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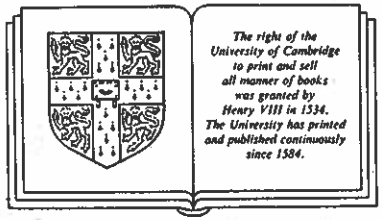
The Ottoman Empire and the World-Economy

Edited by
HURİ İSLAMOĞLU-İNAN



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MEHMET GENÇ

I

Among the major questions facing Ottoman economic historians, particularly those working on recent centuries, we can include the following: what were the major effects on Ottoman economy of the series of rapid changes in eighteenth-century Western Europe that culminated in the Industrial Revolution? Was there, in fact, as has been assumed, a growth in the volume of Ottoman foreign trade, varying in rate according to region and sector beginning in the eighteenth century, and, if so, what were its dimensions and significance? In Western Europe, the expansion of foreign trade is generally accepted to a have been an important motor force in the series of complex and interrelated changes in all sectors of the economy that resulted in the Industrial Revolution. Did such an expansion have similar stimulating effects on the Ottoman economy? That is, was it accompanied by an increase in industrial production and in the volume of domestic trade, or, on the contrary, did it bring about a decline in these activities?

Obviously, to answer these and similar questions, we need, first, a series of homogeneous quantitative data that lends itself to aggregation. However, up to now there has been little attempt in Ottoman economic history at such quantification. This gap in research has been abetted by the lack of quantitative data and, one supposes, vice versa. Certainly, we cannot hope to find for the Ottoman Empire – or for any other pre-industrial society – series of homogeneous statistical information ready for immediate use according to the requirements of modern scientific research. Although the Ottoman archives contain an enormous wealth of historical information, this wealth does not always facilitate quantitative research. The most important, and often the only, documents which can be used for statistical purposes consist of figures recorded in transactions incurred to meet the financial needs of the state. Even though the accuracy of these figures, the majority of which are related to taxes, may be questioned; still, because they are more or less the products of a conventional

procedure and not fabricated to prove a point, I have assumed that they would not be false or deliberately contrived, and therefore that it would be worthwhile to make a study of the feasibility of using them as quantitative material for research in Ottoman economic history. Hence, first, I will try to explore whether there is, in fact, a relationship between the figures collected and used by the Ottoman financial authorities for tax purposes and the real volume of economic activity. If not, can such a relationship be constructed? To what extent is this possible and what would be the degree of error involved. Finally, what economic phenomena might be revealed by a relationship constructed in this way?

II

Most taxes in the Ottoman Empire which might be related to real volumes of economic activity are those which in fiscal literature would be called indirect taxes. Ideally, if taxation was costless, if there was no corruption or smuggling and if tax rates were clear and consistent, tax-collection figures could be used as an exact measure of the value of the resources taxed. This is, however, an ideal situation that no fiscal administration, either in the past or in the present day, can claim to have realized. The exact opposite would be a situation where tax returns have no relationship whatsoever to the real volume of economic activity. This also, by the nature of things, is a hypothetical situation. Generally, historical 'reality' lies somewhere in between these two extremes, exactly where depending on the period in history, the level of economic development and the effectiveness of financial administration. Yet, to my astonishment, I found that the eighteenth-century Ottoman data conform very closely to the second ideal situation described above; tax figures are almost totally unrelated to the real volume of economic activity.

Indeed, throughout the eighteenth century, tax returns in many sectors of the economy that should have shown major changes varied less than 1 per cent over periods as long as forty or fifty years, and frequently did not vary at all. For instance, Svoronos has shown that between 1720 and 1770 the volume of trade passing through the port of Salonica increased by 400 per cent.[1] By contrast, in the same period customs revenues from this port increased only by something around 0.5 per cent. Various sources indicate that the port of İzmir developed considerably in the eighteenth century. Yet between 1750 and 1800 the revenues delivered to the Treasury from the *kantar* tax on goods entering and leaving İzmir remained constant at 4,400 *kuruş*es. Similarly, the customs revenues from Kavala, an important port in the northern Aegean, remained steady at 5,170 *kuruş*es for the forty-six years between 1748 and 1793. Hence, the constancy of these tax revenues from so many sectors could not simply mean that the volume of activity in these sectors had also remained steady for so long. Even if we assume that the tax-farmers (*mültezim*) had concealed any increases in revenues, how can we explain the cases in which revenues declined? To suppose

that no decline ever took place, and that everything simply continued as if time did not exist is simply not possible. Of course, Ottoman society was traditional and change of all sorts was perhaps minimal, but even so, in any economy where the agricultural sector was dominant, there must have been short-term cyclical movements. As my research progressed, I saw that no matter how much the actual tax revenues collected from any economic activity may have increased in time, the amount of revenues handed over to the Treasury did not change. Since one of these two values stayed fixed and the other was varied, no definite or meaningful relationship between the two could be established. Finally, in the course of my inquiry as to why there was such a difference between the real value of tax revenues and the amount that entered the Treasury, and, even more importantly, why there was no relationship between these values, as well as the question of why there was no competition between tax-farmers, I confronted an important characteristic of the tax-farming system. From the end of the seventeenth century on, taxes – in particular a large portion of the indirect taxes which ought to be meaningful for establishing trends in economic history – were being farmed out not for a year or any specified length of time, but for a lifetime (*kayd-ı hayat*), a practice containing features which would help to explain the immobility of the figures mentioned above.

III

This new system, called *malikane* by the Ottomans, was a special version of the *iltizam* system, one with the longest possible term.[2] As with the *iltizam* system the taxes were still sold by auction, but with this difference: in the normal *iltizam* system, it was the amount of tax revenues owed to the Treasury every year that was fixed by auction. In this new system, the yearly amount was determined by the Treasury and there was no question of its being lowered or raised by auction. Now what was decided by auction was the amount that had to be paid by individual bidders to gain the right to life-term possession of the tax-farm.

This sum, called *muaccele* in the Ottoman fiscal sources, was a form of capitalization that corresponded to the present value of the financial benefits that the buyer would acquire by having lifetime rights to the tax-farm that was being auctioned. This figure was not arrived at through complex capitalization and discount calculations. The questions the potential purchasers were in a position to answer were fairly simple: what was the annual revenue yielded by the *mukataa* (or the tax-farm)? What portion of this revenue had to be paid to the Treasury? How much would the remaining net surplus be? The potential purchasers had the means to answer these questions fairly correctly, and the financial authorities were prepared to help them in every way. As will be made clear below, it was to the benefit not only of the purchasers but also of the Treasury that the purchasers be furnished with the most reliable information. The stability of the annual payments to the Treasury – which at first seemed so

puzzling to me – actually served the important purpose of increasing the purchaser's ability to predict his future expenses.

The amount of the *muaccele*, paid in return for lifetime rights to the yearly net profit brought by the *mukataa*, was determined by the competition between the buyers, with the proviso that it would not sink below a limit set by the Treasury and usually amounting to a figure corresponding to two to eight times the annual net profit. All bids were recorded in a register open to the public which was kept by a department of the *defterdarlık* (Treasury). Bidding remained open for a long enough time for prospective buyers to acquire all relevant information. Sale was made to the highest bidder. The purchaser, who deposited the sale price, *muaccele*, in the Treasury, was given a *berat* (certificate) clearly outlining his rights and responsibilities as a *malikane* owner. Within the limits determined by law and described in the *berat*, he could manage the *mukataa* as he pleased. He could, if he desired, sell it to another. No government official other than the *kadı* (judge) had the right to control or to interfere with the activities of the *malikane* owner.

The system had certain attractions for the purchasers. In practice, under the *iltizam* system it was difficult for the same man to hold a *mukataa* for a long period of time. At any time someone else could come along with a higher bid and take the *iltizam* away from him. The new system thus offered greater security and stability than the old. The *malikane* owner knew that, without any further financial sacrifice, the *mukataa* was his, should he desire it, till the end of his life. His future revenues were not subject to any external risks, except for those inherent in the *mukataa* itself. Any measures which he took to develop the tax source and increase its productivity would lower the inherent risks and increase his profits. Through this mechanism, the new system worked in favour not only of the *malikane* owner but also of the entire economy and therefore of state finances. This was what legitimized the new system in the eyes of the Ottoman fiscal authorities.

At the end of the seventeenth century when the *malikane* system was estabished, however, there were other factors leading the state in the direction of this practice. Long years of warfare had brought the budget deficit to a point at which a balanced budget was inconceivable. While expenses were increasing rapidly, revenues were not merely failing to keep pace, but, partly because of the wars, and partly because of the widespread and long-term depression faced by the Empire in the seventeenth century, they were actually declining. In this situation, we can consider the above-mentioned change in the *iltizam* system *as a form of internal borrowing* by the state from the *mültezim* group, as if the state were capitalizing on the possible future profits of this group in advance and in the name of specified individuals. The only important risk the state faced was the possibility that the tax source might develop in the future in such a way as to bring in a higher amount of revenue than expected at the time of sale. In 1695, when the system was first applied, the Empire was in the midst of a twelve-year-

long war and was more worried about financing immediate payments than about future losses of revenue. Moreover, it did not seem necessary to make provisions for an increase in revenues, given the psychological atmosphere created by the economic stagnation which had prevailed for so long. In any case, losses to the state owing to an increase in revenues were limited to the lifetime of the *malikane* owner, since when the owner died the *malikane* was once again going to be sold by auction. If in the meantime the yearly profit had increased, the new *muaccele* amount was going to increase proportionally. In this way the state could partially compensate for its losses through increases in the *muaccele* revenues at periods corresponding to the average lifetime of the *malikane* owners. In addition, it could save the tax source from the destructive effects of a yearly or frequent change in *mültezims*. The losses it might endure were a small price to pay for this.

IV

Given these conditions, what was most important for the fiscal authorities was the maximization of these periodic *muaccele* amounts. The starting minimum value of the *muaccele* was determined by the Treasury, depending on market conditions, at two to eight times the annual profit that would accrue to the purchaser. Maximization of the *muaccele* revenues thus determined was possible only by creating conditions conducive to competition among the potential buyers.

The body of potential buyers, the great majority of whom were soldiers, bureaucrats or men of religion belonging to the middle or upper levels of the *askeri* class, seems to have stayed constant in number at around one thousand throughout the eighteenth century. Ostensibly, the structure of the *askeri* class would appear to have presented an obstacle to the maintenance of free market conditions. In fact, this class was not a monolithic, undifferentiated whole, but consisted of a number of quasi-independent sub-groups made up of palace members, the Porte, the bureaucracy, the *ulema* (religious scholars) and, in the strict sense of the word, soldiers. It therefore had the potential to sustain conditions of competition. Furthermore, the central state, pressed by urgent needs to maximize the *muaccele* revenues, used its authority to ensure that competitive conditions were maintained and improved upon. Finally, whatever the particular conditions of the *mukataa* up for sale may have been, the fact that bidding revolved around relatively homogeneous 'fixed annual cash revenues' was a factor that definitely facilitated the continuation of a secure competitive environment.

It seems a reasonable assumption that there would be a fixed relationship between the annual profit accruing to the purchaser of a *malikane* and the sum, the *muaccele*, that he paid for this; and that for all *mukataas* sold by auction in the same market in the same period of time, this relationship would express itself in a

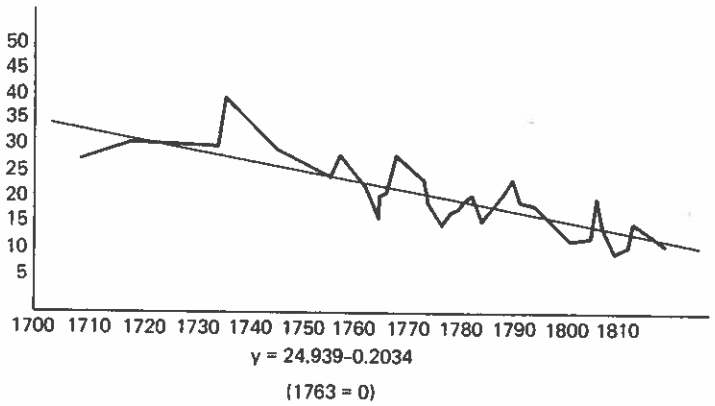

Fig. 16.1 Profit-rate trend – return on *muaccele* investments

series of proportions that would all fluctuate around the same mean. Hypothesizing that this proportion would change only as a function of time under the influence of certain factors, I made a study of 150–200 cases. From these, taken from the 120 year period between 1700 and 1820, a fairly clear trend emerged for the profit rate on the İstanbul market, where over 90 per cent of the *malikane*s were concentrated. This trend (shown in Figure 16.1) reveals the rate of return to investments in the İstanbul *malikane* market during the eighteenth century.[3]

The importance of this profit-rate trend, valid for all *malikane*s sold on the İstanbul market, is that, if we know the sale price of a particular *mukataa*, it allows us to determine the approximate amount of annual profit that the *mukataa* would bring to the purchaser at the year of purchase.

There are regular records in the Ottoman archives of the *muaccele* amounts paid at various times for *mukataa*s sold as *malikane*s. Therefore, using the current profit rate trend as a key, and applying it to a time series of the *muaccele*s of each *mukataa*, one can easily obtain a series revealing the annual profit accruing to the owners of each *mukataa*. If we take the owner's net profit and add to it the amount of tax that had to be delivered to the Treasury annually, which amount was also uniformly recorded in the Ottoman documents, we then obtain the gross annual income accruing to the *malikane* owner from his *mukataa*. This gross income and the figures used to obtain it are shown in detail in the Appendix (pp. 360–73) in tables relating to twenty-one *malikane*s I have chosen as typical. (The unit of account in these is an Ottoman *kuruş*, equal to 120 *akçe*s.) We shall discuss below how and to what extent this gross income reflects, taking the tax rates into consideration, the volume of relevant real economic activity.

In these tables, column (a) shows the *muaccele* amount, column (b) shows the profit rate from Figure 16.1 corresponding to the year of this *muaccele*, and

column (c) shows the product of (a) and (b), which is the probable profit of the *malikane* owner. Column (d) shows the amount owed annually to the Treasury. Column (e) shows the sum of (c) and (d), which corresponds to the gross income of the *malikane* owner. The last column is an index of the figures in column (e).

If we assume that the tax rates do not change or if, determining the degree of change, we can make adjustments accordingly, then we can be more or less certain that the figures in column (e) will reflect the changes in the volume of real economic activity related to the *mukataa*. I should add immediately that I do not mean that there will be an exact equivalence but rather that there will be a correlation or parallelism. Let me clarify this with an example.

Consider Table 16.1 containing data on the revenues on the export tax levied on cotton and cotton thread exported from the Empire. Between the years 1734 and 1791 this tax was levied at a constant rate of 1 *akçe* per *okka* of raw cotton and 2 *akçe* per *okka* of cotton thread. We have no way of knowing what the relative proportions of cotton and cotton thread exported were. If we assume that cotton and cotton thread were exported in equal proportions, then, for example, the 22,951 *kuruş*, gross revenue in 1750 from column (e) corresponds to an export volume of 2,008,590 *okka*s, and the 67,488 *kuruş*, gross revenue from 1787 corresponds to a volume of 6,073,920 *okka*s. Was this in fact the amount exported? The answer is, of course, no. I can say with a fair degree of confidence, however, that although I do not know the exact amounts exported, whatever the amount was in 1750, in 1787 it had increased by 200 per cent.[4] This is the first important result that can be obtained from knowledge of the gross tax revenues of the *malikane* owner. We cannot use these figures to determine the absolute volume of economic activity. In order to do that, we would need several other pieces of information that we do not have. It is appropriate to discuss these here because they affect not only our ability to determine the absolute level of activity but also the reliability of our estimations of the above-mentioned fluctuations.

The figures in the (e) columns of the appended tables are approximate estimations of what the *malikane* owners received, or rather what, according to my assumptions and calculations, they should have received. In order to calculate the *potential total gross* tax revenues, from which one could ideally derive the real volume of activity, the most important addition one would have to make to these figures is that of the cost of taxation.

Taxation costs undoubtedly varied according to the type of tax levied. Therefore, to find a figure which one could use in deriving the real volume of economic activity, one would have to make separate calculations for every *mukataa*. This would have been a difficult and risky operation, so I have not attempted it in my analysis. However, in the course of my research I derived the following impression: in the eighteenth century, taxation costs for most of the indirect taxes which might be used in attempts to estimate the volume of economic activity, such as customs duties, transit and market duties (*bac*), stamp duties (*damga*) and *ihtisab* (commercial transactions) duties, were confined to

within 5 to 15 per cent of the total revenues. Of course one must assume that if the tax rates remained constant, when the general price-level rose, as it did in the second half of the eighteenth century, then the relative importance of the taxation costs within the tax yield would also have tended to increase.

The second factor to be considered is smuggling, the effects of which, by definition, cannot be empirically measured. The rate of smuggling changes as a function of the subjective weight of the tax burden, of the actual efficiency of the fiscal organization and of the nature of the deterrents applied. This is a complex and fluid phenomenon which can only be quantified through indirect and aggregate calculations that are simply not possible at this point in the study of Ottoman economic history. For the moment all we can say is that Ottoman tax rates, especially those in consideration here and those like them, were in general very low; moreover, some of them remained constant *de jure*, while a good many others remained so *de facto*. Therefore, as the price-level rose, the relative weight of the taxes declined. In the period from 1734 to 1792, for example, the customs rate on cotton exports remained 1 *akçe* per *okka*. In 1734 when the price of cotton was 22 *akçe* per *okka*[5] the tax rate amounted to close to 5 per cent. In the 1780s, when the price of cotton had risen to 122–140 *akçes* per *okka*, the tax rate amounted to only 0.7–0.8 per cent. This situation, common to most of the taxes shown in the appended tables, should have reduced the tendency towards smuggling during the course of the eighteenth century by making it less profitable. It is worth noting that this downward trend would have the effect of compensating for probable increases in the cost of taxation.

Finally, a third and equally important factor is that *malikane* owners usually did not administer their *mukataas* themselves; they farmed them out instead. Therefore some portion of the tax revenue must have been reserved as the income of the tax-farmer (*mültezim*). Hence, to arrive at the real value of the tax revenue we must add an amount corresponding to the *mültezim*'s income to the gross revenues of the *malikane* owner as shown in column (e). It is difficult to estimate what proportion of the revenue might have been set aside as income for the *mültezim*, but we can assume that the proportion remained relatively stable and did not fluctuate widely. If this proportion exceeded reasonable limits, then the *malikane* owner, rather than farming out the *mukataa*, was likely to collect the taxes himself or to appoint someone close to him for this purpose. Having invested a sizeable sum (perhaps borrowed) under competitive conditions, the *malikane* owner probably showed a limited tolerance to a decline in returns on his investment.

We can consider this general rule of thumb as valid also in the cases of taxation costs and smuggling; the *malikane* owner, seeking to maximize his revenues or at least to prevent any major decline in them, would try to minimize wide fluctuations in his share (column e) of the potential total tax revenues. It was in his power to do so to the extent that, as owner, he had been granted complete authority over the financial and economic management of the *malikane*.

What proportion of the potential total tax revenues would these three factors together comprise? An exact answer is out of the question. A very rough estimate might place 30 per cent as a low limit and 50 per cent as an upper limit. To use such doubtful and widely separated proportions in trying to arrive at the potential total tax revenues would leave us with such large margins of error as to render the whole operation meaningless. By studying the internal conditions of each *mukataa* one could perhaps minimize the margins of error. I must add, however, that the Ottoman sources do not seem to offer much promise in this respect.

V

Even if we do not know exactly the potential total tax revenues or the absolute level of the volume of economic activity, so long as the percentage of the potential revenues that the *malikane* owner received remained constant, then, I repeat, we can estimate with some certainty the changes over time in the volume of real economic activity. The accuracy of our approximations depends on the degree to which this percentage indeed remains constant, and, of course, on the validity of our other assumptions.

But how realistic is this theoretic scheme? For example, did the approximately 200 per cent increase in the export of cotton and cotton thread between 1750 and 1787 – which I estimated – actually take place? Unless the correlations I have proposed can be empirically verified, no matter how rational and consistent they may seem, they obviously will be of no operational value. It is clear that data suited for such verification are so limited as to be non-existent. Indeed, had such data been readily available, all these calculations and assumptions would have been redundant. Nevertheless, it is still possible to attempt a partial verification based on some existing fragmentary data. Robert Paris has provided us with data on exports of cotton and cotton thread to France, the biggest buyer from the Empire in the eighteenth century.[6] This data, given in Table 16.1a, at least makes possible a meaningful comparison. In order to facilitate the comparison of the figures in Tables 16.1 and 16.1a, these tables are followed by a graph of their indexes (Figure 16.2). The graph makes it clear that there was at least a partial parallelism between 1740 and 1760. In the period 1760–70 a widening gap appears between the two curves. If it were possible to show that the relative importance of France in Ottoman cotton and cotton-thread exports declined at a rate that corresponded to the growth of this gap, then our verification would be complete. Unfortunately we do not have the quantitative data that would allow us to demonstrate this.

We do, however, have some information, partly quantitative partly qualitative, that can be added. Ottoman cotton exports to England in 1750, valued at 598,605 pounds sterling, were 10 per cent of exports to France.[7] In 1775 this figure had risen by more than 250 per cent to 2,175,132 pounds sterling. It now

was equivalent to approximately 20 per cent of the exports to France. Furthermore, although we do not have any reliable figures, there are numerous indications that there was a significant increase in the export of cotton and cotton thread overland to Central Europe in the second half of the eighteenth century. Another piece of information serves to corroborate the increase shown by these mainly qualitative sources. Until 1770 the export tax on cotton and cotton thread was taken only on goods shipped by sea. After this period, tax was also levied on shipments made overland. As a result, as can be seen in column (d) of Table 16.1, the annual payment to the Treasury increased from 5,600 *kuruş* to 13,758 *kuruş*. The only way it seems possible to explain this increase in tax revenues – a phenomenon rarely encountered in the *malikane* system – is by a significant increase in the volume of activity being taxed. Were it possible to quantify this additional information and add it to that included in the graph, the two curves might have been brought closer together. Unfortunately we are not in a position to do this.

Another example offers a better possibility for comparison. This example, from the customs farm at Salonica, is not only more complete but it also reveals a more obvious correlation. Table 16.2 contains data on the customs *mukataa* at Salonica; in Table 16.2a are the values in *kuruş* given by Svoronos for the total imports and exports from that port.[8] Figure 16.3 includes the indexes of these two series of figures. Svornos' data are averages over very long periods and the exact degree of their correlation with the data in our tables has not been estimated; even so, a high degree of correlation is quite obvious.

These examples allow us to believe that our figures, although they may contain as much as a 40 per cent margin of error in relation to the absolute level of the volume of real activity, give us a much closer approximation of reality when used to indicate relative changes over time in the volume of any particular activity.

VI

I have described as small the probability of error involved in estimating changes over time in the volume of activity of various sectors of the economy. This probability cannot easily be described by an exact mathematical proportion. It is a function of changes in the *malikane* owners' relative share (e) of the potential total gross tax revenues (p). So long as this proportion (e/p) does not change, the probability of error will remain low. But if e/p changes over time, then the probability of error will change at the same rate and in the same direction. In other words, if e/p increases, then our estimations will tend to show the increase in the level of activity of expanding *mukataas* as greater than it really was and the decrease in contracting *mukataas* as less than it really was. On the other hand, if e/p decreases, then our estimations will tend to show as less than it really was the increase in the level of activity of *mukataas* that were expanding and as greater than it really was the level of decrease in *mukataas* that were contracting. In both

cases, the probability of error would be the same in absolute terms as the rate of change in e/p.

The nature of this probability of error is such that, in addition to allowing us to compare changes over time in the activity of any sector of the economy as reflected in the activity of a single *mukataa*, it also, more importantly, allows us to compare changes over time in the activities of any two separate *mukataas*. In the latter case our probable margin of error will be much less than it is in the former. If we look at the relative degree of change over time of two *mukataas*, one of which (a) represents expanding activity, and the other (b) represents contracting activity, whatever the degree of error may be in our original estimations, there will be virtually no error in our calculations of the degree of relative change between them. The following table, showing the hypothetical effects of an increase or a decrease in e/p, seeks to clarify these perhaps confusing statements.

I *Expanding* mukataa *(a)*

Year	e	Change in e (%)	p	Change in p (%)	e/p (%)	Change in e/p (%)
1 First case – increasing e/p						
1750	100		200		50	
1800	180	+80	300	+50	60	+20
2 Second case – decreasing e/p						
1750	100		200		50	
1800	120	+20	300	+50	40	−20
II *Contracting* mukataa *(b)*						
1 First case – increasing e/p						
1750	100		200		50	
1800	90	−10	150	−25	60	+20
2 Second case – decreasing e/p						
1750	100		200		50	
1800	60	−40	150	−25	40	−20

In *mukataa* (a) the actual increase in activity is 50 per cent. However, based on an increasing (e), our estimations would have shown a rise of 80 per cent. Similarly in (b), where the actual decrease was 25 per cent, our estimations would have shown it as 10 per cent. The degree of error in our estimations can obviously be linked to changes in the e/p ratio. On the other hand, when we take the relative degree of change over time between two different *mukataas*, then the change in this e/p ratio no longer has any effect.

In *mukataa* (a) the actual expansion, from 200 to 300, is 50 per cent; while in

(b) the actual decrease, from 200 to 150, is 25 per cent. Thus the change in the revenue of these two *mukataas*, both of which started out at the same level, is such that one now registers twice the activity of the other. Our estimates in column (e) reflect exactly this same proportion of change. *Mukataa* (a) has risen by 80 per cent from 100 to 180 and *mukataa* (b) has declined by 10 per cent from 100 to 90. Our estimations of the degree of change in each *mukataa* were not correct. But even so, using these unreliable estimates, the results we got for the degree of relative change between them, namely that (a) had grown to twice the size of (b), are the same that we would have acquired if we had been able to use the correct figures.

It should be clear that the above argument is based on an important assumption. This assumption is that e/p will change in the same direction and at the same rate for every two *mukataas* being compared..Within what limits is this assumption reasonable?

There are a number of factors influencing the share (e) that the *malikane* owner (or owners) will receive of the total tax revenue (p). As we stated previously, (p) contains a number of factors that we cannot hope to quantify. If we leave aside smuggling and taxation costs, the compensatory effects of which will cancel each other out, then the determining factor will be the income of the *mültezims*.

The *malikane* owners, the great majority of whom lived in İstanbul, numbered about a thousand, and, as bureaucrats, soldiers and *ulema*, were almost identical with the central authority. Living in general at a great distance from the actual location of the *mukataa*, they were in effect a *rentier* class that had little to do with the actual collection of taxes. The *mültezims*, on the other hand, lived mostly in the provinces where the *mukataa* was located or in some nearby provincial centre. They were what were called in Ottoman sources *ayan ve eşraf*.[9]

The way the total tax revenue was divided between the *mültezims* and the *malikane* owners was no doubt decided separately for each *mukataa* as a result of bargaining between individuals. In a collective sense, the outcome of this bargaining was determined by the relative bargaining strength of the two groups, both of which represented different interests and different kinds of solidarity. The *malikane* owners were almost a part of the central authority: they had similar interests, a high degree of solidarity and inter-communication. They were a highly integrated social group that could act in unison. The *mültezim ayans* were people with influence in local social relations who could use their knowledge of the region to advantage in matters connected with tax-collecting, for instance, in employing suitable and inexpensive personnel. It is unlikely that the struggle between these two groups to determine the way in which the tax revenues were divided had results which varied widely for each *mukataa*. It is more reasonable to assume that the revenues of all *mukataas* were divided between the two groups in the same proportions, which varied according to the balance of the bargaining powers of the two groups. I think we can assume, just

as we did for the profit rate, that, in the majority of cases, the proportion e/p tended to change in the same direction and at the same rate for all *mukataas*.

There is one more important point we should make here. In the hypothetical table on p. 355 above, I assigned, for purposes of clarity, unrealistically exaggerated values to the relative changes in e/p. The proportion of the total gross revenue of a *mukataa* accruing to a *malikane* owner might well have been, for example, 50 per cent. A change of 10 per cent in this proportion, that is a decrease to 40 per cent or a rise to 60 per cent, is more than could have been normal. The 20 per cent gap between these two extremes corresponds more or less to the amount of revenue obtained from *mukataas* included in the state budget in the second half of the eighteenth century. It is difficult to conceive that a sum of this magnitude, which was to be divided between a thousand *malikane* owners and an approximately even number of *mültezims*, could have been transferred collectively from one group to the other without causing serious social upheaval.[10] From this point of view we would be better off accepting that the change in e/p, to which for the sake of convenience we assigned a value of 10 per cent upwards or downwards in the hypothetical table, would be more likely to fluctuate around 5 per cent. This would mean a lower limit of 45 per cent and an upper limit of 55 per cent. In this case, our probable degree of error both in estimating the changes in a *mukataa* and in estimating the relative degree of change between two separate *mukataas* drops to 10–20 per cent.

Thus we can posit that the degree of change in e/p will not be extreme and that for the majority of *mukataas* this change will be in the same direction. Of course, any two individual *mukataas* may be exceptions to this general rule and to the extent that this probability exists individual comparisons may be erroneous.[11]

This leads us to the third stage at which the *malikane* data can be used. Rather than comparing individual *mukataas*, we can group *mukataas* according to the various sectors of the economy and then compare these groups. At this stage the probable errors that we are faced with in the case of individual comparisons will tend to cancel each other out, and the probability of error will approach zero. The more *mukataas* we include, the lower will be our potential for error. It was ultimately with this in mind that I set about analysing 200 *mukataas* from the major sectors of the Ottoman economy in the eighteenth century. Tables of the data appertaining to twenty-one *mukataas*, with accompanying graphs constructed from indexes of the figures in column (e) of the tables, are presented in the Appendix to this chapter (see pp. 350–3 above for an explanation of tables and graphs). The tables have been divided into two main groups. The nine *mukataas* represented in the first eleven tables (Tables 16.1 and 16.2 are the same as Tables 16.10 and 16.11) belong to the trade sector. A sub-group of this (Tables 16.3, 16.4 and 16.5) relates to the domestic-trade sector. It is comprised of the customs taxes of the cities of Trabzon, Tokat and Varna, cities which did not have important foreign-trade connections. A second sub-group comprises the customs taxes or similar taxes of six cities to which foreign trade was very

important. The twelve tables from Tables 16.12 to 16.23 relate to the stamp (*damga*) tax and other taxes belonging to the industrial sector. All but two of the twelve tables related to industry deal with various branches of the textile industry. The overwhelming importance of the textile industry in the eighteenth-century Ottoman economy should not be cause for great surprise given the textile industry's predominance in other pre-industrial societies.

Until my analysis of the 200 samples is completed, I will not attempt a comprehensive discussion of the appended tables and graphs. Rather than making generalizations about a century of an immense Empire's existence, a century which saw deep-rooted changes and a variety of convergent and divergent developments, I will confine myself here to a few short observations.

The first thing to emerge from a study of these tables and graphs is the following: in almost all the branches of the economy represented by these twenty-one *mukataas* (the exceptions being the Varna customs and the Adana iron mines), the trend is clearly toward increased activity. Until the 1760s we do not witness a significant differentiation with respect to sectors. Perhaps one can speak of a relatively faster rate of increase in the foreign trade sector, but some branches of the industrial sector were also developing rapidly. Among these were Trabzon linen production, Danubian wool and cotton textiles, and dyeing and printing in Serez (Tables 16.23, 16.16 and 16.20). One can speak of a 100 per cent increase in production in these industries between 1730–40 and 1760–70. In the same period, with the exception of the Varna and Tokat customs, all the *mukataas* in the trade sector show an increase of at least 100 per cent. After 1760–70, we see that, with the exception of the Serez dyeing and printing industry, which continued to grow at the same rate, the growth rate in the industrial sector began to decline. It is true that there was development in the cotton-textiles industry in Kastamonu, Ankara and Şumnu, but this was only the continuation of a process of slow development originating in the first half of the eighteenth century. In the same period there was total stagnation in the customs of Trabzon, Tokat and Varna, as well as those of Kavala, İstanbul and the Danube, which were partly dependent on domestic trade. By contrast the revenues from the cotton and cotton-thread export tax and from the customs of Salonica and İzmir, where foreign trade predominated, grew at an increasing rate. In the industrial sector a peak was reached in the 1780s and was succeeded by stagnation or decline. In none of the twelve graphs of the industrial sector was the pre-1780 peak ever reached again. The customs of the domestic trade centres of Tokat, Varna and Trabzon grew only at a low rate until the 1810–20s when, with the exception of Tokat, they were opened to international trade. By contrast the growth rate of the revenues of the *mukataas* in the foreign-trade sector, which had been steady in the first half of the eighteenth century, accelerated tremendously in the second half of the century.

A significant pattern emerges from a comparison of the graphs dealing with foreign trade and the graphs dealing with industry: all six of the foreign-trade

graphs show a continued increase after the 1790s, while all twelve of the industry graphs, with the exception of Table 16.4, data for which could not be traced after 1795, and Table 16.10, which begins to decline only after 1805, show either decline or stagnation. In sum, we can conclude that native industry in the Ottoman Empire followed a path roughly parallel to developments in foreign trade until the third quarter of the eighteenth century. After that, however, it began to move increasingly in the opposite direction. It is worthy of note that Ottoman industry started to decline, not only with respect to foreign trade but also with respect to its own past levels of production, in just those years that are generally accepted as the beginning of the Industrial Revolution in Western Europe. It would seem, then, that there is need for a revision of the generally accepted notion that it was only towards the middle of the nineteenth century that the negative impacts of the Industrial Revolution were felt on Ottoman industry.

(translated by Anthony Greenwood)

Appendix

The following tables were constructed from information found in unpublished documents in the Prime Ministerial Archives in İstanbul. These documents are listed below by name of collection and number:

I Maliyeden Müdevver:

1080	9506	9543	9923
1691	9511	9562	9957
1884	9512	9580	9976
2449	9513	9598	9983
3422	9517	9602	10009
5463	9521	9610	10066
7575	9536	9619	10238
9359	9540	9666	18577
			19201

II Kâmil Kepeci:

187	199	2380
190	200	2381
191	203	3201
192	204	5101

III Cevdet, İktisat: 1869
Cevdet, Maliye: 15397, 29227

Table 16.1 *Cotton and cotton-thread export tax (mukataa-ı resmi-i miri-i penbe ve riṣte-i penbe)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1734	3,000	30.9	927	5,500	6,427	28
1747	31,800	28.2	8,967	5,500	14,467	63
1750	63,000	27.7	17,451	5,500	22,951	100
1756	72,000	28.3	18,939	5,500	24,436	106.5
1763	96,000	24.8	23,808	5,600	29,408	128.1
1771	146,000	23.2	33,872	5,600	39,472	171.9
1775	253,000	22.3	56,419	13,758	70,177	305.8
1783	236,000	20.7	48,852	13,758	62,610	272.8
1787	270,000	19.9	53,730	13,758	67,488	294.1
1790	244,320	19.3	47,154	13,758	60,912	265.4
1791	280,500	19.1	53,575	14,358	67,933	295.9

Table 16.1a *Cotton and cotton thread exported to France*

Year	Average annual export (quintals)	Index
1700–2	21,262	32
1717–21	34,551	52
1736–40	45,672	68.8
1750–4	66,403	100
1786–9	106,784	160.8

Source: Paris, *L'histoire du commerce de Marseille*, p. 511.

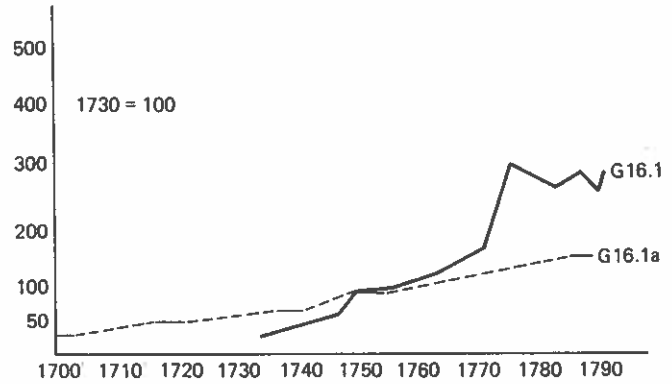

Fig. 16.2 Graphs of indexes of Tables 16.1 and 16.1a
Graph 16.1: Cotton and cotton-thread export tax
Graph 16.1a: Amount of cotton and cotton thread exported to France

Table 16.2 Mukataas *of the customs of Salonica (mukataa-ı gümrüğ-ü Selanik)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1707	3,500	36.1	1,260	16,500	17,760	71.5
1722	7,000	33.3	2,331	22,500	24,831	100
1739	66,000	29.8	19,668	22,600	42,268	170.2
1746	80,000	28.3	22,640	22,600	45,240	182.2
1774	300,000	22.7	68,100	49,000	117,100	471.6

Table 16.2a *Volume of trade at the port of Salonica*

Year	Total import and export (in *kuruş*)	Index
1700–18	900,000	81.8
1722–37	1,100,000	100
1738–43	1,600,000	145.5
1744–9	1,450,000	131.8
1750–70	3,500,000	318.2
1771–7	6,000,000	545.5
1778–87	7,500,000	681.8
1786–1800	9,500,000	863.6

Source: Svoronos, *Le commerce de Salonique*, p. 323.

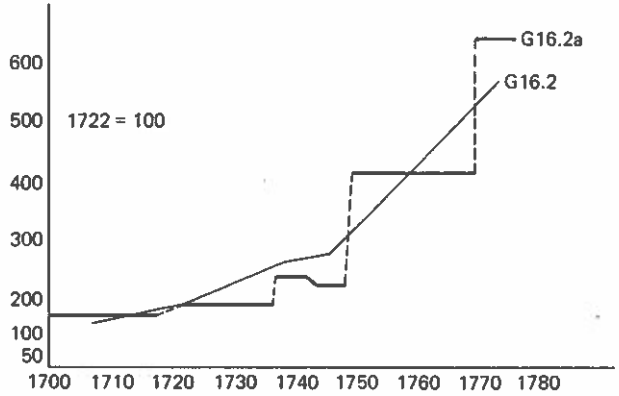

Fig. 16.3 Graphs of indexes of Tables 16.2 and 16.2a
Graph 16.2: Income of the *malikane* of the *mukataa* of the Salonica customs
Graph 16.2a: Volume of trade at the port of Salonica (in *kuruş*)
Source: Svoronos, *Le commerce de Salonique*, p. 323

Table 16.3 *Trabzon customs (mukataa-ı gümrüğ-ü iskele-i Trabzon ve tevabiha)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1722	15,500	33.3	4,995	7,775	12,770	85.2
1726	18,000	32.5	5,850	7,805	13,665	91.2
1732	22,500	31	6,975	8,000	14,975	100
1745	59,200	28.7	16,990	8,000	24,990	166.8
1766	64,000	24.3	15,552	8,000	23,552	157.3
1779					25,000	166.9
1790					30,000	200.3
1802					31,000	207
1807					17,500	116.8
1810					29,500	197

Table 16.4 *Entry customs at Tokat (mukataa-ı amediye-i Tokad)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1717	6,600	34.3	2,264	12,650	14,914	80.5
1722	8,000	33.3	2,664	12,861	15,525	83.7
1731	18,000	31.5	5,670	12,861	18,531	100
1788	60,000	19.7	11,820	12,851	24,681	133.2
1800					22,500	121.4
1813			5,318	13,420	18,738	101.1

Table 16.5 *Varna customs*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1730	12,000	31.7	3,804	6,674	10,478	100
1740	12,800	29.7	3,802	6,674	10,476	100
1778	14,400	21.7	3,125	6,674	9,799	93.5
1784	21,730	20.5	4,454	7,345	11,799	112.6
1792	32,000	18.8	6,016	7,345	13,361	127.5
1811	40,000	14.9	5,960	8,345	14,305	136.5
1823	148,000	13	18,980	8,873	27,853	265.8

Table 16.6 *İstanbul* kantar *tax (mukataa-ı resm-i kantar-ı İstanbul ve tevahiba)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1741	23,500	29.5	6,932	7,000	13,932	40.4
1765	80,250	24.6	19,741	10,500	30,241	87.6
1774	126,000	22.5	28,350	10,500	38,850	112.6
1779	137,600	21.5	29,584	10,500	40,084	116.2
1784	125,120	20.5	25,650	10,500	36,050	104.5
1787	120,000	20	24,000	10,500	34,500	100
1789	124,260	19.5	24,790	10,500	35,290	102.3
1795			25,000	10,500	35,500	103
1807				13,500	62,500	181.1

Table 16.7 *Niğbolu, Rahova and Zişţovi customs*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1736	3,050	30.5	930	7,462	8,392	58.1
1768	38,000	23.7	9,006	7,462	16,468	114.1
1774	28,000	22.5	6,300	7,462	13,762	95.3
1783	33,300	20.7	6,893	7,337	14,430	100
1791	34,100	18.9	6,445	7,537	13,982	96.9
1806	84,000	15.9	13,356	8,859	22,215	154

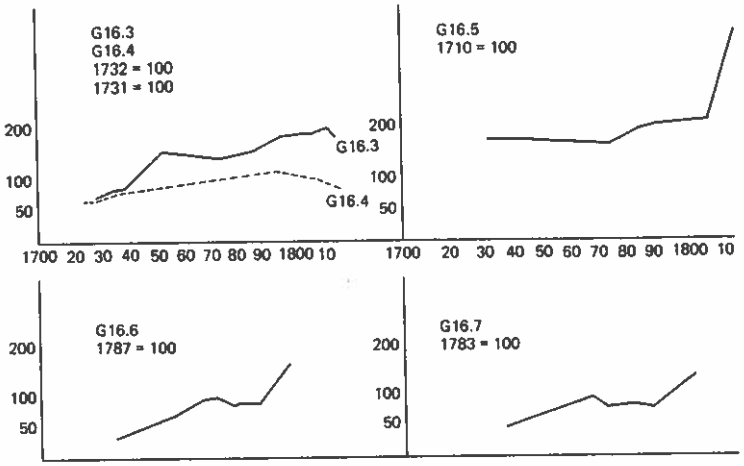

Fig. 16.4 Graphs of indexes of Tables 16.3 to 16.7
Graph 16.3: Trabzon customs
Graph 16.4: Entry customs at Tokat
Graph 16.5: Varna customs
Graph 16.6: İstanbul *kantar* tax
Graph 16.7: Niğbolu, Rahova and Zişţovi customs

Table 16.8 *Kavala customs*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1734	7,030	28	1,970	5,170	7,140	54.9
1759	28,000	25.8	7,224	5,170	12,394	95.3
1766	32,120	24.4	7,837	5,170	13,007	100
1769	32,800	23.5	7,708	5,170	12,878	99
1770	34,200	23.2	7,935	5,170	13,105	100.7
1785	33,600	20.2	6,787	5,170	11,957	91.9
1793			16,800	5,170	21,970	169
1800			19,000	7,086	26,086	206.6
1808	182,860	15.6	28,526	9,100	37,626	289.4

Table 16.9 *İzmir* kantar *tax*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1750	1,000	27.7	277	4,400	4,677	23.6
1768	16,100	23.7	3,815	4,400	8,215	41
1792	60,000	19	15,400	4,400	19,800	100
1799	144,000	17.3	24,912	4,400	29,312	148
1808	120,000	15.6	18,720	6,600	25,320	127.8
1812	143,000	15	21,450	6,600	28,050	141.4
1823	288,000	13	37,440	6,600	44,040	222.4

Table 16.10 *Salonica customs*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1707	3,500	36.1	1,260	16,500	17,760	71.5
1722	7,000	53.3	2,331	22,500	24,831	100
1739	66,000	29.8	19,668	22,600	42,268	170.2
1746	80,000	28.3	22,640	22,600	45,240	182.2
1774	300,000	22.7	68,100	49,000	117,100	471.6

Table 16.11 *Cotton and cotton-thread export tax (mukataa-ı resm-i miri-i penbe ve rişte-i penbe)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1734	3,000	30.9	927	5,500	6,427	28
1747	31,800	28.2	8,967	5,500	14,467	63
1750	63,000	27.7	17,451	5,500	22,951	100
1756	72,000	26.3	18,936	5,500	24,436	105.5
1763	96,000	24.8	23,808	5,600	29,408	128.1
1771	146,000	23.2	33,872	5,600	39,472	171.9
1775	253,000	22.3	56,419	13,758	70,177	305.8
1783	236,000	20.7	48,852	13,758	62,610	272.8
1787	270,000	19.9	53,730	13,758	67,488	294.1
1790	244,320	19.3	47,154	13,758	60,912	265.4
1791	280,500	19.1	53,575	14,358	67,933	295.9

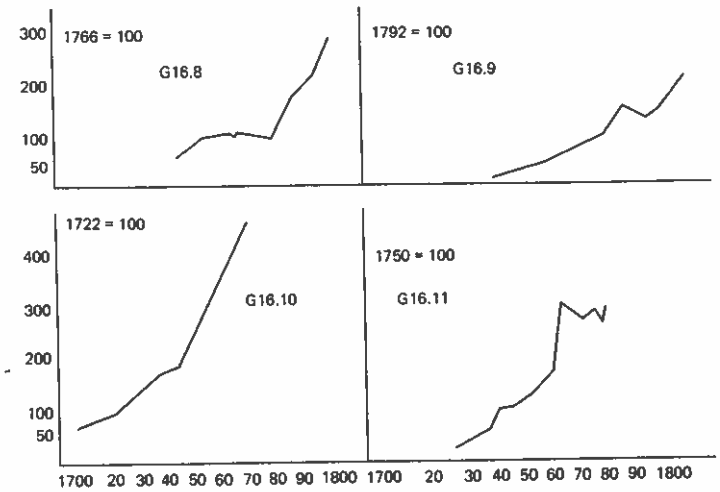

Fig. 16.5 Graphs of indexes of Tables 16.8 to 16.11
Graph 16.8: Kavala customs
Graph 16.9: İzmir *kantar* tax
Graph 16.10: Salonica customs
Graph 16.11: Cotton and cotton-thread export tax

Table 16.12 *Tax on Bursa silk-textiles press (mukataa-ı resm-i mengene-i kutni ve peşimi ve keremşud-i Bursa ve tevabiha)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a×b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1750	37,500	27.7	10,387.5	2,750	13,137.5	80.2
1757	57,750	26.2	15,130.5	2,750	17,880.5	109.2
1774	60,000	22.7	13,620	2,750	16,370	100
1776	60,000	22	13,200	2,750	15,950	94.7
1778	45,000	21.7	9,765	2,750	12,515	76.4
1782	58,000	20.8	12,064	2,750	14,814	90.5
1796				3,300	12,000	73.3
1807				4,740	10,338	63.1

Table 16.13 *Bursa silk-dyeing tax (mukataa-ı hassa-ı boyacı başılık-ı ipek-i elvan der Bursa)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1763	4,425	25	1,106	58	1,164	94.2
1766	4,300	24.4	1,049	85	1,134	91.4
1768	4,769	23.7	1,130	85	1,215	98
1769	4,908	23.5	1,153.5	85	1,238.5	100
1774	3,128	22.5	1,154	85	1,239	100
1788	4,125	19.7	812.5	85	897.5	72.3
1797	2,000	17.8	356	90	446	36
1807	2,970	14.8	441	138	579	46.7

Table 16.14 *Edirne* mengene *tax (mukataa-ı resm-i mengene-i Edirne)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1751	150	27.5	41	220	261	90.5
1793	250	18.6	46.5	242	288.5	100
1811	200	14.9	29.8	242	271.8	94.2

Table 16.15 *Edirne silk-textiles stamp tax (mukataa-ı resm-i damga-ı esnaf-ı sandalcı ve bürüncükcü der Edirne)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1774	9,500	22.3	2,138	224	2,362	184.2
1788	5,200	19.7	1,025	224	1,249	97.4
1793	5,200	18.8	978	224	1,282	100
1794	8,000	18.3	1,464	224	1,688	101.6
1800	8,000	17.1	1,368	224	1,592	124
1805	10,400	16.1	1,674	224	1,898	148
1836					64	5

Table 16.16 *Niğbolu, Ruscuk, Hezargrad, Tirnova, Yergöğü, Osman Pazarı and Şumnu woollen- and cotton-textiles stamp tax*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1736	1,500	30.5	457.5	385	842.3	42
1738	2,000	30	600	385	985	49.1
1745	2,000	26.7	574	385	959	47.8
1746	2,400	28.5	640	385	1,025	51.1
1752	6,000	27	1,620	385	2,005	100
1757	8,600	26.2	2,253	385	2,638	131.5
1774	11,000	22.4	2,465	385	2,850	142.1
1775	9,800	22.2	2,175.5	385	2,560.6	127.7
1780	13,400	21.2	2,840.8	440	3,280.8	163.6
1787	14,000	19.9	2,796	440	3,236	161.4
1806	12,200	15.9	1,939.8	440	2,600	129.6
1807					216.5	10.8
1808					180	9
1809					175	8.5

Table 16.17 *Şumnu cotton-textiles stamp tax (mukataa-ı resm-i damga-ı astar der Şumnu)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1752	100	27.2	37.2	110	137.2	100
1782	710	20.8	147.7	110	257.2	187.8
1787	130	19.9	29.8	110	137.8	101.9
1805	200	16.1	32.2	110	142.2	103.6

Table 16.18 *Ankara cotton-textiles stamp tax (mukataa-ı resm-i damga-ı kirpas-ı Ankara)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1723	500	33.1	165.5	275	440.5	54.9
1734	650	30.9	200.8	382	582.8	72.6
1755	1,200	26.6	319.2	382	701.2	87.4
1772	2,020	22.9	462.6	382	850.6	106
1777	2,600	21.9	569.4	382	951.4	117.3
1780	2,000	21	420	382	802	100
1810	1,500	15.1	226.5	515.5	742	92.5

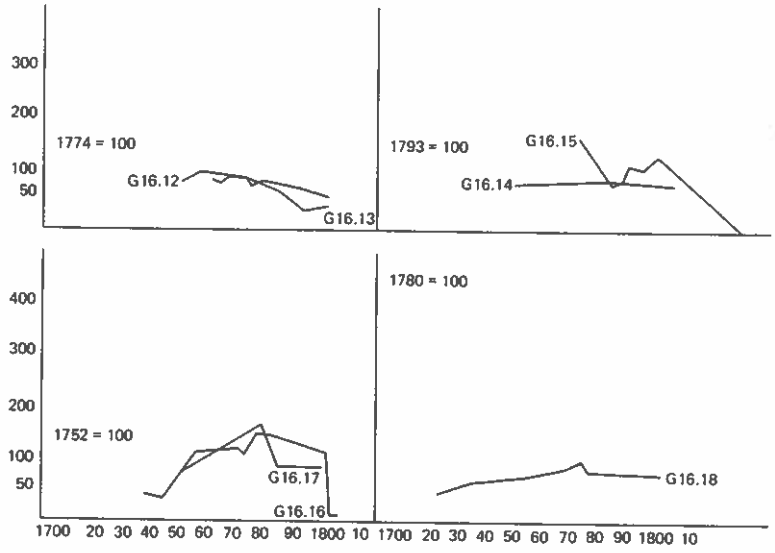

Fig. 16.6 Graphs of indexes of Tables 16.12 to 16.18
Graph 16.12: Tax on Bursa silk-textiles press
Graph 16.13: Bursa silk-dyeing tax
Graph 16.14: Edirne *mengene* tax
Graph 16.15: Edirne silk-textiles stamp tax
Graph 16.16: Niğbolu, Ruscuk, Hezargrad, Tırnova, Yergöğu, Osman Pazarı and Şumnu woollen- and cotton-textiles stamp tax
Graph 16.17: Şumnu cotton-textiles stamp tax
Graph 16.18: Ankara cotton-textiles stamp tax

Table 16.19 *Kastamonu cotton-textiles stamp tax (mukataa-ı resm-i damga-ı Kastamonu)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1740	10,200	29.7	3,030	1,050	4,080	75.3
1767	18,200	24	4,368	1,050	5,418	100
1787	30,000	19.9	5,970	1,050	7,020	129.5
1808	20,800	16.8	3,494	1,050	4,544	83.8
1816	33,000	13.9	4,587	1,050	5,637	104

Table 16.20 *Serez printing and dyeing tax (mukataa-ı damga-ı kârhane-i boyacı ve basmacı der nefs-i Siroz)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1741	600	29.5	177	68	245	14.5
1773	6,825	22.7	1,549	68	1,617	100
1776	11,400	22	2,508	68	2,576	159.3
1778	11,475	21.7	2,490	68	2,558	158.2
1760	11,475	21.2	2,427	68	2,495	154.3
1786	8,400	20	1,680	68	1,748	108.1
1795	12,400	18.1	2,244	68	2,312	143

Table 16.21 *Adana iron-mines tax (mahsul-u kürehan-ahen der cebel-i Gedin ma ahen-i Gedin)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1722	11,000	33.3	3,663	3,182	6,845	168.4
1766	3,600	24.5	882	3,182	4,064	100
1779	800	21.5	172	3,182	3,354	82.5
1791	850	19	161.5	3,182	3,343.5	82.2
1800	850	17.1	145	3,182	3,327	81.8

Table 16.22 *Niğbolu and Silistre leather-products stamp tax (mukataa-ı damga-ı sahtiyan ve meşin ve gön ve kavsele an taife-i debbağan der Niğbolu ve Silistre)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1779	1,100	21.5	236.5	550	766.5	100
1784	2,000	20.5	410	550	960	124.6
1788	4,250	19.7	837	550	1,337	184.3
1804	2,187.5	16.4	358.5	631.5	990	125.8

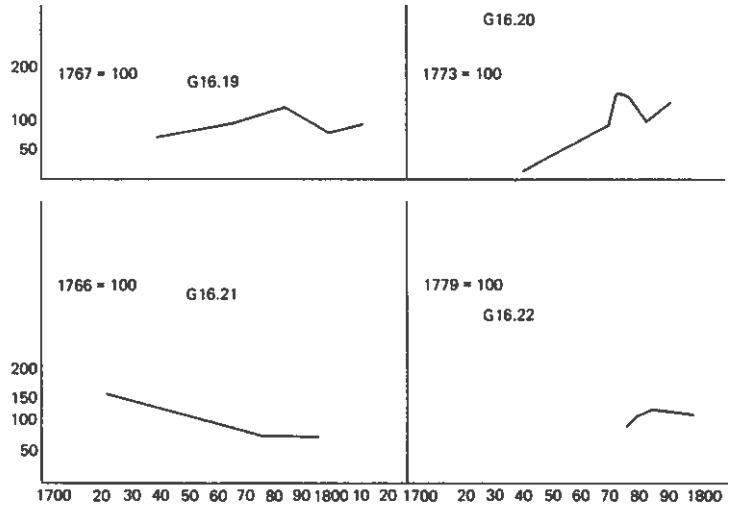

Fig. 16.7 Graphs of indexes of Tables 16.19 to 16.22
Graph 16.19: Kastamonu cotton-textiles stamp tax
Graph 16.20: Serez printing and dyeing tax
Graph 16.21: Adana iron-mines tax
Graph 16.22: Niğbolu and Silistre leather-products stamp tax

Table 16.23 *Trabzon linen stamp tax (mukataa-ı resm-i damga-ı bez-i keten-i Trabzon)*

Year	*Muaccele* (*kuruş*) a	Profit rate b	Annual profit to owner c (=a × b)	Annual payment to Treasury d	Gross yearly revenue e (=c+d)	Index
1734	3,000	30.5	915	1,833	2,748	37.9
1754	7,000	26.8	1,876	5,655	7,531	104
1780	7,300	21.2	1,590	5,655	7,245	100
1785	6,000	20.2	1,212	5,655	6,867	94.5
1810	15,750	15.1	2,378	4,763	7,141	98.5
1812	16,000	14.7	2,358	4,763	7,115	98.2

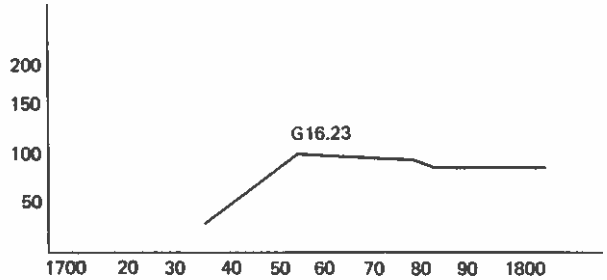

Fig. 16.8 Graph of index of Table 16.23: Trabzon linen stamp tax