reigning during that period. This paper aims to enrich the academic literature on the Ottoman economy with the findings about budget sustainability for the 1680-1747 period as well as for various sub-periods. The next section elaborates on government expenditures and revenue figures in the light of historical developments. Section 3 explains the econometric method used in this paper. The empirical evidence is presented in section 4 and section 5 concludes the study.

II. War Period and Financial Problems

After the siege of Vienna in 1683, bureaucratic and military expenditures, in particular, increased. Following the defeat in Vienna, the war continued between

Austria and the Ottomans. While the Ottoman army was retreating towards Edirne, permanent and temporary land losses occurred in the Balkan region as a result of the battles. In addition, after the 16th Century, the share of central revenues in total revenues began to decrease. One of the main reasons for this was an increase in the defence expenditures of the state because castles on the borders required expenditures to fulfil their functions. In the mid-16th Century, the central government had been able to control 58% of total revenues but in the 17th century, this amount retrogressed to 25%. As a result of these developments, approximately all of the revenues belonged to the sultan and in war times, a large share of the sultans' revenues from Musul, Diyarbakir, Baghdad and Crete were spent in these provinces. Thus, the revenues of provinces not in the *tımar* and *vakıf* systems started to be discluded from the central budget accounts. The spending of revenues locally, the transfer of Egypt's waybill into the internal treasury and the assignment of some revenues to the personal treasury of the wives of sultans limited the financial area controlled by the budget of the central government. It can be seen that the Ottoman financial and budgetary system in the period between 1680 and 1747 exhibited a limited central and extended local characteristic as a result of the reasons given above.

Especially as a result of late *mevacip* and *culus* payments to the *Janissaries* and the discontent due to defeats, there were a threat of a military revolt in the capital, Istanbul. The uneasiness caused by army based financial problems came to light with breaking out of three military revolts during the period from 1680 to 1747. These events shook the roots of the Empire and resulted in the dethroning of Mehmet IV in 1687, Mustafa II in 1703, and Ahmet III in 1730.[iii] The jumps in expenditures for these dates and the deterioration of the central budget can be seen in Figure 1. In the 17th century, the *Celâli* revolts and wars with Iran led to a reduction in the population of Anatolia and accelerated migration to the cities. Parallel to these developments, agricultural production decreased and local governors, *Âyans*, gained power against the central government [ivv]

III. Econometric Method

In order to assess the sustainability of the Ottoman budget, we estimate the following equations.

$$\text{Revenue}_t = \alpha_0 + \alpha_1 \text{Expenditures}_t + e_t \qquad\qquad (1)$$

where *Revenue_t* is the logarithm of government tax revenues, *Expenditures_t* is the logarithm of government expenditures and e_t is the residual term at time *t*. α_0 and α_1 are the parameters of interest. In this paper, we also examined how the relationship between *Revenue_t* and *Expenditures_t* is affected by various factors such as different sultanates, different war periods and *culus* payment periods. In order to account for these factors, we also included dummy variables (D_t) into the analysis specified in Equation 2.

$$Revenue_t = \beta_0 + \beta_1 D_t + \beta_2 Expenditures_t + \beta_3 Expenditures_t * D_t + e_t \qquad (2)$$

The dummy variables used in this study are for each sultanate, war and *culus* period. When the particular condition is present, the dummy variable (D_t) takes the value of 1 and zero otherwise. When the parameters of estimates are interpreted, the autonomous revenue will be $\beta_0 + \beta_1$ if the condition is met ($D_t = 1$) and β_0 if the condition is not met ($D_t = 0$). Similarly, the induced revenue will be $\beta_2 + \beta_3$, if the condition is met and β_2 if the condition is not met.[vi] It is also important to note that government expenditures is not an exogenous variable but is affected by various factors, including government's revenues. Hence, performing least squares estimation will give us biased estimates. In this paper, the Two Stage Leased Squares (2SLS) Method is used to address this problem. When the 2SLS estimates are gathered, we used two-lag values of Expenditures*t*, R*evenue_t*, D_t, Expenditures*t**D_t sets as instruments.

IV. Empirical Evidence

In order to analyse the budget sustainability, we used monthly data from 1090 to 1159 in the Hicri calender, which is a calender based on the moon and a year lasts 354 days. The data, including cash revenue and expenditures of the Ottoman central budget, is gathered from Tabakoglu (1985). The sources are translated from the Ottoman language. The basic sources of the data were Ottoman budget documents, *ruznamçe,* and various budget yearbooks recorded in the local currency, the *Akçe*.

When we examine the sustainability of the budget deficit for the sample period, we need to consider three different factors as sources of possible changes in the deterioration of budget sustainability.. These are differences in sultans, war periods, and *culus* payments. Regression results examining these factors are summarised in Tables 1 to 6. Table 1 reports the deficit sustainability analysis for the

full sample as well as for the reign of each sultan. Tables 2 and 3 represent the results of the analysis in the specific historical eras of this period and Table 4 reports the estimates for the Iranian war era but it also considers Mahmut I's sultanate during this war era. Table 5 gives the estimate of the testable model for the times of *culus* payments. The last table, Table 6, reports all these estimates with a Revenue-Expenditures ratio rather than with a *Expenditures$_t$* and *Revenue$_t$* used in Tables1-5. In these Tables, parameter estimates are reported in the first row and *t-values* are written in italics and in parentheses.

If the estimated coefficient of *Expenditures$_t$* is less than 1, this suggests that a government continues to spend more than it collects, we took this indication as a risk of default in the long run. For this reason, the interest rate that the government has to offer to service its debt would be higher. Hakkio and Rush (1991) note the necessity that the coefficient of expenditures be equal to one for the sovereignty of the debt, which also implies a balanced budget. While evaluating results of the analysis, our criterion is that if the coefficient is less than one, then the deficit is unsustainable; if it is greater than or equal to one, then the deficit is sustainable. In economic literature, it is prescribed that when the growth rate of a budget deficit is less than or equal to the growth rate of the economy, then the deficit is sustainable. However, we cannot consider the criterion in this study because we lack growth rate data for this period of the Ottoman economy. For this reason, the criterion mentioned above is used in the study as the indicator of deficit sustainability. One may also argue that observing just the slope coefficient while ignoring the constant term may not show the sustainability of the deficit properly. Autonomous revenue (which is captured by a constant term) shows the revenue not depending on expenditures. If the Keynesian theory is right, then expenditures stimulates the output, so the tax revenues will increase under a flat or progressive tax system. Thus, autonomous taxation depends on various factors, such as per head taxation, but it does not depend on economic performance. In the long run, the role of autonomous taxation will decrease and the budget will not be sustainable if the slope coefficient is less than one.

The results of the analysis are summarised in Tables 1-5. In Table 1, the deficit sustainability conditions in 1680-1747 period of the full sample and each sultan are reported. In the sample period, there were six reigning sultans in the Empire: Mehmet IV (1648-1687), Süleyman II (1687-1691), Ahmet II.(1691-1695), Mustafa II (1695-1703), Ahmet III (1703-1730), Mahmut I (1730-1754). For the full

sample, the coefficient of expenditures is less than 1 (0.921), which means that the budget deficit was unsustainable. *Constant* term accounts are taken for autonomous taxation, which usually accounts not for efficient allocation but for fixed and per head taxes. In Table 1, *constant* represents the autonomous taxation and this coefficient is 1.712 for the full sample, which is a small coefficient compared to the sub-sample periods. To understand the use of taxes to finance the accelerated expenditures, the information below will be helpful.

When the full sample is considered, the considerable changes and administrative difficulties either in the provinces or in the central government are seen. The expenditures of local revenues locally significantly limited the financial sources of the central budget, and sultans' moving to Edirne because of the fear of revolt created an administrative dominance struggle in the capital. Sharply increased expenditures led governors to find new sources of finance. In different periods of the sample, new taxes were levied. However, finding new sources was not enough to cover the speed of the increase in expenditures (see Figure 1). The increasing cash need led the central government in the time of Mehmet IV to levy a new tax named "*imdadiyye*". Initially, this tax was collected to finance military expenditures in urgent times and in long lasting war periods, but within a few decades it had become a regular tax collected in different amounts in either war or peace time. The grand vizier of Süleyman II, Köprülüzade Fazıl Mustafa Pasha (1689), tried to reform the tax system during his short administration. The other type of taxes levied in extraordinary cases was "*avarız akcesi*". After 1683, these taxes became regular items in the central budget as well. Thus, it can be seen that sultans had a strong tendency to increase autonomous taxes to finance the increasing cash needs, but from time-to-time some governors tried reforms to decrease the tax burden on taxpayers. For instance, in 1689-1691, Köprülü Fazıl Ahmet Pasha's period, the revenues exceeded expenditures (see Figure I). In the sultanate of Ahmet III, especially the Tulip Period of 1706-1729, sometimes there were excess revenues because of the peace policies and different applications of the sultan.

We elaborated on the idea that budget sustainability could be different for each sultan and each war era. The deficit sustainability indicator of the equation, the coefficient of *Expenditures*$_t$, is less than 1 for all of the six sultans in Table 1, except Mahmut I (1730-1754) and for all of the three intervals in Table 2 except the Ottoman-Iran War (1723-1746). Hence, we perform the regression analysis for each

sultan and each war era. The results reported in Table 1 indicate that in the sultanates of five sultans, the budget deficit was unsustainable. The lowest coefficient is -0.093 for the time of Mehmet IV. His reign was the beginning at the big land losses after the defeat of Vienna. There was also administrative uncertainity during this interval. He was six years old when he became the sultan. His reign was full of political and military problems. For instance, the first years of the Sultan passed under the strong domination of his mother Kösem Sultan. The power of the central government both in the capital and in the provinces weakened. The *Janissaries'* were in control in Istanbul and Celâli pashas' control led the provinces. The other times when the coefficients of *Expenditures*$_t$ were less than 1are: Süleyman II, 0.479; Ahmet II, 0.433; Mustafa II, 0.521; and Ahmet III, 0.594. During these periods, war expenditures were a big item in the central budget. During these reigns of five sultans of the sample period, these costly wars continued. In the sultanate of Süleyman II, the fight against Austrians continued in the Balkan region and the Russia attacked to the Crimea. In the time of Mustafa II, there was a big defeat in Zenta. In the time of Ahmet III, wars with Austria on land and with Venice at sea continued, and there were also occupations of Iran in Azerbaijan and Hemedan. Besides the great financial burdens of the wars, there were *Janissary* revolts either in the capital or in Rumelia for *culus* and other payments. As seen in Table 1, the highest coefficient among the coefficients of expenditures less than one, 0.594, is in the sultanate of Ahmet III. The peace policy of Ahmet III in his relations with the other states can be mentioned as an important reason for the higher coefficient. The only coefficient of expenditures greater than 1 is the coefficient of Mahmut I's reign. In his time, wars with Iran in the east, with Austria in the west, and with Russia in the north were generally successful: the Belgrade Treaty with Russia and Austria (1739), the Hemedan Treaty and treaty after the Musul War (1746) with Iran. All of these treaties seemed advantageous for Ottomans. There was no military revolt in his sultanate. The *Constant* in Table 1 represents the autonomous taxes. For the full sample autonomous taxation has a positive coefficient. The 1680-1747 sample was a continuous war period and to finance these wars, the central administration levied extraordinary taxes (*Avârız, Nüzul* and *Sursat*), which became regular in a short time. Three important sources of revenue were *mukataa, cizye* and *avarız*. The highest revenues collected from *mukataa* were at the beginning and end of the period because in between war periods led to decreased *mukataa* revenues. *Cizye* revenues were increased in the time of the

tax reforms of Köprülüzade Fazıl Mustafa Pasha in the 1690s. In the 1683-1700 interval, *cizye* was collected in advance (generally one year). In the last years of the sample period, *cizye* revenue retrogressed. The extraordinary tax *avârız* was increased in war times and decreased in peace times. These movements in taxes can be followed in Figure 1. When we consider all the sultans, the highest autonomous tax was in the sultanate of Mehmet IV, 18.653. After the Vienna siege, temporary or permanent loss of land led to a decrease in *mukataa* revenues. In the time of Süleymen II, copper coin usage changed the exchange rate of foreign currencies. Then, expectations of instability in the market, *Hasses* of the Sultan and *mukataas* were removed from the *iltizam* system but in this period the tendency for autonomous taxation was not as high as for Mehmet IV, only 8.988. In the sultanate of Ahmet II, we saw the tax reform of the Köprülüzade Fazıl Ahmet Pasha. To be able to increase tax revenues, *cizye* (collected from each household) started to be collected per head, as in the past. In this new system, the criterion was the ability to pay.[vii] After these sultanates, autonomous taxation started to decrease (Table 1) because from time to time treaties like the Karlowitz Treaty (1699) and the treaty with Russia (1700) were made. In the peace periods, disorders in the *mukataa* system were dealt with and revenues from *mukataas* increased, which meant a decrease in the amount of extraordinary taxes. The people living in Tamışvar, Belgrad, and Bosnia were exempted from *cizye* taxes in 1699-1700.[viii] All these seem to be effective autonomous taxes in the sultanate of Ahmet III. F-test results for the analysis are 6.44 for the full sample period. This value of the F-statistics reject the null hypothesis that all the sultanate periods were the same. It can be interpreted that sultans applied different policies in their reigns and each sultan had different characteristics in his time interval.

As the discussions above make clear, not the different sultanates but the different war periods were the reason for the fiscal policy action that was taken for the sustainability of budgets. The sample period is divided into three intervals: the Vienna Siege to Karlowitz (1683-1699), Karlowitz to Passarowitz (1699-1718), and the Ottoman-Iran War (1723-1746). This division is based on main characteristics of the war periods. The first interval, Vienna Siege to Karlowitz (1683-1699), was a period of defeat and land losses. The second period, Karlowitz to Passarowitz (1699-1718), was a period of attempts to regain the lost lands, and the third interval was a successful war period in which new lands were gained in the east. After the Vienna siege, the central government levied a new tax, *imdadiyye.* Initially, this tax was

collected to finance military expenditures in times of emergency and in long lasting war periods. However, in a few decades it became a regular tax collected in various amounts, even in peace periods like from the 1700 peace with Russia to the Ottoman victory in Prut. As in the Tulip period (1706-1729), sometimes there were even excess revenues (see the Figure 1). When the war periods are considered in Table 2, in the first two war periods, the coefficients of expenditures were less than 1: 0.622 and 0.683. The period in which the coefficient of autonomous taxation was below zero is the war period with Iran. There were some fiscal advantages of wars in the east, which can be mentioned as important reasons for the lower autonomous taxes. These advantages can be explained as follow. After defeats in the west, *Janissary* revolts stared in Rumelia, was easily extended to the capital, Istanbul. These revolts ended with either *culus* payment or other extraordinary payments made to the Janissaries, which affected the budget deficit sustainability negatively. On the other hand, for any war in the east, such a revolt extending to the capital was not possible. In addition to these, during the Iranian war period in the east, there were sizeable land gains, despite temporary and small land losses, which did not influence either *mukataa* revenues from the eastern provinces or any other revenues like *cizye* and *avârız*. There were not any tax revenue problems in war times in the east. During these wars, in contrast to contrary to the western provinces, there were not any tax-exemptions or delays made by the central government. These are advantageous factors for budget deficit sustainability. The highest coefficient estimated for expenditures is the coefficient of the third war period, the Ottoman-Iran War (1723-1746) in the east, which is 1.055. When we examine the autonomous taxes in the three war periods, we see these coefficients for the three war periods: The estimated coefficients are for Vienna-Karlowitz (1683-1699), 6.576; for Karlowitz-Pasarowitz (1699-1718), 5.855; and for the Ottoman-Iran War (1723-1746), -0.619. Among these, the lowest coefficient for the autonomous taxes is -0.619 for the Ottoman-Iranian War period. This interval was a successful time for the Empire because besides victories, many peace treaties were made. In this time, wars with Iran, Austria, and Russia were generally successfull. The Belgrade Treaty with Russia and Austria (1739), the Hemedan Treaty and the treaty after the Musul War (1746) with Iran seemed advantageous for the Empire. The impression gained from the analysis of the war periods is an unsustainable budget deficit that cannot be recovered or mitigated by the short-term deficit sustainability. Moreove, war periods exhibit different characteristics either from both other periods

or each other. The F-test values are 228.993 for the war periods in Table 2 and 294.6077 in Table 3, which are statistically significant.

Table 3 summarises the direct comparisons of deficit sustainability and autonomous taxation during war periods. In this regression D_t represents the war periods and D_t* *Expenditures*$_t$ represents the expenditures made in these war periods. It is understood from the estimated coefficients of *Expenditures*$_t$ that expenditures decreased in all of the three war periods. Especially in the Karlowitz-Pasarowitz (1699-1718) period, the estimated coefficient for *Expenditures*$_t$ retrogressed to a negative value, -0.177. During the Siege process, taxes were collected by the army from the provinces along the road to Vienna. In the next war period, Karlowitz-Pasarowitz (1699-1718), *cizye* taxes were not collected from some provinces in Rumelia especially Tamışvar, Belgrad, and Bosnia for several years.[ix] In this period, as mentioned above, revenues from some provinces did not reach the central budget because of the needs of the army during the military expedition. As a result of these, there was a decrease in the coefficient of autonomous taxes from 13.571 in the Vienna-Karlowitz period to 11.670 in the Karlowitz- Pasarowitz period. The lower coefficient of the interval of the war with Iran can be related to the accelerated decentralisation of provinces and local revenues during the war times of the transformation period. Although the autonomous tax for the first two periods were the same, it is lower in the Karlowitz-Pasarowitz period. This was a period in which many lands in Rumelia mutually changed hands with Austria. During these temporary gains and losses, the collection of the revenues was disorderly and autonomous taxes decreased. All these indicated that in war periods, there was a tax income loss while the war expenditures were continuously growing, which is one of the factors that makes the deficit sustainability problem of the Empire more serious in that period.

The empirical evidence elaborated on above suggests that both the Mahmut I era and the Iranian war period had favourable budget management. In order to assess which of these two was the main reason for the favourable environment we estimate the Equation 2 for Iranian war period (1723-1746) by adding a dummy variable for the Mahmut I era. The estimates are reported in Table 4. Note that the induce revenue is 0.697 for the non- Mahmut I era and 1.490 (0.697+ 0.793) for the Mahmut I era. This clearly suggests that Mahmut I, not the Iranian war era provided the sustainable budget. Furthermore, it is interesting to note that autonomous revenue decreased in

Mahmut I era but this might be considered as favourable in the view of the taxpayers relative to for the Ottoman economy as a whole.

Table 5 analyses the connection between *culus*, the payment made to *Janissaries* when a new sultan is crowned, and deficit sustainability. The coefficient of the constant term for the *culus* payment period is lower, so there is a decrease in autonomous revenues. These payments seem to worsen the deficit sustainability. However, induced expenditures increase with *culus*. F-test value of the *culus* payment dates reported in Table 5 is 9.58, which is statistically significant. It indicates that *culus* payments led to changes in the fiscal dynamics of the Empire.

As it was elaborated on earlier in this section, one might argue that budget sustainability cannot be interpreted through the estimated coefficient of *Expenditures$_t$*, but that the autonomous taxation should also be taken into account. In order to address this issue, we regress expenditures-revenue ratio on the constant for the full sample as well as the sub-samples used in Tables 1-2, and the dummy variables used in Tables 3-5. Interestingly, all constant terms for these periods are greater than one (Table 6) and none of the estimated coefficients of the dummy variables are statistically significant at the 10% level. This might suggest the sustainability of the budget. However, autonomous taxation is not proportionate to expenditures, so deficit sustainability in the long-run, is in question.

If one considers that the budget was sustainable we consider this with the expenditures-revenue ratio, then the best terms of the periods are associated with the lowest constant and the highest slope terms. Similarly, the worse terms are associated with the highest constant and lowest slope terms.

To sum up, as a result of the evaluation of the regression results, we can argue that a general unsustainable budget deficit dominates in the sample period. The only fiscal recovery in real terms is in the sultanate of Mahmut I.

V. Conclusions

In this paper budget deficit sustainability has been examined during one of the transition periods (1680-1750) of the Ottoman Empire. 1680 was chosen as the starting point because it coincides with the beginning of the decline period of the Empire. Examining this period provided an opportunity to observe the effects of wars, as well as political and fiscal system changes upon the central budget and deficit sustainability.

The empirical evidence gathered in this paper suggests that during the sample period, except for the sultanate era of Mahmut I, the Ottoman budget was not sustainable. The other interesting result of the study is that *culus* payments have a significant tax increasing effect and the distribution of *culus* deteriorated the sustainability of the budget.

When we consider the other sultanate eras and war periods, we see the coefficients of expenditures are less than one in Table 1 and Table 2, which underlines the view that serious unsustainable budget deficit problems cannot be eliminated, even with small recoveries and a few sustainable deficit periods. At the end of the sample in 1747, fiscal problems became even more serious. The first foreign debt was undertaken in 1854 and the creditors established a foreign debt management system (*Duyun-u Umumiyye*) in 1881. Furthermore, the heavy fiscal problems of the Empire remained unsolved, affecting the economy of the new Turkish Republic from the dissolution of the empire to the second half of 1950s. The actual end of the fiscal problems of the empire was 1954, the year in which the young Turkish Republic paid the last instalment of the Empire's foreign debt.

Figure 1: Revenue and Expenditures of the Ottoman Budget (1680-1747)[x]
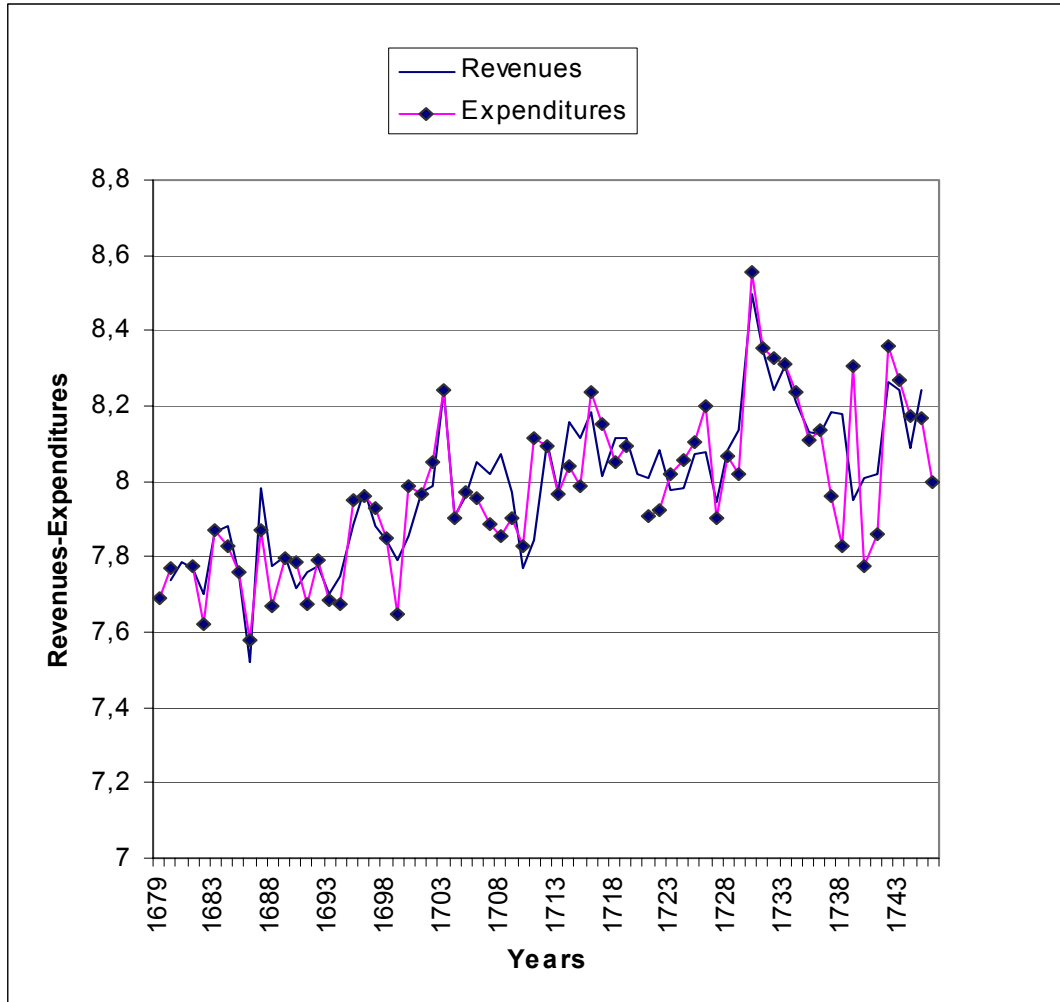
TABLE 1: Revenues-Expenditures Relationship for Each Sultan

Sultanate	Constant	Expenditures	SSR
Full Sample 1680-1747	1.712*	0.921	1203.5
	(0.773)	(7.182)	
Mehmet IV 1648-1687	18.653**	-0.093	89.417
	(2.12)	(-0.179)	
Süleyman II 1687-1691	8.988**	0.479	50.383
	(1.814)	(1.656)	
Ahmet II 1691-1695	9.63**	0.433	51.533
	(1.658)	(1.262)	
Mustafa II 1695-1703	8.57**	0.521	77.804
	(1.675)	(1.739)	
Ahmet III 1703-1730	7.475**	0.594	344.503
	(2.194)	(2.984)	
Mahmut I 1730-1754	-10.887**	1.628*	693.057
	(-0.643)	(1.717)	

Note: * Indicates a significance level of 10%.

   ** Indicates a significance level of 5%.

   t-statistics are reported in parentheses under the corresponding estimated coefficients.

TABLE 2: Revenues-Expenditures Relationship Across Different War Periods

Period	Constant	Expenditures	SSR
Vienna to Karlowitz 1683-1699	6.576**	0.622	214.214
	(1.502)	(2.428)	
Karlowitz to Pasarowitz 1699-1718	5.855**	0.683	306.100
	(1.742)	(3.462)	
Ottoman-Iran War 1723-1746	-0.619	1.055*	421.711
	(-0.106)	(3.206)	

Note: * Indicates a significance level of 10%.

   ** Indicates a significance level of 5%.

   t-statistics are reported in parentheses under the corresponding estimated coefficients.

TABLE 3: Revenues- Expenditures Relationship for Each Different War Period

Period	Constant	Expenditures	D_t	Dt*Expenditures	SSR
War with Iran (1723-1746)	13.725**	0.215	-0.978	0.084	613.456
	(27.574)	(7.357)	(-1.132)	(1.702)	
Vienna to Karlowitz (1683-1699)	13.571**	0.241	-3.529**	0.177	612.808
	(30.905)	(9.533)	(-3.463)	(2.975)	
Karlowitz to Pasarowitz (1699-1718)	11.670**	0.345	2.972**	-0.177	645.723
	(23.134)	(11.892)	(3.485)	(-3.575)	

Note: * Indicates a significance level of 10%.

   ** Indicates a significance level of 5%.

   t-statistics are reported in parentheses under the corresponding estimated coefficients.

Table 4: Mahmut I in the Iranian war period

War with Iran (1723-1746)	Constant	Expenditures	$D_{Mahmut-Iran}$	$D_{mahmut-Iran}$*Expenditures	SSR
	4.922**	0.697	-13.892**	0.793	986.649
	(1.668)	(4.120)	(-10.050)	(9.745)	

Note: * Indicates a significance level of 10%.

   ** Indicates a significance level of 5%.

   t-statistics are reported in parentheses under the corresponding estimated coefficients.

Table 5: Revenues-Expenditures Relationship for Culus Period

Full Sample Period 1680-1747	Constant	DC_t	Expenditures	DCt* Expenditures	SSR
	12.844**	-2.831**	0.276	0.163	654.369
	(30.467)	(-1.698)	(11.314)	(1.708)	

Note: * Indicates a significance level of 10%.

   ** Indicates a significance level of 5%.

   t-statistics are reported in parentheses under the corresponding estimated coefficients.

Table 6: Estimation of Budget Sustainability by Using (Revenues/ Expenditures) Ratio

	Constant	D_{culus}	DI*Expenditure	DMI	SSR
Full Sample	1.025**				52118.230
	(3.577)				
Mehmet IV	1.017*				5140.250
	(1.243)				
Suleyman II	1.006				2281.307
	(0.937)				
Ahmet II	1.006				3052.674
	(0.829)				
Mustafa II	1.025*				
	(1.517)				
Ahmed III	1.038**				26695.680
	(2.068)				
Mahmut I	1.032**				36239.240
	(2.801)				
Vienna to Karlowitz	1.011*				11729.790
	(1.768)				
Karlowitz to Pasarowitz	1.034*				20892.570
	(1.785)				
Ottoman-Iran War	1.024				13421.610
	(2.479)**				
Culus Periods	1.026**	-0.091			52071.190
	(3.439)	(-0.008)			
Expenditures & Iranian War	1.026**		-0.025		52106.52
	(2.879)		(-0.004)		
Mahmut I during the Iranian war	1.026**			-0.033	52102.59
	(3.120)			(-0.005)	

Note: * Indicates a significance level of 10%

      ** Indicates a significance level of 5%

       t-statistics are reported in parentheses under the corresponding estimated coefficients

      DI: Dummy variable set in the Iranian war era

      DMI: Dummy variable set in Mahmut I's Sultanate during the Iranian war

Referances:

Akgunduz, Ahmed, (1999) 700. *Yilinda Bilinmeyen Osmanli*, Osmanli Arastirmalari Vakfi, Istanbul.

Barkan, Ö.L., (1960) *1669-70 Ottoman Budget and Its Extensions*, Istanbul.

" Mahmut I", Büyük Larousse, Vol. XV.

Cezar Yavuz, (1986) *Osmanli maliyesinde bunalim ve degisim donemi: XVIII.yy'dan Tanzimat'a mali tarih*, Istanbul.

Griffths E., Carter Hill, and George Judge, (1992)*Learning and Practicing Econometrics,* Wiley INC.,NewYork, NY.

İnalcık Halil and Quataert Donald, (1994) *An Economic and Social History of the Ottoman Empire,* Cambridge University Press.

Marsigli G., (1934) *Osmanlı İmparatorluğu'nun Zuhûr ve Terakkisinden İhiatı Zamanına Kadar Askeri Vaziyeti,* Ankara.

Midhat Sertoğlu, *(1986)Osmanlı Tarih Lugatı,* Enderun Kitabevi İstanbul.

Nuri M., (1909)*Netâyicu'l-vukûat*, Istanbul.

Osmanli Ansiklopedisi: Tarih/Medeniyet/Kultur, Istanbul: Agac, [t.y.].

Quintos, Carmela E., (1995) *Sustainability of the Deficit Process with Structural Shifts,* Journal of Business, Economics and Statistics, Oct 95, v. 13, iss 4, pp. 409-17

Özmen Erdal and Koğar İ.Çiğdem, *Suatainability of Budget Deficits in Turkey with a Structural Shif* (1998)*t*, METU Studies in Development, 25 (1), pp. 107-127, Ankara

Pamuk Şevket, *100 soruda Osmanli-Turkiye iktisadi tarihi 1550-1914* (1990), Gercek Yayınlar, Istanbul.

Tabakoğlu Ahmet, *Gerileme Dönemine Girerken Osmanlı Maliyesi*(1985), Istanbul.

[i] The data set is reported in the Appendix A.

[ii] All the Ottoman names and terms written in italic are explained in the Appendix B.

[iii] Marsigli G., Osmanlı İmparatorluğu'nun Zuhûr ve Terakkisinden İhiatı Zamanına Kadar Askeri Vaziyeti, pp. 294, Ankara (1934).

[iv] Nuri M., Netâyicu'l-vukûat, V. II, pp. 88, Istanbul (1909).

[v] One may look at Pamuk (1990) for details

[vi] Griffths, Hill, and Judge, *Learning and Practicing Econometrics,* pp.411-424, U.S.A (1992).

[vii] Tabakoğlu, pp 117-119, Istanbul (1985).

[viii] Tabakoglu, pp. 136-7, Istanbul (1985).

[ix] Müd. 111, pp. 694, 1 113/30, VI,1701.

[x] Barkan Ö.L., 1669-70 Ottoman Budget and Its Extensions, İÜİF. M.C. XVII, No: 1-4, pp 225-303, Istanbul (1960).

MM.22249, pp 121-130 1687-88 Budget

Kepeci, 2313; MM22249, pp. 131-136, 1690-91 Budgets

1691-92 Budget, MM the same notebook, pp. 137-149; MM. 12 603 (Budget)

1692-93 Budget MM the same notebook, pp.150-157.

1693-94 Budget MM the same notebook, pp. 158-164

1693-94 Budget MM the same notebook, pp. 38-43

1696-97 Budget MM the same notebook, pp. 44-53; Cevdet, Maliye,

1698-99 Budget MM the same notebook, pp. 54-56, pg 66-79

1700-01 Budget MM the same notebook, pp. 80-105

1701-2 Budget MM the same notebook, pp.106-120, Kepeci, 2324(Budget)

1703-4-5, 1710-11 Budget MM the same notebook, pp.1-37, MM.15 724.

Appendix A: Terms and Concepts[*]

Akçe: Ottoman monetary unit based on silver.

Avârız: A tax levied in extraordinary situations, especially in war times. It could be in cash (Avârız akçesi) or in agricultural products.

Ayan: Local governor.

Celali: Tradesman

Cizye A tax collected from the non-Muslims living in the empire on per capita basis.

Culus: Payment made to Janissaries when a sultan starts reigning.

Hass: Personal prosperity of the sultan.

Imdadiyye: A tax levied in extraordinary situations. When cash was needed, the tax was collected from the wealthy people of the Istanbul.

Janissaries: Permanent and horseless army of the Ottoman Empire; the crucial part of the Kapıkulu soldiers.

Mevacip: A payment made to the Kapikulu soldiers (the main part of the Ottoman Army which consists of infantry soldiers, Janissaries and soldiers with horse) four times a year in hicri months Muharrem, Rebiulahir, Recep, and Sevval.

Mukataa: A production method that was operated by collecting revenues of the central administration or taking operational rights of some monopolies (like a mine or minting coins) or being the only purchaser of some producs.

Nüzul: This is an extraordinary tax collected in war times from the cities and villages along the road of the military expedition. Nüzul was a tax generally based on flour and barley collected per household. The tax could be converted into services needed by the army or cash.

Ruznamce: Notebooks containing daily entries of the imperial budget.

Sürsat: This was an application put into practice especially in war times. It was an obligation for subjects of the Empire which made them responsible for supplying feed for horses, food and firewood for the army at a determined price. This tax could be collected as cash when needed.

Tımar: In this system, there was no fed army. Instead of agricultural lands are given to janissaries in order to be cultivated during the times rest of the wars.

Vakıf: Judicial personalities performing for charity.

---

[*] For other terms and concepts see Midhat Sertoğlu, Osmanlı Tarih Lugatı (1986)

Appendix B: Budget Revenue   and Spending of the Empire

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1090M1	N/A	7482570	1092M7	9830029	15120899	1095M1	3379077	3555648	1097M7	24166551	31513715
1090M2	N/A	45502424	1092M8	9830029	47393199	1095M2	6081750	60637	1097M8	7740476	12755516
1090M3	N/A	2494295	1092M9	82838420	31034158	1095M3	66636338	92354707	1097M9	14484833	37023256
1090M4	N/A	34720715	1092M10	20825106	29921465	1095M4	55160428	65869404	1097M10	N/A	N/A
1090M5	N/A	72431737	1092M11	30302883	67334677	1095M5	53219003	43790646	1097M11	8454614	4645460
1090M6	N/A	6327625	1092M12	67022931	100293112	1095M6	54716882	33605990	1097M12	4697085	39794288
1090M7	N/A	11540555	1093M1	40472252	9713435	1095M7	17140579	33364089	1098M1	21756890	17240139
1090M8	N/A	59217362	1093M2	45307959	7442177	1095M8	76792035	62759074	1098M2	6263087	7636185
1090M9	N/A	68130606	1093M3	14604116	49750978	1095M9	44422844	30943593	1098M3	35324532	14697788
1090M10	N/A	15796265	1093M4	20921234	13171376	1095M10	56538076	37534385	1098M4	2723576	13620518
1090M11	N/A	40545460	1093M5	49408388	5076789	1095M11	60808234	101821134	1098M5	21231978	2587753
1090M12	N/A	48441321	1093M6	18566514	49840097	1095M12	23981486	19506343	1098M6	23955432	147968652
1091M1	37888570	6064746	1093M7	41391374	19968668	1096M1	59559149	35624382	1098M7	51347540	28546689
1091M2	30962142	53887831	1093M8	9116450	36909224	1096M2	108931705	55609353	1098M8	16640653	20973960
1091M3	15270107	17841748	1093M9	128185614	71794127	1096M3	12258057	43440991	1098M9	2759106	8403777
1091M4	59592517	26313757	1093M10	17878069	31749415	1096M4	11071982	28286134	1098M10	N/A	N/A
1091M5	36473117	49896326	1093M11	9575474	36285011	1096M5	25115625	29734381	1098M11	12390495	909537
1091M6	7299133	7521112	1093M12	27998446	89246673	1096M6	22041405	57591466	1098M12	1073163	765736
1091M7	37099649	18436380	1094M1	17530588	3831131	1096M7	36108705	67926590	1099M1	190197172	6783627
1091M8	41388366	75446732	1094M2	27436265	23478520	1096M8	35636055	26409358	1099M2	20402771	4844898
1091M9	87408019	62803789	1094M3	64506962	59287576	1096M9	145150373	104346197	1099M3	74114861	128788791
1091M10	23744083	91517111	1094M4	63170496	21805202	1096M10	5489739	1765640	1099M4	38925227	35945150
1091M11	21711708	44229022	1094M5	110106470	46127313	1096M11	66647759	33960751	1099M5	31237951	40182452
1091M12	18754190	29381167	1094M6	9694625	9697554	1096M12	10824912	18700426	1099M6	29024762	15888712
1092M1	47613856	26800646	1094M7	2894800	31381120	1097M1	41961880	86107695	1099M7	26696549	32964361
1092M2	14676313	6235452	1094M8	2931729	79255609	1097M2	55317557	23751559	1099M8	69847800	28892568
1092M3	20953821	9138308	1094M9	34677480	30898783	1097M3	27987830	42740935	1099M9	37444068	24078991
1092M4	39802867	28500596	1094M10	6634540	6286318	1097M4	73111655	40427701	1099M10	124463944	28382095
1092M5	12818812	42266935	1094M11	29927094	2934731	1097M5	174281526	136696114	1099M11	26540414	33192300
1092M6	56887861	30707696	1094M12	24747157	9584405	1097M6	24347096	13358335	1099M12	12695195	152952280

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1100M1	4863289	1925280	1102M10	26295622	24381822	1105M7	34301913	20531915	1108M4	46620496	52905843
1100M2	10988698	17741742	1102M11	16295870	66959298	1105M8	32034668	60817532	1108M5	22636255	10237372
1100M3	48101441	34232817	1102M12	9777700	58080621	1105M9	31047020	27598431	1108M6	40174186	24901444
1100M4	65898141	33681171	1103M1	26251236	5610593	1105M10	73979976	116482641	1108M7	64862343	107254840
1100M5	54852389	29626164	1103M2	46622175	62706095	1105M11	18973753	7231009	1108M8	43131371	34701288
1100M6	49789739	29313589	1103M3	63421074	7977671	1105M12	2093165	3809120	1108M9	44635053	25329551
1100M7	30745668	49167813	1103M4	54554429	64355711	1106M1	2282231	17380506	1108M10	133868590	115443958
1100M8	36466731	48255150	1103M5	49908126	25539019	1106M2	524766	1625913	1108M11	99330284	115443958
1100M9	36283923	21168351	1103M6	33416238	101002020	1106M3	35329762	39515900	1108M12	69514282	56181126
1100M10	28726957	40994777	1103M7	35667404	19279515	1106M4	44727421	472584	1109M1	40164449	5868211
1100M11	28726957	14134866	1103M8	24092510	32828084	1106M5	41145336	153511372	1109M2	33151235	52627866
1100M12	15822706	13567456	1103M9	135409824	55924630	1106M6	16236156	11904878	1109M3	67559403	39179563
1101M1	3916921	84237346	1103M10	54648649	38257339	1106M7	28759630	13044411	1109M4	50592181	55438362
1101M2	118889806	8970564	1103M11	6548771	2786102	1106M8	67343187	51143334	1109M5	56952425	11661807
1101M3	25823166	21773076	1103M12	5240769	6662661	1106M9	36852242	19765074	1109M6	51019610	96885092
1101M4	76099616	82850781	1104M1	17461171	6639862	1106M10	49365261	13558857	1109M7	49172523	40881323
1101M5	113684111	87434812	1104M2	22661541	35925563	1106M11	90426611	26471401	1109M8	48257890	189821452
1101M6	52980516	94226779	1104M3	23151990	23611725	1106M12	3184398	12850273	1109M9	66555664	24945285
1101M7	7573425	16350294	1104M4	44433259	29186790	1107M1	12981511	57052065	1109M10	48242473	45697969
1101M8	15528473	16350294	1104M5	99610039	91800304	1107M2	7.441E+09	18022201	1109M11	28340824	12153383
1101M9	30547204	22604931	1104M6	90520356	61915432	1107M3	73841495	108692290	1109M12	27915579	58703850
1101M10	26845447	24091346	1104M7	31943853	75622596	1107M4	21702467	5028041	1110M1	25133199	72351570
1101M11	10153987	6026184	1104M8	37879584	4247413	1107M5	106590443	54434814	1110M2	26942155	17399350
1101M12	1177043	14301323	1104M9	36687040	13259684	1107M6	49759098	3785328	1110M3	14147396	11862083
1102M1	30566338	13079477	1104M10	30926163	57258868	1107M7	70562486	23254679	1110M4	23094315	98249878
1102M2	701320	12516220	1104M11	44404573	44404573	1107M8	50953877	13862384	1110M5	33699217	44952039
1102M3	127971290	23346891	1104M12	4752048	15708826	1107M9	79464639	326534693	1110M6	101920828	6686268
1102M4	19459245	11378514	1105M1	722395	19818721	1107M10	70505353	53443331	1110M7	62274879	76358975
1102M5	79452219	65393157	1105M2	6124224	21428922	1107M11	47577340	20082346	1110M8	19066548	16390331
1102M6	45067076	32946964	1105M3	45372906	33221932	1107M12	22891884	23740727	1110M9	158077100	83469409
1102M7	50881270	116489164	1105M4	52960416	19490846	1108M1	33181839	29898037	1110M10	N/A	N/A
1102M8	43967700	104590952	1105M5	31452823	17929310	1108M2	12895306	30102963	1110M11	29195249	87080780
1102M9	48237185	52657408	1105M6	38103034	10225926	1108M3	66545143	96570346	1110M12	20827484	7055407

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1111M1	14452737	20616427	1113M10	26674421	21577843	1116M7	47412155	24754539	1119M4	32715105	2178077
1111M2	30605726	6330035	1113M11	47094133	90167487	1116M8	66912008	29588910	1119M5	20951220	4286819
1111M3	13319654	22718904	1113M12	17066346	15823351	1116M9	108098799	199142828	1119M6	54567721	88211085
1111M4	22186929	6202637	1114M1	13568192	31744381	1116M10	16660885	131618473	1119M7	55360056	1658493
1111M5	82364075	112616949	1114M2	7150781	6294422	1116M11	11596949	3997608	1119M8	39847707	9789881
1111M6	45768256	12657678	1114M3	18067164	20151487	1116M12	11853634	15088247	1119M9	144458719	108942505
1111M7	41235623	34052386	1114M4	9476200	39662237	1117M1	12115276	26013763	1119M10	42209301	2088531
1111M8	22526536	2223411	1114M5	2954864	1567590	1117M2	7346551	5255566	1119M11	32026002	77817804
1111M9	78253887	88480431	1114M6	98043132	59442821	1117M3	9020616	6040389	1119M12	70115088	1199335
1111M10	70351343	43204071	1114M7	42104704	87163918	1117M4	46874159	1121972	1120M1	34296671	1706651
1111M11	37911834	9592902	1114M8	46230073	71750831	1117M5	79723331	14173554	1120M2	26216463	87577319
1111M12	25992567	9152110	1114M9	135139029	98831219	1117M6	81754560	129956536	1120M3	36623960	13707896
1112M1	47205405	173758528	1114M10	25358067	3535654	1117M7	16468183	85659003	1120M4	69560676	4469785
1112M2	38176986	6762991	1114M11	47507907	46322033	1117M8	52914023	6095619	1120M5	78188704	649511
1112M3	13154070	167751675	1114M12	28492048	96531695	1117M9	159665238	127572787	1120M6	67234323	3291691
1112M4	20612071	13955216	1115M1	10499956	9057601	1117M10	17851281	4231778	1120M7	35752414	1151705
1112M5	42517972	14771021	1115M2	20611781	5397280	1117M11	15210347	10462752	1120M8	87953324	94778700
1112M6	64973471	74164398	1115M3	39166831	17103265	1117M12	14030888	105633423	1120M9	96220271	2390391
1112M7	46398022	7319237	1115M4	213415413	71183475	1118M1	31839411	7424433	1120M10	19548457	2812799
1112M8	27656512	21925707	1115M5	83469691	47800473	1118M2	11296185	33472866	1120M11	48696907	195532375
1112M9	86410750	102488365	1115M6	146806302	222713382	1118M3	6915283	6988429	1120M12	71444255	1107961
1112M10	49890758	80522551	1115M7	63732688	154474551	1118M4	20479637	7331642	1121M1	49062855	3990068
1112M11	25088952	7147317	1115M8	36845629	37694196	1118M5	24360202	504477	1121M2	21917880	89651159
1112M12	37846083	4731545	1115M9	240680077	65754803	1118M6	139429101	2024503	1121M3	53057142	7129937
1113M1	24601021	13070551	1115M10	20817720	242998582	1118M7	43170389	193092876	1121M4	34427563	6949014
1113M2	28181306	3993522	1115M11	28085570	20480226	1118M8	36527400	8858702	1121M5	51230660	6287204
1113M3	27395382	7570168	1115M12	23442948	36729191	1118M9	176995317	187099347	1121M6	65346243	6095931
1113M4	13422016	8873414	1116M1	11162032	5910066	1118M10	32474758	10276369	1121M7	10828948	6253702
1113M5	53754496	5535525	1116M2	7596324	7835821	1118M11	32718302	31046210	1121M8	33864099	96299551
1113M6	58616841	54622810	1116M3	41464685	34516640	1118M12	64336680	8245588	1121M9	93402169	8437756
1113M7	23822061	9854155	1116M4	35805619	3351886	1119M1	43109819	12290032	1121M10	31231678	2288184
1113M8	34340699	74969196	1116M5	76031970	6818953	1119M2	32462213	19922468	1121M11	21884369	198969195
1113M9	103156578	161114811	1116M6	111687083	132857783	1119M3	5685213	2947049	1121M12	49507694	6369529

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1122M1	26292632	4535925	1124M10	104146746	109449431	1127M7	4825054	29089304	1130M4	91538087	114128121
1122M2	27737638	28582604	1124M11	26634750	261168579	1127M8	6752269	12232427	1130M5	124846284	122094049
1122M3	27324552	91206425	1124M12	56616602	18762940	1127M9	12492487	186621664	1130M6	48711252	19113372
1122M4	17803002	11290843	1125M1	20477979	13085628	1127M10	284562925	28930402	1130M7	41575545	5981092
1122M5	26734205	8744548	1125M2	59202325	59008612	1127M11	43637520	11828940	1130M8	47041827	135085863
1122M6	39791185	90930386	1125M3	9009240	24321270	1127M12	175069594	13740924	1130M9	44290835	4198862
1122M7	26249707	6709068	1125M4	8745736	16558032	1128M1	116299265	28148930	1130M10	76670810	4712117
1122M8	26520062	7749425	1125M5	120926939	73768449	1128M2	103561797	55839459	1130M11	40234142	11197328
1122M9	80432665	6676155	1125M6	62219505	21406157	1128M3	139532830	449848126	1130M12	82829114	70271834
1122M10	26015667	197083490	1125M7	51797060	8243734	1128M4	146443624	167304245	1131M1	42474001	27846179
1122M11	21845512	27673168	1125M8	41510977	6163650	1128M5	24345195	76197682	1131M2	46168289	8646145
1122M12	38237742	15079212	1125M9	257964924	316080831	1128M6	72692659	23508469	1131M3	35410290	134858598
1123M1	102992068	64589416	1125M10	30134040	80643040	1128M7	24775995	35659239	1131M4	32947206	24451046
1123M2	24351585	104828298	1125M11	45194329	30017751	1128M8	23821186	77857778	1131M5	63167075	79332403
1123M3	17025252	119431373	1125M12	120411718	65859070	1128M9	20039352	42690008	1131M6	157330564	126039656
1123M4	12080481	67526651	1126M1	89726510	18987716	1128M10	133648654	87849917	1131M7	81502886	159739960
1123M5	6407250	59260049	1126M2	36661624	118630632	1128M11	191525829	104166723	1131M8	97504588	115772301
1123M6	10115364	16565621	1126M3	94538276	25815278	1128M12	76142532	62756041	1131M9	66598296	2013663
1123M7	67441243	72227220	1126M4	70579147	58147776	1129M1	78456336	288257493	1131M10	46738599	9184615
1123M8	31209714	30967761	1126M5	110925251	47972377	1129M2	37117876	19088517	1131M11	38860059	5704169
1123M9	134640284	258409930	1126M6	112034006	19228757	1129M3	59668793	36931242	1131M12	55743818	41787744
1123M10	20350072	10617529	1126M7	55978170	137150376	1129M4	72165698	17359117	1132M1	38985527	5444409
1123M11	15108574	78582254	1126M8	106133937	42685421	1129M5	107245901	56340083	1132M2	25969679	12191131
1123M12	40011561	10903167	1126M9	153340504	221122203	1129M6	96603054	95517249	1132M3	108685526	114927506
1124M1	103864699	22899600	1126M10	84582582	30715020	1129M7	21479012	241128612	1132M4	10432401	8302074
1124M2	49952599	51217213	1126M11	76724343	19671093	1129M8	8301680	39900648	1132M5	68940495	N/A
1124M3	69978482	129232504	1126M12	72077831	75794137	1129M9	16800131	31949467	1132M6	56363988	N/A
1124M4	46335347	9559950	1127M1	60514582	39167438	1129M10	701319	28831440	1132M7	60708252	N/A
1124M5	66677159	54392382	1127M2	57872542	35404257	1129M11	103485087	5176206	1132M8	139878734	N/A
1124M6	34455482	3795666	1127M3	45373089	46820199	1129M12	91783599	92633843	1132M9	23078521	N/A
1124M7	27646940	128206159	1127M4	164045477	175322377	1130M1	62542089	77389328	1132M10	57108697	929432
1124M8	54289401	3912895	1127M5	6138024	53362710	1130M2	138885574	50487948	1132M11	46179034	1302150
1124M9	178006181	4840229	1127M6	4459477	12807057	1130M3	96702447	162470302	1132M12	89797727	N/A

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1133M1	39132851	4546291	1135M10	38423776	27730093	1138M7	159742586	139690920	1141M4	109241494	70513361
1133M2	42410415	3793068	1135M11	57860375	30738642	1138M8	160366634	81518911	1141M5	56616385	15750070
1133M3	40001629	219659036	1135M12	63341037	4604500	1138M9	23853582	118639981	1141M6	95245826	426954523
1133M4	56738848	2701315	1136M1	54442725	227083027	1138M10	19315057	25980099	1141M7	71056997	16826431
1133M5	74153910	5239080	1136M2	48319462	11170418	1138M11	50578743	23629754	1141M8	263643576	242724193
1133M6	32602848	116093536	1136M3	49697175	102801021	1138M12	167850661	196801087	1141M9	24069078	6922419
1133M7	65289820	11701594	1136M4	88008324	31577536	1139M1	58155584	34801127	1141M10	30409084	15744402
1133M8	113880563	16607290	1136M5	54397797	75264456	1139M2	51687970	21100815	1141M11	100360508	18738709
1133M9	38438347	12707037	1136M6	28371770	28242550	1139M3	14874525	35175824	1141M12	89441008	7664554
1133M10	57185249	16112464	1136M7	49394558	9296922	1139M4	65793193	16560265	1142M1	79903126	4300585
1133M11	27484228	112247869	1136M8	125587636	27657658	1139M5	49895289	207710731	1142M2	49273268	114900998
1133M12	86502235	9679794	1136M9	12686786	3801504	1139M6	104512139	29613436	1142M3	63292641	13269668
1134M1	49292192	3399513	1136M10	17588535	12073620	1139M7	191174511	304882925	1142M4	92700383	21198665
1134M2	119488749	213316153	1136M11	44931159	145550039	1139M8	29397238	6724169	1142M5	92575607	112313785
1134M3	61895508	4866528	1136M12	59357129	47568295	1139M9	53856343	26210154	1142M6	8896145	4464830
1134M4	82134816	4910310	1137M1	72630980	15475142	1139M10	33393983	154091826	1142M7	54177124	5019490
1134M5	86717160	6099734	1137M2	42805120	28008459	1139M11	79112178	52190528	1142M8	127833052	240683290
1134M6	42780394	120057789	1137M3	31628295	7958393	1139M12	64111799	99885973	1142M9	20182374	10248263
1134M7	66620423	9057014	1137M4	56327744	202899995	1140M1	17087834	15083700	1142M10	31060427	49792370
1134M8	98578735	6222787	1137M5	55391000	49875067	1140M2	68708752	19526057	1142M11	56150364	11928503
1134M9	23316331	3154957	1137M6	23342106	132920759	1140M3	48394334	93820162	1142M12	101077681	68101079
1134M10	39048746	17108989	1137M7	105329599	79945884	1140M4	16004744	187718243	1143M1	101442250	151168971
1134M11	68269328	16627379	1137M8	136551820	18042657	1140M5	12825195	11026372	1143M2	23360305	17946889
1134M12	90137115	129154645	1137M9	25548283	51755568	1140M6	36979795	6634538	1143M3	27222466	88543502
1135M1	55765551	4547254	1137M10	32312279	52678348	1140M7	189626119	9350065	1143M4	44215957	23439385
1135M2	23835475	208731710	1137M11	34205436	59490833	1140M8	24545494	107471195	1143M5	43480728	44070205
1135M3	74022249	5352957	1137M12	73749066	113193787	1140M9	18168155	5600734	1143M6	133482341	64521809
1135M4	114429703	109504030	1138M1	38873349	10387104	1140M10	52571691	16701886	1143M7	1.426E+09	1.585E+09
1135M5	37632237	10513505	1138M2	31925951	15097777	1140M11	52571691	18534168	1143M8	369575359	551290496
1135M6	42812708	25502641	1138M3	24450190	8139772	1140M12	59423725	108109564	1143M9	71009086	37952223
1135M7	47530190	18107469	1138M4	65028552	228109038	1141M1	85238470	78728438	1143M10	43994670	58745750
1135M8	148909946	106884255	1138M5	54197030	6901386	1141M2	27532590	51367234	1143M11	91507868	165227880
1135M9	44736892	14812119	1138M6	19858167	20279923	1141M3	28446052	17844006	1143M12	115315981	78761287

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1144M1	78190578	76657756	1146M10	72764683	66984122	1149M7	186322562	154565899	1152M4	6248543	36877033
1144M2	30826430	266208564	1146M11	67152232	34225248	1149M8	18055107	2593797	1152M5	44744168	21760778
1144M3	378269896	195053212	1146M12	136863202	50865832	1149M9	31649601	179449560	1152M6	58050948	47162832
1144M4	80160488	48329602	1147M1	92981820	189487238	1149M10	14542914	26619135	1152M7	64910195	307157581
1144M5	79454045	200251399	1147M2	27962951	24284139	1149M11	31176804	31825027	1152M8	269717814	5849812
1144M6	35556479	39041264	1147M3	43684659	68279286	1149M12	399660698	346086122	1152M9	82259527	6494908
1144M7	32271576	93278217	1147M4	140546694	76020042	1150M1	50118596	51485883	1152M10	84065839	63837900
1144M8	432485796	368855770	1147M5	110501710	7429270	1150M2	24292012	26570178	1152M11	66599088	437344775
1144M9	53328051	69830819	1147M6	118408097	231311230	1150M3	85976608	65132581	1152M12	29142962	21723115
1144M10	20671793	32416259	1147M7	94901093	30329391	1150M4	28270400	47503849	1153M1	120748815	6160565
1144M11	283877438	158002544	1147M8	253276771	63435624	1150M5	147469298	125261711	1153M2	128742688	19149674
1144M12	145432412	158253886	1147M9	40044856	49249879	1150M6	62432251	63967025	1153M3	61070306	57045378
1145M1	199773979	69202528	1147M10	71453114	119199022	1150M7	69948225	23438585	1153M4	17260499	7673858
1145M2	46354222	49032613	1147M11	27639669	25488077	1150M8	205477971	55668126	1153M5	60349923	4731274
1145M3	57538107	254806621	1147M12	54128455	279776625	1150M9	104129988	31875659	1153M6	102627134	216160295
1145M4	48119366	63674944	1148M1	99546061	27590351	1150M10	281534331	125101352	1153M7	152730527	25210861
1145M5	76623864	191702114	1148M2	159964081	147596974	1150M11	235538180	170432404	1153M8	292786753	235764632
1145M6	161820499	196657142	1148M3	117408911	97656560	1150M12	75212915	21436185	1153M9	39905698	17037676
1145M7	42500671	56802298	1148M4	67645488	192397693	1151M1	56056888	48928731	1153M10	46706109	787719120
1145M8	365382934	214292712	1148M5	49723424	3301908	1151M2	32364438	40535490	1153M11	35292263	31841534
1145M9	70033643	382554215	1148M6	94520495	26822455	1151M3	38257879	36411453	1153M12	51218172	6078875
1145M10	51716888	50302944	1148M7	89246735	168700577	1151M4	29357936	47580125	1154M1	108366166	93555077
1145M11	97188217	75726080	1148M8	228564968	316728321	1151M5	24704272	23192973	1154M2	148715017	205665493
1145M12	81762427	34459951	1148M9	22951189	3752093	1151M6	137198033	36337987	1154M3	57283701	13146385
1146M1	90510171	22232699	1148M10	27791433	1795398	1151M7	292923733	62571120	1154M4	38636107	5586590
1146M2	73567872	94872930	1148M11	40085545	5033495	1151M8	124961001	35859827	1154M5	111398799	3742793
1146M3	71218920	216126029	1148M12	75141965	6075399	1151M9	103088130	68993940	1154M6	132175435	127362931
1146M4	122434839	84843420	1149M1	43278908	162234974	1151M10	80995723	71843353	1154M7	233436601	198758966
1146M5	105839377	171502692	1149M2	111001201	33258915	1151M11	204711241	47538222	1154M8	479617872	32606246
1146M6	117710132	127726360	1149M3	73892372	26925978	1151M12	111744883	49374495	1154M9	44703520	29855466
1146M7	123604382	95639664	1149M4	33868871	36255663	1152M1	81102396	251682552	1154M10	16964148	11446585
1146M8	208414667	322444435	1149M5	23294677	9142730	1152M2	97799535	36707915	1154M11	36643073	24006798
1146M9	177061513	89644666	1149M6	116562575	106474140	1152M3	39558631	1.011E+09	1154M12	9140932	3145985

Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures	Hicri Years	Revenue	Expenditures
1155M1	70394879	353739503	1156M5	86859409	62195365	1157M9	88553154	55862269	1159M1	33530604	5483618
1155M2	267199365	185567116	1156M6	146646532	242661456	1157M10	27521987	12651771	1159M2	67265870	186632980
1155M3	440126627	441027968	1156M7	141697818	70912026	1157M11	54322067	42050021	1159M3	N/A	80196992
1155M4	221397752	137253090	1156M8	318115778	299971129	1157M12	120994411	482175708	1159M4	N/A	10817306
1155M5	91456888	114376642	1156M9	69694942	18047966	1158M1	69928206	52201026	1159M5	N/A	44289200
1155M6	112377597	44376063	1156M10	128169934	78460348	1158M2	187687309	48307252	1159M6	N/A	2626908
1155M7	107194827	53993719	1156M11	122806960	97935768	1158M3	96562593	231449479	1159M7	N/A	200401986
1155M8	236193874	184911546	1156M12	10771387	405198778	1158M4	40396058	49941068	1159M8	N/A	28842541
1155M9	28271689	1639410	1157M1	121200373	147782322	1158M5	98980930	42671970	1159M9	N/A	432621740
1155M10	62591189	59207922	1157M2	187225770	34011472	1158M6	158400025	212889286	1159M10	N/A	11647288
1155M11	15202513	506669	1157M3	29553949	13693413	1158M7	179428818	54540656	1159M11	N/A	2904309
1155M12	21885214	444849849	1157M4	55600229	44635624	1158M8	286184709	357376442	1159M12	N/A	1442545
1156M1	19420548	24890900	1157M5	119719185	236631705	1158M9	51750584	34069487			
1156M2	228330611	96677556	1157M6	126185351	52132139	1158M10	22609669	4488088			
1156M3	74922803	34873243	1157M7	116828570	192156844	1158M11	27074040	11567130			
1156M4	60535099	48913424	1157M8	220602459	32453372	1158M12	56381434	10956352			