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**A STUDY OF FLORIDA DEFENSE COSTS,
1565-1585:
A QUANTIFICATION OF FLORIDA HISTORY**

by PAUL E. HOFFMAN*

SUPERFICIALLY quantitative history, like happiness, is different things to different people. Basically, however, it seeks to verify in more explicit ways generalizations such as "X was more important than Y," and "slavery was (or was not) profitable." To that end, numbers and statistical tests are developed to describe the same reality as that dealt with by "traditional" history. For most practitioners of the methodology this numerical description is a second, verifying description having as much validity, but no more than a narrative about the same historical events.¹ Occasionally, as with the fiscal history of Florida from 1565 to 1585, the quantitative approach, besides confirming generalizations developed from literary sources, suggests misleading insights which must be corrected by reference to the literary record. A quantification of Florida's history based on the royal treasury accounts is thus useful not only for the historical data it can yield, but also as an example of the limitations of the technique.

Like any historian, a quantifier must ask: "What kind and quality of sources do I have?" This study is based on the royal treasury accounts. There are other sources of quantifiable data for the history of Florida such as the *libros de registros* utilized by the Chaunu in their monumental study of *Seville et l'Atlantique*,² or the *registros de pasajeros*, listing immigrants.

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1. Robert William Fogel, "Historiography and Retrospective Econometrics," *History and Theory*, IX (1970), 245-64.
2. Huguette and Pierre Chaunu, *Seville et l'Atlantique, 1504-1650*, 10 vols. (Paris, 1955-1959).

These are useful in certain contexts, but not so valuable for general history as the treasury accounts.³

All colonial treasury accounts before the eighteenth century were of the "charge-discharge" type. An agent was "charged" with the responsibility for a given item of revenue or stores; he was "discharged" when it was found in his possession at the end of the accounting period or when he could show valid orders for its disposal. Such accounts may be only one long cash ledger, divided into the two sections, or they may be a series of inter-related accounts in the same or separate books. The Florida treasury of 1578, for example, used eleven books, beginning with the treasurer's cash book and the Tenedor de Bastimentos' basic account, and ending with individual accounts for each soldier, in turn broken down into cash and kind payments.⁴

Under normal circumstances elaborate procedures were followed to prevent fraud, particularly in the use of royal property and funds. These were reinforced by an audit at the local level and a review audit by the accountants (*Contadores*) of the council of the Indies. Any expenditure validated by this process can normally be assumed to have been a cost of government, and the quantifier may place considerable faith in it as a piece of data.⁵ Spanish Florida between 1565 and 1585 was not a place where normal circumstances prevailed. Consequently, the validity of the treasury data is open to serious question and must be examined for each of the four periods into which the sources may be divided.

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3. María Encarnación Rodríguez Vicente, "La contabilidad virreinal como fuente histórica," *Anuario de Estudios Americanos*, XXIV (1967), 1523-1542.
 4. Dorothea Oschinsky, "Notes on the Editing and Interpretation of Estate Accounts," *Archives, The Journal of the British Records Association*, IX (1969), 84-89, 142-52, has a description of English accounts of this type. See especially pp. 148-49. Sybill M. Jack, "An Historical Defense of Single Entry Bookkeeping," *Abacus*, II (December 1966), 137-58, provides the general historical context. For documentation of the procedures see Diego de Encinas, *Cedulario Indiano*, 4 vols. (Madrid, 15-96; facsimile edition, Madrid, 1945-1946), III, 243-81. Paul E. Hoffman and Eugene Lyon, "Accounts of the *Real Hacienda*, Florida, 1565 to 1662," *Florida Historical Quarterly*, XLVIII (July 1969), 61-62, provides the list of eleven books kept in Florida in 1578.
 5. Hoffman and Lyon, "Accounts," 60-65. Paul E. Hoffman, "The Computer and the Colonial Treasury Accounts: A Proposal for a Methodology," *Hispanic American Historical Review*, L (November 1970), 732-34.

The first period is 1565-1570. During these years Florida had no treasury and no regular support from the Crown. Adelantado Pedro Menéndez de Avilés had various numbers of soldiers and colonists in the province, and he seems to have deliberately mingled his support of them with the Crown's support of its troops. This lack of rigor in accounting for the royal property was first reported in November 1567 by Hernán Pérez, an officer from Florida. He informed the Crown that the supplies it sent out were being sold in the Antilles and other parts of the Caribbean. He cited as an example the sale of 100 barrels of flour in Santo Domingo; it was public knowledge, he claimed, that a store in Havana sold clothing destined for Florida.⁶ No notice was taken of his allegations. The result was a tangle which the Crown eventually solved by simply giving up any attempt to call to account those who had used its supplies.⁷ Superficially it would appear that no reliable data could be obtained for these years.

By excluding the affairs of the Adelantado, the superficial picture proves incorrect.⁸ The Crown supplied its soldiers through purchases made by the Casa de Contratación and forwarded to Florida for distribution by the Tenedor de Bastimentos, Juan de Junco.⁹ The Casa's records of these purchases are complete and reliable.¹⁰ One can also determine payments for salaries, since these were also made by the Casa be-

6. Hernán Pérez to Crown, November 28, 1567, Archivo General de Indias: Santo Domingo 71, libro 1, fols. 367-367vto. Hereinafter cited as AGI:SD.

7. See comments quoted in Hoffman and Lyon, "Accounts," 63. See also a note probably written by Baltasar del Castillo on the account of Bartolomé Martínez, Tenedor de Bastimentos at Santa Elena, 1572-1576, to the effect that the food accounts were taken only to ensure that each soldier received his proper ration. It was also hoped that the accounting would note expenditures for foods which were not given to the men, but that was clearly a secondary motive. AGI:Contaduría 944; microfilm copy as Reel 25 E, P. K. Yonge Library of Florida History, University of Florida, Gainesville. Hereinafter cited as AGI:CD. For a listing of the contents of the microfilms of these accounts held by the Yonge library see Hoffman and Lyons, "Accounts," Table I, 58-59, and Eugene Lyon, "A Tentative List of Contents of Contaduría 941-949, Microfilms 25C-J, P. K. Yonge Library of Florida History," Typescript (Gainesville, 1969).

8. Even Menéndez de Avilés's tangled accounts may yield to the probings of law and notarial records. Eugene Lyon is attempting to do this untangling with his current study of Menéndez de Avilés.

9. The operation of this system awaits full description. Its general outlines are apparent from documents in AGI:Contratación 5012, AGI:CD 941, AGI:Indiferente General 738, 1093, and AGI:SD 115, 118.

10. The Casa's accounts are AGI:CD 294, 299, 304, 310B, 316, 319, 321B.

tween 1568 and 1582. Additional expenditures made from treasuries in the Caribbean were also reliably reported in the appropriate treasury accounts.¹¹

Of the treasuries which might have contributed to the upkeep of the Crown's troops during these years, only Cuba lacks preserved accounts. That loss is not serious, since Cuba spent most of its money on the fort at Havana and little, if any, on Florida.¹² Thus there are extant records of all basic expenditures.

Fraud was clearly involved in the disbursement of supplies. Junco's accounts, as well as the testimony of Hernán Pérez, show evidence of misappropriation. The auditors accordingly challenged a number of entries.¹³ If an absolutely accurate accounting of the costs were desired this fraud would have to be considered, but since the Crown wrote it off as impossible either to detect or to collect, the historian may assume the recorded costs were all for valid uses, even though they were not. So far as the treasury was concerned all the goods purchased and the wages paid with the money were "made good." They were government costs not unlike "overruns" in the procurement of modern military hardware.

The second period is 1570-1574. During these years Menéndez de Avilés handled the subsidy of 8,788,725 *maravedí* a year as part of his personal revenues. As Governor Carreño of Cuba put it: "the Adelantado was a friend of some of the residents here [in Havana]. They collected monies for him and sent foods to Florida according to his orders and then rendered account to him and received his quittance."¹⁴ Baltasar del Castillo, sent to investigate the Adelantado's stewardship after his death, found that many of these agents had died or were "so poor" as to be unable to repay any misappropriated sums.¹⁵ He was able to

11. For Puerto Rico see AGI:CD 1074, No. 3. For Santo Domingo see AGI:CD 1052, No. 1, item 1. The Cuban accounts are missing except for a *revista de cuentas* (review of the accounts) for the years 1559-1572 in AGI:CD 1174, No. 5, a.

12. Irene A. Wright, *The Early History of Cuba, 1492-1586* (New York, 1916), 215-28, 270-54, *passim*; Irene A. Wright, *História documentada de San Cristóbal de la Habana en el siglo XVI*, 2 vols. (Havana, 1927-1930), I, 40-45.

13. AGI:CD 941; Reel 25 C in P. K. Yonge Library of Florida History; Hoffman and Lyon, "Accounts," 63.

14. Governor Carreño to Crown, August 20, 1577, AGI:SD 99, Ramo 3, No. 80, paragraph 14.

15. Baltasar del Castillo to Crown, July 8, 1578, AGI:SD 118, Ramo 2, No. 131.

work up not only Menéndez's account but also those for most of those who had handled money for him. Only a portion of these accounts have survived in the Contaduría papers of the Archivo General de Indias.

From surviving accounts it is possible to construct a flow chart, which indicates amounts, agents, and surviving accounts (Figures 1 and 2).¹⁶ This tracing of the spending of the subsidy permits estimation of basic expenditures, although with less certainty than for the preceeding period. A further difficulty is the absence of many of the detailed accounts without which the colony's costs cannot be particularized.

The third period is the government of Hernando de Miranda, Menéndez's son-in-law and his successor as Adelantado of Florida, 1574-1576. The royal treasury accounts begin in 1574 when Pedro Menéndez de Avilés, the first Adelantado's nephew, took office as treasurer. These accounts were rendered after his death in 1576 and betray sloppy bookkeeping, improper receipts, and a continuation of the same sort of patrimonial, promiscuous mixing of the King's and the Adelantado's funds and supplies.¹⁷ There are two copies in the Archivo General de Indias. Working with both it is possible to reconstruct the probable pattern of expenditure. Again, however, the data do not inspire as much confidence as is desirable, but they can be used to suggest a minimum picture.

The fourth period began in 1577 when Martín de Quiros became treasurer. With him came more or less impartial although still familial government. From that date the accounts show the effect of a "regular" royal administration and the reorganization of 1577-1578 carried out by Baltasar del Castillo and Governor Pedro Menéndez Marqués.¹⁸ Accounts from this period are as reliable as any other royal treasury accounts, although they stop in 1581. Drake destroyed the documentation on which the

16. See Table III for a list of subsidy payments which have been traced.

17. AGI:CD 944; Reels 25 D and 25 E in P. K. Yonge Library of Florida History.

18. The documentation of the Castillo *visita* consists of the following letters: January 18, 1577, February 12, 1577, June 22, 1577, December 10, 1577, AGI:SD 125; letters of April 11, 1578, July 8, 1578, AGI:SD 118; and a document of May 15-16, 1578, in AGI:SD 231. Menéndez Marqués's order incorporating the reforms is "*Relación de la orden . . .*," November 30, 1578, AGI:Patronato 255. Most of these documents are printed in Jeannette T. Connor (ed. and trans.), *Colonial Records of Spanish Florida*, 2 vols. (DeLand, 1925-1930), II.

FIGURE 1
FUNDING AND DISBURSEMENT OF FLORIDA SUBSIDY MONIES, 1570-1574

Funds In	Spending	
June 17, 1570.		
1. Officers of the Armada Real pay Pedro Menéndez Marqués on orders of the Adelantado	743,204 mrs.	Diego de la Rivera; Spent for foods (No Account)
3,749,886 mrs. (CD 944)	75,000 mrs.	Hernando de Baeza, Proveedor of Havana Garrison for expenses. (No Account)
(Treasurer Esquivel's account not at AGI)	2,931,682 mrs.	Florida Garrison, paid by Pedro Menéndez Marqués
2. Pedro Menéndez Marqués supplies	94,078 mrs.	Florida Garrison, paid by Pedro Menéndez Marqués (No Account) (Private accounting with Adelantado)
94,078 mrs. to complete payment of the Florida Garrison		
March 1571		
3. Casa given 4,000 ducats to spend on supplies and aid to new soldiers going to Fla.	1,117,430 mrs.	Spent by Factor Duarte on supplies (CD 310B, No. 2, No. 12, 388:4-394:3)
1,500,000 mrs.	140,772 mrs.	Troops to Florida. Paid by Treasurer Juan Gutierrez Tello (<i>ibid.</i>)
	2,856 mrs.	Costs of transport of excess money to San Lucar for transfer to Tres. Esquivel (<i>ibid.</i>)
3a. 166,872 mrs. paid to Treasurer Esquivel of the Armada Real as surplus. (Account lost)	166,872 mrs.	Pedro de Guricio, purpose unknown. Adelantado's order.
November 5, 1571. First Subsidy Payment		
4. Alvaro de Valdés collects 10,000 pesos Plata Ensayada at Tierra Firme. 4,500,000 mrs. (CD 1454, fols. 1117vto-1119) (CD 944)	338,162 mrs.	Alvaro de Valdés, expenses in collecting. (No Account)
4a. 4,161,838 mrs. paid to Francisco de Ávalos, at Havana, April 15, 1572. Adelantado's agent.	6,693,586 mrs.	Total spending by Ávalos 1571-1572 to support Florida garrison. (CD 454, No. 1, item 4) (Funds from 4a, 5)

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FIGURE 2

Funds In	Spending	
5. 2,531,748 mrs. supplied by Francisco de Ávalos or another agent(s) of the Adelantado		
May 7, 1573. Second Subsidy Payment		
6. Pedro Menéndez Avilés, Adelantado of Florida collects 3,105,000 mrs. (CD 1455, No. 2, 1573, fol. 29vto.) (CD 944)	2,331,791 mrs.	Paid to soldiers as wages and bonuses and rations, July-August, 1572
	773,209 mrs.	Cost of supplies sent to Florida July 25-December 31, 1572
Probably:	1,265,193 mrs.	Supplies for 1573, 1574
1574 Third Subsidy Payment		
7. Gerónimo Gutierrez de la Sal collects 18,111,020 mrs. from Tierra Firme. (CD 1455, No. 1, 1574, fol. 30vto-32, 62 vto) (CD 944)	1,349,974 mrs.	Gutierrez de la Sal, expenses of collection. (No Account)
7a. 16,761,046 mrs. to Pedro Menéndez Marqués (No Account)	4,125,000 mrs.	Juan de Soto, Havana. (CD 454, No. 1, item 4, Cargo)
	1,700,000 mrs.	Pedro Vásquez, for Frigate construction, Cuba. (CD 454, No. 1, item 4, Cargo)
7b. 8,494,344 mrs. Cargo to Account of Treasurer of Florida Pedro Menéndez de Avilés. (CD 454, No. 1, item 4, data) (CD 944)	550,000 mrs.	Expenses of Luis de Avilés's cruise seeking corsairs. (No Account)
	1,891,702 mrs.	Spent by Pedro Menéndez Marqués. (No Account)
November 26, 1574		
Begin the accounts of treasurer of Florida, Pedro Menéndez de Avilés. All accounts from this date to December 31, 1580 are in AGI:CD 944. After January 1, 1581 there are no accounts.		

missing accounts would have been based and the Crown was again forced to write off any frauds for want of evidence.¹⁹ In all probability, however, the administration was regular and hence almost free from fraud.

This review of the sources and their validity suggests that the quality of treasury data for Florida, 1565-1585, will be poor, the figures will not be fully susceptible to detailed breakdowns by types of cost, and the series will be discontinuous. The resulting data have limited utility.

This study is concerned only with the costs of the military goods and services used in Florida; expenditures for royal officials' salaries, other administrative costs, and church-related expenses are excluded. The analytical technique used is the PPAGHR, "pagar," a program budget modeled on the famous "McNamara" budgets of the United States Department of Defense.²⁰ It differs from the original McNamara budgets in that the program concept of groupings of men and materials is not rigorously applied. According to the theory of program budgeting, each category in a budget's hierarchies should consist of those men and materials needed to carry out the function indicated by the category name. Thus a category like "fortifications" would include not only the cost of constructing and maintaining buildings, but also the costs of their garrison's foods, supplies, and salaries, the cost of artillery, small arms, and munitions, and the cost of miscellaneous things like flags and fireworks used to celebrate important events such as the birth of a royal heir. Application of that concept of "fortifications" to the data in question would result in the loss of any meaningful breakdown of the costs since all the expenses for Florida supported its forts.

In light of these considerations, the PPAGHR categories used here are more descriptive than analytical. "Combat forces" covers the costs of salaries, rations, recruitment, and support activities such as supply ships and weapons (for foot soldiers only) for soldiers, artillerymen, wardens for forts (*alcaldes*), and auxiliary personnel such as chaplains. The category is thus equivalent to "manpower." "Fortifications" is limited to the cost

19. Pedro de Redondo Villegas to Crown, June 30, 1600, AGISD 231.

20. Hoffman, "The Computer." Paul E. Hoffman, "The Program Budget as a Tool of Historical Analysis," *Historical Methods Newsletter*, III (September 1970), 14-18. Paul E. Hoffman, "The Computer, Archival Data, and Statistics for the Colonial Period," *Cuadernos de Historia Económica de Cataluña*, VII (1972), 335-48.

of their construction and maintenance. "Artillery" lists the costs of acquiring, maintaining, and providing munitions for artillery, wherever located and however used. Only the category "land defense" retains the program concept of a grouping of all the men and materials required for the function indicated.

Given the analytical scheme, the data were extracted from the treasury accounts and numerically coded from the most general category to the most specific, using a six-figure code running from left to right. Thus an expenditure for salaries for soldiers armed with arcabuzes will have the number 3 for defense, 1 for land defense, 1 for combat forces, 1 for types, and 03 for arcabuzero. But a payment for foods for a garrison would only be classified as 311,000, since the foods were used to feed arcabuzeros, artillerymen, chaplains, and others. Without detailed investigations of the disbursement of inventories it would be impossible to further classify the cost of those foods. Neither the data nor the purposes of this study merit such detailed work, although it would be possible for several of the years covered and for many years in the late 1580s and the 1590s.

It follows from these coding conventions that the more general a category, the more accurate the figures for expenditure are. Table I shows this breakdown for Florida's costs. Consequently, when looking at the costs of fortifications, for example, it must be kept in mind that much of the cost of construction is under the cost of "combat forces" since the soldiers did the work. Indeed, the few costs listed are primarily for materials and tools, not for labor.

A further qualification is in order. The tables list data by year of payment, which is not necessarily the year in which payment *should* have been made. Typically, bills (libranzas) against the treasuries were held for short periods, sometimes into the next year; at other times the treasuries could not pay current obligations, and hence payment was deferred for a year or more. In rare cases payment for goods and services was not authorized until some years after they were tendered. The result of these delays is that the tables do not show the actual costs per category per year, but only the cash outflow for each year in terms of categories. This was the way that contemporaries were apt to view royal spending for defense and as such is useful in understanding how defense costs appeared to them.

TABLE I
FLORIDA DEFENSE COSTS BY CATEGORY
(IN DUCATS)

Year	Total	Per cent	Combat Forces	Per cent	Artillery	Per cent	Forts	Per cent	Support Misc.	Per cent	Not Itemized
1565	84,411	0	64,493	0			*		4,918	0	15,000
1566	93,687	21	92,786	21			*		901	0	
1567	26,875	3	26,875	3							
1568	3,428	16	1,428	39							2,000
1569	2,839	41	2,839	41							
1570	16,940	19	16,940	19							
1571	58,128	64	48,177	78			8,142	0			1,809
1572	11,854	0	10,689	0			263	0			902
1573	3,548	12	3,548	12							
1574	16,467	10	5,268	32							9,199
1575	52,245	9	50,199	6							2,046
1576	14,040	25	9,563	23	230	0	197	0			4,050
1577	10,911	52	9,206	61	3	0	311	0			1,391
1578	14,276	0	13,751	0	7	0	289	0			229
1579	20,299	56	10,118	16			280	0			9,901
1580	37,179	28	34,034	31			1,378	0			1,767
1581	77,587	85	13,719	31			121	0			63,747
1582	47,810	0	0	0							47,810
1583	11,157	100	11,157	100							0
1584	112	100	0	0							112
1585	58	0	58	0							0

FLORIDA HISTORICAL QUARTERLY

A = 24,154 A = 16,994 A = 10 A = 439 A = 233
 B = 96 B = -571 B = 1 B = -1 B = -35
 Y = A + BX (Where X = 0 in 1573).

If, however, it were desirable to know the actual yearly costs, the data could be corrected in either of two ways. The data might be arranged by date of obligation (*libranza*). This method has little value for Florida defense figures because a large part of the payments are for wages. The pay periods often cover several years whose portions of the total payment cannot be fixed with certainty in the absence of the original accounts for each soldier.

A second method of correction would be to compile the tables making a record of the non-current obligations paid in each year, and then figure the percentage of non-current obligations in the total paid that year. Table I represents such a compilation. This method is of limited usefulness for exactly the same reason as the first, but it suggests a lower limit to the distortion of the data and has utility for comparative studies of spending for the defense of several localities.

In the case of the figures for Florida's total costs, this method shows that between 1565 and 1576 less than twenty per cent of payments were for old, non-current obligations, excepting the years 1569 and 1571. In those years the Casa de Contratación made exceptionally heavy payments for salaries to soldiers who had served in Florida and the Antillas as part of the Archiniega reinforcements of 1566. An average for twelve years (1565-1576) shows 18.3 per cent in non-current payments. If the two exceptional years are omitted, the average drops to 11.5 per cent. The generally low percentage of non-current payments prior to 1577 reflects, for the years 1565-1570, what is known about the way in which Florida was supplied; i.e., from Spain by the Casa de Contratación. In the quinquenium 1565-1569 the Casa made an average of only nine per cent in non-current payments per year. For 1571-1576, the percentage suggests that the Adelantado and his successor kept their payments of the King's funds fairly up to date, but that suggestion is open to serious question since the accounts for those years are either nonextant or of questionable accuracy.

Turning to the 1577-1581 period, the percentage of non-current payments per year rises sharply to over fifty per cent in most years. This marked shift in the pattern of payments coincides with the stabilization of the administration of Florida. A part of that stabilization was the regular, yearly collection of

TABLE II
 FLORIDA AND THE CARIBBEAN - COMPARISON OF TOTAL COSTS
 (Amounts in Ducats)
 LAND DEFENSES ONLY

Year	Caribbean	Greater Antilles	Florida	Other Caribbean	Fla. Percent of Total
1565	94,887	10,477	84,411	0	88.96
1566	106,846	12,605	93,687	554	87.68
1567	33,762	5,680	26,875	1,207	79.60
1568	9,718	2,108	3,428	4,182	35.27
1569	35,260	5,005	2,839	27,416	8.05
1570	42,163	1,491	16,940	23,732	40.18
1571	87,073	2,078	58,128	26,867	66.76
1572	39,855	3,354	11,854	24,647	29.74
1573	27,492	1,011	3,548	22,933	12.91
1574	26,034	932	16,467	8,635	62.25
1575	58,516	428	52,245	5,843	89.28
1576	18,338	1,059	14,040	3,239	76.56
1577	111,942	7,435	10,911	93,596	9.74
1578	43,827	7,880	14,276	21,671	32.57
1579	88,246	249	20,299	67,698	23.00
1580	45,954	6,946	37,179	1,829	80.90
1581	97,321	19,514	77,587	220	79.72
1582	53,169	5,735	47,810	74	89.18
1583	64,959	50,135	11,157	3,667	17.18
1584	15,295	14,362	112	821	N.A.
1585	15,567	11,707	58	3,802	N.A.

Median of Florida Percents of total = 51.5
 Mean of Florida Percents of Total = 51.63
 Standard Deviation = 29.5

the subsidy. That in turn implies a much higher backlog of payments from previous years, since the subsidy was always paid the year after the year it covered. Again, the quantitative data yield a result expected from non-quantitative sources. Such close coincidence between quantitative and non-quantitative records means that the quantitative data are fairly reliable descriptions of what was happening, even if they do not indicate what the actual yearly costs were, as distinct from the yearly cash costs.

The second method of correction, for all its weakness, is useful in another way besides providing confirmation of the relative accuracy of the quantitative description of the changes in fiscal administration. If one wishes to know whether new projects were underway in a given year, he has only to consult the percentage-of-non-current-payments figure. If it is high, then few new acquisitions of goods and services are being made. Following a pattern of such percentages over several years for various localities within the Caribbean can thus suggest when major projects like fortifications are begun, most intensively worked on, and brought to a completion. It will also suggest relative shifts in emphasis either in the type of defense used or in the places to be defended, which in turn suggest changes in what contemporaries perceived to be the strategic configuration of the empire and the locus of threats to it. The tables without any correction would suggest the same sorts of things, but with less accuracy than when the percentage of non-current payments is attached to the total paid. Applying this correction to the data for Florida does not produce very satisfactory results because the breakdown of the payments into categories is almost impossible for too many years of the series.

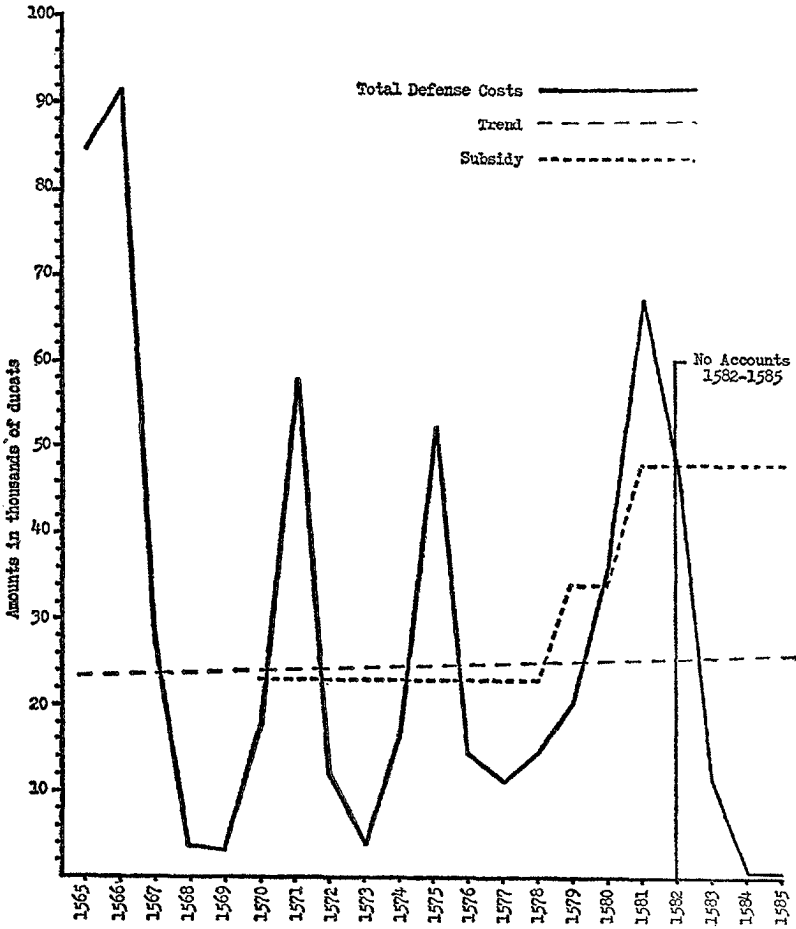
The only other features of note in Table I are the A and B values provided below each column. These are the values of constants for a formula ($Y = a + bX$) which can be used to calculate the straight line which is equidistant from all points of a graph representing the figures in the column. This is the least-squares regression line and serves as a measure of general trend, giving the direction, positive or negative, and the velocity of change in the trend. The figures given are computed for a twenty-five year period, 1561-1585, with 1573 as the central year, the one in which $X = 0$ and the value of Y is the value

of A given. Of these trends only that of the total cost column has any real validity. There the change is positive at a rate of four-tenths of one per cent per year ($B/A = R$). This means that the trend over the twenty-one years in question is essentially stationary, almost a horizontal line. This result is somewhat surprising since the subsidy, which ought to be an accurate indicator of the trend, ran at approximately 23,000 ducats from 1570-1578, rising to 34,000 ducats in 1579, and to 48,000 in 1581. The A and B values of the trend of the subsidy are $A = 19,782$ ducats and $B = 2,395$ ducats. The yearly percentage of change is about twelve per cent, considerably more than the 4/10ths per cent for actual spending. The explanation for the flat trend of spending is the initial high expenses followed by a decrease into the mid 1570s, and an upswing thereafter. Thus the curve of spending is a concave line, whose trend would be essentially flat. Figure 3 is a plotting of the total spending, the trend of that spending, and the level of the subsidy.

A study of treasury data yields not only the information just reviewed, but also permits comparisons of the costs of defending Florida with the costs of the defense of other locations in the Caribbean during the same period. Table II is a listing of those costs of land defense. A superficial examination of this table immediately suggests that in many years Florida accounted for a majority of the land defense costs in the Caribbean. Expressed as percentages, this picture is confirmed, as can be seen from column five of the table. For many years, the percentage is well over thirty per cent with a tendency to decline to 1574 and to revive thereafter up to 1582, when the series effectively ends.

Several years are notable for the very low percentage of the total accounted for by Florida. Figures for 1569 show only 8.05 per cent for Florida, but that statistic is incorrect since most of the salary payments made by the Casa in that year were not classifiable in terms of where the soldiers of the Archiniega expedition had served. The next years where the Florida percentage is lower are 1571-1573. Much of the increase in "Other Caribbean" is due to the garrison at San Juan de Ulua, a consequence of John Hawkins's activity there in 1568. Again in 1577-1579, the Florida percentages drop and the spending for "Other Caribbean" rises dramatically. These are the years when the Spanish were at war on the Isthmus of Panama against

Figure 3.
Florida's Defense Costs, Their Trend, and The Subsidy
1565-1585



John Oxenham and his Cimarron allies. The war went on into the 1580s, but ceased to be directed against other Europeans (the sense in which “defense” is used herein) once the last of Oxenham’s crewmen had been rounded up in 1579. Thus after 1579 expenditures for the Cimarron wars are not included in the data. Finally, any percentage after 1581 is of little use since the Florida accounts are missing.

Examining only the sixteen years, 1565-1581, the median figure for Florida's percentage of the total land defense costs in the Caribbean is 51.5 per cent or fifty-two per cent. The arithmetic mean, or average, for these years is 51.63 per cent, or again about fifty-two per cent. This close correspondence of the median and the mean indicates that the sample of numbers is distributed in a true random or bell-curve distribution. It therefore becomes of interest to compute the standard deviation, which is approximately 29.5. This means that for sixty-eight per cent of the years 1565-1581, Florida's percentage of total land defense costs ranged no lower than twenty-three per cent and no higher than eighty-one per cent. Put another way, this suggests that before 1586, Florida normally absorbed between a fourth and slightly more than three-fourths of the land defense expenditures, with a yearly average figure of about half.

These figures may be refined somewhat by excluding the extraordinary years and establishing a pattern which may be called the "normal defense profile" for the Caribbean. This profile would include the maintenance of garrisons in Florida and Havana, of wardens and artillerymen in the forts of Puerto Rico and Santo Domingo, fort construction work at Havana, minor repairs to fortifications at Santo Domingo and Puerto Rico, and some construction at San Juan de Ulua, about which little is known. This definition excludes 1569, 1571-1573, and 1577-1579, leaving nine years. For those years, the median percentage is eighty per cent, the mean 71.3 per cent. Thus Florida would have tended to absorb something more than seventy per cent of the land defense budget in most years had there been no alarms in other parts of the Caribbean such as Hawkins's and Oxenham's raids.

Refining the figures still further, it becomes possible to compare Florida's cost with Havana's. Because the Havana accounts only begin in 1574, the series must be limited to 1574-1581. Over that period Havana had a mean percentage of the total defense costs of eight per cent. Excluding the years 1577-1579 as extraordinary, the series becomes based on five years, and again yields a mean of eight per cent. During the same five years for Florida (1574-1576, 1580-1581), the mean was seventy-eight per cent. In other words, Florida cost as much as nine times more per year than Havana, the next most costly

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TABLE III
FLORIDA SUBSIDY

Date Paid	Caja	Amount	Period Covered	Remarks
5-X1-1571	Tierra Firme ^a	10,000 p. PE (4,500,000 mrs)	November 15, 1570 - August 4, 1571	Part payment against 14,090 p. 4 t. PE due for 8 months, 20 days
7-v-1573	Tierra Firme ^b	6,900 p. PE (3,105,000 mrs)	November 15, 1570 - June 20, 1572	Part payment against total due for the 1 year 8 months 5 days indicated.
1574	Tierra Firme ^c	40,264 p. 6 t. 2 gr. PE (18,111,020 mrs)	to October 18, 1573	Completes payment for this period.
1575	Vera Cruz ^d	10,570,548 mrs.	October 19, 1573 - December 31, 1574	Cedula of November 26, 1573, transferred the subsidy to Vera Cruz, at the request of the Florida officials.
1576	Vera Cruz ^e	7,720,262 mrs.	January 1 - November 17 1575	
1577	Vera Cruz ^f	—	November 18, 1575	The subsidy of 1576 was collected by Inigo Ruiz de Castresana, al- though no accounts exist.
1578	Vera Cruz	—	—	No accounts.
1579?	Vera Cruz ^g	32,311 p. 3 t. 11 gr. OC (8,788,725 mrs.)	exactly 1 year	Collected by Martin de Quiros. Date uncertain.

III-1580	Vera Cruz	3,798,140 mrs.	January 1 - December 31 1579	New subsidy of 4,000,000 mrs. placed in the hands of the Governor of Cuba. Cedula, December 10, 1578.
1580	Vera Cruz	-----	to December 31, 1579	Payment of regular subsidy. Account not extant.
19-IV-1581	Vera Cruz	59,775 p. 6 t. 1 gr. OC (46,259,007 mrs.)	to December 17, 1580	Paid to Rodrigo de Junco for use in Florida.
	Vera Cruz	11,968 p. 4 t. 7 gr. OC (3,258,172 mrs.)	-----	Sent to Seville to pay Andres de Recavalaga.
	Vera Cruz	18,878 p. 8 gr. OC (5,141,839 mrs.)	-----	Sent to Casa de Contratación to repay its expenditures on behalf of Florida.
1582	Vera Cruz	65,914 p. 2 t. 6 gr. OC	December 18 - January 6 1582	Partial payment against the 69,468 p. OC due for this period; balance of 3,553 p. 5 t. 6 gr. (966,603 mrs.) held for payment to the heirs of the Adelantado Pedro Menéndez de Avilés.
1583				
1584	Vera Cruz	-----	-----	Accounts for these years are not extant.
1585				

PE: peso of assayed silver worth 450 marvaredi
 OC: peso of "common gold," or eight reales, worth 272 mrs.

Notes for Table III

FLORIDA SUBSIDY

- a. AGI:CD 1454, fols. 1117vto-1119. Cedula, Segovia, November 15, 1570, created this subsidy, see King to Royal Officials of Tierra Firme, November 26, 1573, AGI:SD 2528, fols. 42vto-43vto, which incorporates the order of 1570. AGI:CD 944 confirms this payment to the Florida Treasury.
- b. AGI:CD 1455, No. 2, 1573, fol. 29vto. This amount is not "cargued" to Menéndez de Avilés in his account: AGI:CD 454.
- c. AGI:CD 1455, No. 1, 1574, fols. 30vto-32, 62vto, AGI:CD 944, is cargo.
- d. King to Royal Officials of Nombre de Dios, November 26, 1573, AGI:SD 2528, fols. 42vto-43vto, transfers the subsidy. Same to Royal Officials of Vera Cruz, July 3, 1573, informs them of the change. The reason for the switch was the division of the Tierra Firme treasury into two, one at Nombre de Dios and one at Panama. Menéndez de Avilés feared that the Nombre de Dios treasury, on which the subsidy was in fact drawn, would not have enough funds to pay this and other subsidies. Payment recorded in AGI:CD 944. The Vera Cruz accounts are lost.
- e. AGI:CD 944, Account of Pedro Menéndez de Avilés, Treasurer of Florida. The Vera Cruz accounts are lost.
- f. Notation in the account of Martín de Quiros, AGI:CD 944, No. 6; Reel 25 E, P. K. Yonge Library of Florida History. The Vera Cruz accounts are not in the AGI.
- g. AGI:CD 679, No. 2, Relación de la cuenta de Vera Cruz, 2:2-3:1. The cargo of this amount does not appear in Quiros's accounts as Treasurer because the subsidy was held in the royal strong box in Florida and only issued to him in small sums, as needed. See: AGI:CD 944, No. 6.
- h. King to Royal Officials of Vera Cruz, December 10, 1578, AGI:SD 2528, fols. 103vto-104vto. King to Governor of Cuba, December 10, 1578, AGI:SD 2528, 104vto-105vto. For the dispute which surrounded the first attempt by the Florida officials to collect this money at Havana see: AGI:CD 944, No. 8. Because of these problems, the payment through Cuba was canceled. King to Royal Officials of Vera Cruz, January 24, 1580, AGI:SD 2528, fols. 112vto-114vto.
- i. King to Royal Officials of Vera Cruz, January 24, 1580, AGI:SD 2528, fols. 112vto-114vto, increases the subsidy by 5,125,000 maravedi to a total of 17,913,725 maravedi. For payment see: AGI:CD 944, No. 7, (b), account of Rodrigo de Junco, and AGI:CD 681, No. 2, 6.
- j. AGI:CD 944, No. 7, (b). AGI:CD 681, No. 2, 6.
- k. AGI:CD 944, No. 7, (b). AGI:CD 681, No. 2, 6.
- m. AGI:CD 682, No. 2, 5. The amount withheld for the payment of the Adelantado's heirs is slightly more than 960,862 maravedi, the *alcance* in his favor in the account taken by Alonso Suarez del Rio, Madrid, 1580, AGI:CD 454. This was, however, less than the amount ordered paid in: King to Royal Officials of Vera Cruz, March 5, 1581, AGI:CD 454. The payment got entangled in legal actions and was not made until the mid-seventeenth century.

land defense in the period. Florida never cost less than three times as much as Havana.²¹ These figures are at best tentative indicators, but like the rest are suggestive of the financial importance of the Florida garrisons.

Judging from these figures, it would appear that Florida was the most important place in the Indies, assuming that the Crown would spend funds in proportion to the importance of a location in strategic and other terms. Florida, of course, was not almost nine times or even three times as important as Havana. Actually the reverse was true. Florida was not even more important than Cartagena de Indias, on which the Crown spent almost nothing.

This disparity between strategic importance and cost helps to explain suggestions that the colony be abandoned. As early as November 1567, the *Alférez*, Hernán Pérez, one of the deserters from Florida, stated: "I understand that [Florida] is a thing of little benefit and much damage and cost to your Royal patrimony."²² A more disinterested and persuasive advocate of abandonment was Governor Luxan of Cuba. In 1582 he suggested that the 50,000 ducats that the province cost each year could be better spent to support four galleys to patrol the Antilles and expel any French colonies which might be founded in Florida. He pointed out that the Spanish were barely maintaining themselves despite all the money expended and the constant stream of supply boats from Cuba and other parts of the Caribbean. How, he asked, could an enemy lacking those resources possibly remain on the ground for even a year? The threat of foreign invasion which was used to justify continuance of the forts was a strawman. Luxan advised the King that anyone telling him that the money was not being wasted in Florida "had more love for the 50,000 ducats than your royal service."²³

21. The Havana subsidy was fixed at 2,423,328 maravedi per year. King to Pedro Menéndez de Avilés, November 15, 1570, AGI:SD 1122, libro 4, fol. 251, printed in Wright, *História*, I, 207-08. The Florida subsidy of 8,788,725 maravedi is roughly 3.6 times as much. When allowance is made for the additional expenditures for Havana's new fort the ratio drops to about one to three. The figure of a maximum of nine times as much cost for Florida as for Havana suggests the irregularity of payments made to the Havana garrison and for the construction of its fort, an irregularity documented in the Havana accounts.

22. Hernán Pérez to Crown, November 28, 1567, AGI:SD 71, libro 1, fols. 367-367vto.

23. Luxan to Crown, September 30, 1582, AGI:SD 99, Ramo 3, No. 115, paragraph 36.

Neither of these attacks on the vested interest which the Menéndez de Avilés party had in Florida produced any results.

The 1602 "Trial" of Florida was a consequence of suggestions that the garrisons and missions be moved northwards so as to be more effective.²⁴ At no time, however, was there a suggestion that the colony be completely abandoned. In light of the opinions just cited, abandonment ought to have been mentioned in the documents that the authorities on this period have consulted. That it was not may be partially explained by the essentially flat trend of Florida's costs (Figure 3), which if continued after 1586, when expenditures in other areas of the Caribbean were rising sharply in response to the Drake expedition of 1586, would have made Florida less notable as a drain on the royal treasury, i.e., its percentage of total expenditure would have decreased. Further research will be needed to confirm or refute this inference.

In summary, this examination of the treasury expenditures for the defense of Florida has revealed several things. The treasury data for Florida for the years before 1586 are not susceptible to detailed analysis by categories. It is not possible to correct the figures so that they reflect the true or actual yearly cost of defense, rather than the yearly payments for military goods and services, but computing the percentage of non-current obligations being paid in each year shows that, on the average, such percentages agree with the pattern of support, being lowest when the colony received its major support from Spain, and highest when it was operating with a "regular" royal fiscal administration and subsidy. Using these percentages it is not possible to discern trends and changes in the "mix" of Florida's military goods and services, although it would be possible to so use the percentages for other locations. The least-squares trend line for total spending indicates a general tendency for the cost of Florida to remain stationary. Florida absorbed on the average about fifty-two per cent of the land defense expenditures in the Caribbean, 1565-1581, with its actual percentage varying from approximately twenty-three per cent to eighty-one per cent and tending

24. Charles W. Arnade, *Florida on Trial, 1593-1602*, University of Miami Press, Hispanic American Studies No. 16 (Coral Gables, 1959), *passim*; pp. 11-20, provide details of these discussions.

towards the higher figure. Finally, Florida was by far the most expensive land defense commitment in this period, being up to nine times as expensive as Havana, and far more expensive than its actual strategic importance.