

39

A Guide to Quantitative Research
on Nicaragua since Independence

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The publication of Victor Bulmer-Thomas's *The Political Economy of Central America Since 1920* represents an important advance in quantitative studies on Nicaragua.¹ His long time series help to overcome some of the deficiencies in the data that have made the study of Nicaraguan economy and society difficult. This tremendous stride forward is significant since the historical literature on Nicaragua, primarily political and diplomatic histories by and large, lacks the application of quantitative data.² Those studies that do employ data tend to use published data or short-term statistics.

Researchers have tended to ignore many Latin American countries. Consequently, there has been little opportunity to develop a variety of research methodologies. Until recently, Nicaragua fell into this category. Since 1979, however, Nicaragua has received increased scholarly attention. As the United States reacted to the ouster of Anastasio Somoza and consolidation under the Revolutionary government, scholars, journalists, and polemicists have begun to study the tiny country with a population equal to that of Los Angeles. Since 1979 a voluminous amount has been published. Although the literature on Nicaragua is now abundant, most of the work concerns post-1979 events, and pays scant attention to prior years. Nonetheless, a large body of statistical data does exist on Nicaragua for the twentieth century.³

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¹ Cambridge: Cambridge University Press, 1987.

² See Ralph Lee Woodward's excellent article, "The Historiography of Modern Central America Since 1960," *Hispanic American Historical Review* 67 (3), 461-495.

³ Several bibliographies have been compiled that include quantitative data published by the Nicaraguan government. These tend to be selective in their listings and periodization. See, for example, Inter American Statistical Institute, *Bibliography of Selected Statistical Sources of the American Nations* (Washington, D.C., 1947, and republished by Blaine Ethridge-Books, Detroit, 1974), pp. 201-206; Joan M. Harvey, FLA, *Statistics America: Sources for Market Research (North, Central, and South America)* (Beck-

This study analyzes the development of statistics in Nicaragua, and assesses the usefulness of statistical sources published by the Nicaraguan government, multilateral organizations, and individual scholars. The first section reviews the history of statistical data collection in Nicaragua, and the second analyzes the development of quantitative data by individual scholars.

Overview of the Statistical Data

Quantitative data have undergone a significant transformation since Nicaragua became independent in 1838. The frequency of data gathering (if not the reliability) has improved markedly over time. During the nineteenth century, Nicaragua saw several failed attempts at population counts. Reliability of data was questioned by many observers, both Nicaraguan and foreign. By the mid-1950s Nicaragua had begun to publish more quantitative data, and with more success. In this section I discuss the major trends in government and international organization data gathering on Nicaragua.

The first types of statistical data collection were population counts. Table 3900 lists the population censuses taken in Nicaragua. The first known census took place in 1778, when the Spanish tabulated Nicaragua's population as a province of Guatemala. In 1815 another census was attempted and the results were published in General González Sarabia's *Bosquejo Político, Estadístico de Nicaragua* (1824). These early population counts are best viewed as rough estimates, since many have been deemed defective and unreliable.⁴ For example, a count commissioned in 1846 was so problematic that when the data were published in the official gazette in 1867, the total population had to be adjusted by nearly 80 percent.⁵

enham, Kent, England: CBD Research Ltd., 1973); Carl W. Deal, "Quantitative Research in Latin America: An Inventory of Data Sets," in SALA, 17, chapter 33; Carl W. Deal, "Quantitative Data Sets on Latin America: The Second Survey by the Latin American Studies Association," SALA, 20, chapter 40; Valerie Bloomfield, "Latin American Official Statistical Series on Microfiche, 1860-1974," in SALA, 20, chapter 38.

⁴ "Nicaragua, Summary of Statistical Activity," in Elizabeth Phelps, ed., *Statistical Activities of the American Nations 1940* (Washington, D.C.: Inter American Statistical Institute, 1941), pp. 377-384.

⁵ *Nicaragua: Summary of Biostatistics*, U.S. Department of Commerce, Bureau of the Census (Washington, D.C., May 1945), p. 5.

Table 3900
NICARAGUA POPULATION CENSUSES, 1778-1971

Year	Population
1778	106,926
1815	174,200 ^a
1846	257,000 ^b
1906	505,377
1920	638,119
1940	983,000
1950	1,057,023
1963	1,535,588
1971	1,894,690 ^c

- a. This figure was published by General Miguel González Sarabia in 1824, in *Bosquejo Político, Estadístico de Nicaragua*; see Squier, p. 648.
- b. Squier suggests correcting total to 300,000 to make up for deficiencies in the data. This figure was not published until 1867.
- c. U.S. Census Bureau recommends adjusting figure to 1,953,000.

SOURCE: For 1778, and 1906 to 1971, SALA-LAPUA, p. 362; for 1815 and 1846, E. G. Squier, *Nicaragua: Its People, Scenery, Monuments, Resources, Condition and Proposed Canal* (New York: Harper and Brothers, 1860); see also *Statistical Activities of the American Nations* (Washington, D.C.: Inter-American Statistical Institute, 1941), p. 786.

Table 3901
NICARAGUA CENTRAL GOVERNMENT
BUDGET, 1875-1915
(NC)

Year	Total Budget	Expenditures	
		Administration	Public Credit
1875-76	632,278.75	632,278.75	165,000.00
1877-78	1,524,475.50	1,174,475.50	350,000.00
1879-80	1,619,831.10	1,269,831.10	350,000.00
1881-82	1,703,482.75	1,381,982.75	321,500.00
1883-84	1,820,333.50	1,513,333.50	307,000.00
1885-86	2,396,958.86	2,142,485.55	254,473.31
1887-88	2,113,454.00	1,870,360.00	243,094.00
1889-90	2,400,277.65	2,172,814.00	227,463.65
1891-92	3,103,705.50	2,646,252.50	457,453.00
1893-94	2,979,926.45	2,023,427.37	956,499.08
1898-99	2,548,794.47	1,919,262.97	629,531.50
1900	2,565,980.54	1,778,038.14	787,942.40
1901	2,303,569.40	1,769,842.20	533,727.20
1902	2,367,436.10	1,685,116.10	682,320.00
1904	2,640,004.92	2,023,534.92	616,470.00
1905	3,142,623.43	2,366,153.43	776,470.00
1906-07	2,094,145.10	1,701,625.10	392,520.00
1908-09	2,118,021.39	1,416,195.11	701,826.28
1910-11	2,677,921.14	1,510,157.51	1,167,763.63
1913-14	3,826,376.87	3,102,376.87	724,000.00
1914-15 ^a	3,500,402.55	2,778,402.55	722,000.00
1914-15	1,980,728.20	1,288,728.20	692,000.00

- a. Source gives two sets of data for 1914-15.

SOURCE: *Centro-América* 7:3 (1915), p. 407.

The first census to go beyond a mere population count was the "Provisional Census" of 1906. There were conflicting reports in this provisional census and its accuracy has been questioned. Nonetheless, as a result of the 1906 census the Nicaraguan government established the *Monthly Bulletin of Statistics*, which was published irregularly from 1907 to 1938.⁶

The first official national census was the General Census of 1920, which contained population data by department, municipality, sex, age, national origin, and profession. This census cost approximately 30 thousand córdobas to conduct and to publish. Like the provisional census, it was sharply criticized for inaccuracy by a variety of foreign and national groups.⁷

In addition to the Provisional Census of 1906 and the General Census of 1920, Nicaragua has conducted four other national censuses in the twentieth century—1940, 1950, 1963, and 1971 (Table 3900). The experience gained over the years has helped to improve the quality of Nicaraguan population censuses.

Statistics first began to be regularly published by the government in the early twentieth century. In 1907, Nicaragua's Dirección General de Estadísticas (DGE) began issuing the *Monthly Bulletin of Statistics* mentioned above. The bulletin ceased publication in 1934, and it was not until 1938 that the Nicaraguan government resumed publication of a regular statistical volume, this time in the form of a statistical yearbook.

Aside from the *Monthly Bulletin of Statistics*, Nicaragua published quantitative data in other journals during the early twentieth century. One such publication was *Centro-América*, the official organ of the Oficina Internacional Centro-Americana. This organization, founded in 1906, was comprised of the five Central American nations and had as its goal "to create and develop the common interests of the Central American republics . . . and to work for the non-violent reorganization of Central America."⁸ *Centro-América* included a variety of official statements, speeches, and profiles of different aspects of Central American society.

Centro-América also regularly published quantitative data on each of the five countries. Nicaraguan data, most commonly external trade data, was generally obtained from the DGE upon request. Profiles on Nicaragua's trade generally appeared on a year by year basis, but on a few occasions time series were published. The longer of these historical series generally run from 1900 to 1915 and include volume and value of total trade.⁹ Shorter series include the value of

⁶ See Ralph Lee Woodward's chapter on statistics in his bibliographic compilation, *Nicaragua* (Oxford, England, and Santa Barbara, Calif.: Clio Press, 1983).

⁷ See the introductory remarks to the *Nicaraguan General Census of 1920*.

⁸ *Centro-América: Organo de Publicidad de la Oficina Internacional Centro-Americana* (Guatemala) 1:1 (January 1909), 1.

⁹ "El Comercio Extranjero de Nicaragua 1915," *Centro-América* 7:3 (1916), 345-354.

Table 3902
NICARAGUA SALARIES OF GOVERNMENT OFFICIALS, 1875-1915
(NC)

Year	President	Ministers	Congressmen	Judges	Sub-Secretaries	Political Bosses
1875-76	300	160	100	100	80	100
1877-78	300	160	100	100	80	100
1879-80	400	200	100	100	80	100
1881-82	400	200	130	100	80	100
1883-84	500	250	130	130	100	130
1885-86	500	250	130	130	100	130
1887-88	500	250	130	130	150	130
1889-90	500	250	130	130	150	130
1891-92	500	250	130	130	150	130
1914-15	400	120	120	120	100	90

SOURCE: *Centro-América* 7:3 (1915), p. 407.

trade according to ports of entry and exit, volume and value of individual commodities, and trade according to trading partners by country.

Special quantitative profiles were also frequently published in *Centro-América*. Two examples of such profiles are a quantitative study of a northern department and its capital city of the same name, Matagalpa, and a study of Nicaraguan budgets. The data presented on Matagalpa are for the year 1914 and provide an overview of the city's infrastructure and businesses, as well as the department's economic and social situation.¹⁰ Although the data on Matagalpa do not provide historical comparison, they are a valuable source of information on Nicaraguan society in the early years of this century.

The budget data in *Centro-América*,¹¹ unlike the data on Matagalpa, are organized in time-series fashion. They give the total budget and expenditures for administration and public credit for the years 1875-1915 (Table 3901). Detailed data are also presented on official salaries of the president of the republic and other high government officials (Table 3902).

In 1938 Nicaragua began to publish a statistical yearbook, becoming the last country in Central America to do so. Costa Rica began issuing a yearly statistical volume in 1883, Honduras in 1887, Guatemala in 1894, and El Salvador in 1911 (Table 3903). In the first *Anuario Estadístico*, Fernando Alaniz B., Director General of Statistics under new president Anastasio Somoza García, explained the need for statistics for government planning, and lamented Nicaragua's late start in gathering and inexperience in utilizing statistical data.¹²

The *Anuario Estadístico de Nicaragua* is filled with short-term data on a variety of aspects of Nicaraguan life. The DGE often compiled the short-term data it published in the

¹⁰ Horacio Bermúdez, "Datos Estadísticos del Departamento y Ciudad de Matagalpa," *Centro-América* 8:1 (1916), 75-78.

¹¹ "Gastos Públicos en Nicaragua," *Centro-América* 7:3 (1915), 406-407.

¹² See the preface by Dr. Fernando Alaniz B. in *Anuario Estadístico 1938* (Nicaragua: Dirección General de Estadística, 1939).

Table 3903
CENTRAL AMERICA STATISTICAL
YEARBOOK PUBLICATION

Country	Statistical Yearbook First Published
F. COSTA RICA	1883
J. EL SALVADOR	1911
K. GUATEMALA	1894
M. HONDURAS	1887
O. NICARAGUA	1938

SOURCE: B. R. Mitchell, *Historical Statistics of the Americas and Australasia* (Detroit: Gale Research Co., 1983), pp. xii-xvi; *Anuario Estadístico 1953 de la República de Honduras* (Tegucigalpa, June 1955), p. 3.

anuarios into long-term series on specific topics or periods. Examples are the *Monografía de Managua*¹³ and *Compendio Estadístico, 1965-1974*.¹⁴ Published in 1948, the *Monografía de Managua* includes statistical data on the nation's capital from the 1930s to the late 1940s on such diverse topics as prices of individual basic staple foods, demography, and health and social services. Also included is a list of the mayors of Managua from 1833 to 1948. The *Compendio Estadístico, 1965-1974* contains data extracted from the *Anuario Estadístico* on population, economy, labor, transportation, education, and a number of other areas.

The period from 1934 to 1979 saw tremendous change in Nicaraguan society, which was reflected in the country's statistical data gathering practices. The stability of the Nicaraguan government (dominated throughout the period by the Somoza family) allowed for the publication of numerous

¹³ Nicaragua, Dirección General de Estadística, July 14, 1948.

¹⁴ Nicaragua, Convenio Banco Central de Nicaragua-Ministerio de Economía, Industria y Comercio, 1976.

statistical volumes, such as the *Anuario Estadístico* discussed above. Statistical personnel became better trained and the amount of data published increased. By 1941 the National University in León offered a course in general statistics. The majority of statistical personnel during this period were educated abroad. As of 1949, Nicaragua had nineteen statisticians who had taken courses in statistics and who had important responsibilities for the collection and publication of data. Of the nineteen, nine had studied statistics or economics in the United States, at institutions such as Johns Hopkins University, Harvard University, and the University of Michigan. Two studied at Mexican universities, one in Europe, and two attended the Latin American Training Center on Statistics and Censuses in Mexico.¹⁵

During this period several government agencies began to collect statistical data. Each issued either a monthly or yearly report containing statistical data.¹⁶ These included the Ministries of:

1. Government, which controlled the DGE, the Controller of Local Accounts, and the Controller of Social Service Accounts
2. Agriculture and Labor
3. Development and Public Works, National Railroad Company, and Communication Services
4. War, Navy, and Air Force
5. Finance and Public Credit
6. Hygiene and Public Welfare
7. Public Education
8. Foreign Relations

The United States, as well as inter-American and world organizations, played an important role in attempting to improve the quality and comparability of statistical data. One of the first attempts to assemble a variety of quantitative data to measure Nicaragua's progress and make recommendations for its future development came with the "stabilizing" force of the U.S. occupation.

In the 1920s the Nicaraguan government requested an independent analysis of its economy. Since the United States militarily occupied the country at the time, the U.S. State Department commissioned W. W. Cumberland to prepare an assessment of the country's economic situation. Cumberland's work is discussed at greater length below, but it is important to mention here some of its contributions to statistical data gathering in Nicaragua.

Using the 1920 census and other unpublished materials, Cumberland organized the data in a meaningful way. Using a time-series approach he was able to question the data and determine where data was faulty or inconsistent. His work

represents an important collection of some of the data available in Nicaragua during the 1920s.

The United States also led in the endeavor to make statistical data gathering uniform throughout the hemisphere. For Nicaragua, the United States Bureau of the Census abstracted data in a standardized manner in 1945 in *Nicaragua: Summary of Biostatistics*.¹⁷ This publication compiled data on demography, vital statistics, and health with the goal of categorizing the Nicaraguan data in a format compatible with that used elsewhere in the western hemisphere.

Internationally, the sophistication of statistical data gathering in general has increased, which is reflected in the data for Nicaragua. With the rise of international organizations after World War II, postwar institutions began to collect statistical data on a variety of topics, yet economic issues tended to dominate the concerns of these organizations. With the rise of the United Nations and its filial organizations, a vast array of quantitative data has been published. The *United Nations Statistical Yearbook*, published from 1948 to the present, contains data on demographic, social, and economic affairs. The United Nations Economic Commission for Latin America (ECLA) also publishes statistical data on Latin America. Since 1973 ECLA has published its *Statistical Yearbook*, which replaced its biannual *Bulletin*.

Other multilateral organizations also published data useful for the study of Nicaragua in the postwar period. The International Monetary Fund generates a large amount of historical economic data that date from 1950 on all countries. The International Bank for Reconstruction and Development (IBRD) was commissioned by a number of Latin American countries, including Nicaragua, to analyze the economic situation in the post-World War II era. The IBRD report, published in 1953,¹⁸ draws from published and unpublished quantitative data, although it does not rely upon these data to the extent that Cumberland did.

In the 1960s, with the Alliance for Progress and the emphasis on government planning, money from the United States went to developing and expanding statistical agencies in Nicaragua. The emphasis was generally placed on the collection of social statistics to measure achievement of the goals established by the Alliance for Progress.¹⁹ Throughout the 1960s and 1970s a variety of social organizations began publishing yearly reports, foremost among them the Nicaraguan Social Security Institute (INSS).

The INSS published statistical yearbooks from the late 1960s through the end of the Somoza years. A survey of these yearbooks for the period 1968-77 shows the improvement and expansion of statistical data collecting. Each volume

¹⁵ *Directory of Statistical Personnel in the American Nations 1949* (Washington, D.C.: Inter American Statistical Institute, 1949), pp. 99-101.

¹⁶ "Nicaragua, Summary of Statistical Activity," in Elizabeth Phelps, ed., *Statistical Activities*, pp. 378-379.

¹⁷ U.S. Department of Commerce, Bureau of the Census (Washington, D.C., May 1945).

¹⁸ International Bank for Reconstruction and Development, *The Economic Development of Nicaragua* (Baltimore: Johns Hopkins University Press, 1953).

¹⁹ See James W. Wilkie, "The Management and Mismanagement of National and International Statistical Resources in the Americas," in SALA, 22, chapter 41.

contains basic yearly INSS data on the number of people covered by social security, type of coverage, number of patients treated by the institute, and the amount of government subsidies. Beginning in 1971, the INSS began to include historical statistics, carried back to 1957, providing time series covering more than twenty years.²⁰

International organizations also began to collect social data during the 1960s. The best example is the United Nations Education and Cultural Organization (UNESCO), which since 1962 has published a statistical yearbook containing important data on educational enrollment, graduation, library holdings, and movie theaters. Another example is the Organization of American States Inter-American Statistical Institute (IASI), which published comparative social data. However, the IASI ceased publishing its yearbook in the mid-1970s, due in part to the "failure" of the Alliance for Progress and the shift of Alliance money away from statistical organizations.²¹

Statistical data gathering continued in Nicaragua after the fall of Somoza and the beginning of the Nicaraguan Revolution. Unlike Cuba during the decade following the Revolution, the Nicaraguan government continues to generate quantitative data.²² The Nicaraguan Institute of Statistics and Census (INEC) publishes the *Anuario Estadístico de Nicaragua*, which contains statistics similar to those published during the Somoza regime. Unfortunately, this *Anuario* does not include data prior to 1979.²³ INEC publishes a volume of social data that emphasizes the improvement of social welfare under the Sandinistas,²⁴ and a yearly volume on foreign trade, *Nicaragua: Comercio Exterior*, with data sets back to 1960.²⁵

In 1979, after the reorganization of the public sector, a plethora of data began to be collected by a variety of government agencies, the Ministries of Planning, Education, and Health, and the state trading organization. Most of the data, as Michael Conroy has pointed out, had never been published. Fortunately, Conroy and a team of scholars who set out in the summer of 1986 to study the Nicaraguan public sector have published some of the statistics.²⁶

One government ministry that does publish data is the Ministry of Education. Among its many publications are summaries of its work, which often contain statistical data in

time-series form dating from the early 1970s, such as *La Educación en el Primer Año de la Revolución Popular* and *Cinco Años de la Educación en la Revolución, 1979-84*. These publications, especially the latter, contain data on those affected by the literacy campaign and the adult education program. Such data aid the government in gaining international attention for its literacy campaign.

A number of independent organizations publish data on Nicaragua, focusing particularly on the years after the Revolution. One recent work is *Centroamérica: La Crisis en Cifras*, a compilation of statistics on Central America, with emphasis on the period 1970-84. The editors, María Eugenia Gallardo and José Roberto López, present data on the six Central American countries on a variety of areas including economics, health and welfare, education, and politics.²⁷

Periodic publications also contain some quantitative information on Nicaragua. Two Nicaraguan publications in particular are worth mentioning: the *Boletín Socio-económico*, published by the Instituto Nicaragüense de Investigaciones Económicas y Sociales (INIES), and *Envío*, published by Nicaragua's Universidad Centroamericana (UCA). Both profile socioeconomic data on contemporary Nicaragua. INIES also publishes periodic research reports which contain valuable data. Two U.S. publications concerned with contemporary Nicaragua are *LASA-NICA Scholarly News* and the *Central American Report*.

Newspapers also are a frequent source for quantitative data. The two government-controlled newspapers, *Barricada* and *Nuevo Diario*, often give data on the agrarian reform or on the cost to the government of fighting the "Contra War." The opposition paper, *La Prensa*, also includes quantitative data. Because the newspapers are ideologically driven, however, the data in *Barricada* and *Nuevo Diario* tend to support government policy while the *La Prensa* data condemn it.

Although the Nicaraguan government has continued to collect statistical data, it has been hindered by the costly "Contra War" and the economic difficulties it faces. Nicaragua has not been able to pursue its collecting and reporting of data to all the multilateral agencies with the same regularity as other countries. For example, in the January edition of the International Monetary Fund's *International Financial Statistics*, data on money and banking and international liquidity are only reported through 1983 (whereas most countries report data through 1988).

The reorganization of the Nicaraguan government and the public sector makes it difficult to construct time series that transcend the Revolution. As Lawrence Graham has pointed out, after gaining control of the country the Revolutionary government revamped the state agencies.²⁸ With the reorganization of the public sector and changing modes

²⁰ Instituto Nacional de Seguridad Social, *Anuario Estadístico* (Managua, various volumes, 1968-77).

²¹ Wilkie, "Management and Mismanagement," p. 656.

²² For an excellent review of statistical data in Revolutionary Cuba, see Carmelo Mesa-Lago, "Availability and Reliability of Statistics in Socialist Cuba," *Latin American Research Review* 4:1 and 2 (1969).

²³ *Anuario Estadístico de Nicaragua 1984* (Managua: Instituto Nacional de Estadísticas y Censos, 1985).

²⁴ *Estadísticas Sociales 1981* (Managua: Instituto Nacional de Estadísticas y Censos, 1982).

²⁵ Managua: Instituto Nacional de Estadísticas y Censos, 1984.

²⁶ Michael Conroy, ed., *Nicaragua: Profiles of the Revolutionary Public Sector* (Boulder, Colo.: Westview Press, 1987), p. 1.

²⁷ San José, Costa Rica: Instituto Interamericano de Cooperación para la Agricultura (IICA) y la Facultad Latinoamericana de Ciencias Sociales FLASCO, 1986.

²⁸ Lawrence Graham, "The Impact of the Revolution on the State Apparatus," in Conroy, ed., *Nicaragua*, chapter 2.

Table 3904
NICARAGUA GDP AND GDP/C, 1920-84
(T US of 1970)

Year	GDP	GDP/C	Year	GDP	GDP/C
1920	108,806	170.0	1953	305,200	265.3
1921	112,926	176.4	1954	333,600	282.7
1922	103,435	159.1	1955	356,100	291.8
1923	110,669	170.2	1956	355,800	282.3
1924	117,328	177.7	1957	385,900	299.1
1925	129,517	196.2	1958	387,100	291.0
1926	112,603	168.0	1959	392,900	286.7
1927	113,086	168.7	1960	398,300	282.4
1928	143,306	213.8	1961	428,100	295.2
1929	160,074	235.4	1962	474,800	316.5
1930	129,452	190.0	1963	526,400	341.8
1931	121,005	175.3	1964	587,900	372.0
1932	108,936	157.8	1965	643,900	397.4
1933	137,051	195.7	1966	665,200	400.7
1934	124,464	175.3	1967	711,600	416.1
1935	126,461	173.2	1968	721,100	414.4
1936	100,622	134.1	1969	769,100	429.6
1937	109,096	141.6	1970	776,500	424.3
1938	112,832	144.6	1971	802,161	424.4
1939	140,112	172.9	1972	819,975	420.5
1940	153,216	184.5	1973	872,593	434.1
1941	167,637	199.5	1974	996,435	479.0
1942	161,388	187.6	1975	994,908	460.6
1943	176,982	201.1	1976	1,046,740	469.4
1944	175,300	194.7	1977	1,134,730	493.3
1945	176,000	191.3	1978	1,045,701	441.2
1946	191,200	201.2	1979	769,373	310.4
1947	191,800	195.7	1980	846,302	314.2
1948	208,500	208.5	1981	891,146	318.2
1949	204,700	198.7	1982	880,592	303.0
1950	238,600	225.0	1983	912,833	302.6
1951	254,900	233.8	1984	883,839	283.6
1952	298,000	266.0			

SOURCE: Victor Bulmer-Thomas, *The Political Economy of Central America Since 1920* (Cambridge: Cambridge University Press, 1987), pp. 308-311.

What Difference Could a Revolution Make?, first published in 1982 and revised in 1985.³⁹ It provides some valuable information on Nicaraguan food policy. While making for intriguing reading, it lacks quantitative support. Of the fifteen statistical tables, only three analyze data over the long term. The table titled "Acreage for Major Crops, 1948-84" provides some valuable information that is difficult to obtain. The other tables, however, besides lacking in historical depth, provide very little new data—typical of most works on Nicaraguan history.

Sources of long-term historical data for years before World War II are scarce for Central America. A few works, however, collect such data in a systematic fashion. Besides the *Statistical Abstract of Latin America*, published since

1955, other publications which aggregate data in time-series fashion have emerged.⁴⁰ Three books that compare countries in different regions are of particular interest: Arthur S. Bank's *Cross-Polity Time Series Data*,⁴¹ Tatu Vanhanen's *Political and Social Structures, Part 1 American Countries, 1850-1973*,⁴² and Brian R. Mitchell's *Historical Statistics of the Americas and Australasia*.⁴³

These three studies deal with long-term quantitative data and contain data on Nicaragua. Vanhanen includes data on politics and voting patterns since Nicaraguan independence. Banks presents political, social, and economic data, but more economic data can be found in the Mitchell vol-

³⁹ Also see James W. Wilkie's *Statistics and National Policy*.

⁴⁰ Cambridge, Mass.: M.I.T. Press, 1971.

⁴¹ Tampere, Finland: University of Tampere, 1975.

⁴² Detroit: Gale Research Co., 1983.

³⁹ San Francisco: Institute for Food and Development Policy.

ume. Mitchell produces long series on trade, central government expenditures, transportation, and production. His data are drawn almost exclusively from the *Anuario Estadístico*. Although these three works are extremely valuable, scholars need to focus more specifically on individual countries and use unpublished data to create independent series.

One of the few works that attempts to link pre- and post-Revolutionary data is John Weeks's *The Economies of Central America*. Weeks constructs a number of time series, primarily for the 1960s and 1970s, to assess the Central American economies during this period. Some of his statistical tables successfully link the two periods. One example is his presentation of Nicaraguan urban unemployment data from 1965 to 1980.⁴⁴ He uses published data for the years prior to the Revolution and previously unpublished data to produce the beginnings of an important time series for the study of the Nicaraguan economy.

A recent work that constructs long-term statistical series for five Central American countries is Victor Bulmer-Thomas's 1987 monograph, *The Political Economy of Central America since 1920*. Bulmer-Thomas departs from previous works by reorganizing published and unpublished data to construct some of the longer time series for Nicaraguan history.

Bulmer-Thomas's enormous contribution lies in his construction of data on national accounts from 1920 to 1984. His estimates are based upon the calculation of net output by sector. He rejects Cumberland's estimate of gross domestic product because of its rudimentary methodology. Bulmer-Thomas reconciled his initial estimates with those of ECLA, which had calculated Nicaraguan GDP from 1945 to the late 1970s. Table 3904 presents his calculations for GDP and GDP per capita. For the latter he utilized population series from SALA 22 and Nicaraguan government sources. He also includes time series on the value of trade and on value added in different sectors of the economy. He uses the data to

analyze Central American economic history in the twentieth century.⁴⁵

It is apparent that studies utilizing quantitative data are becoming more frequent. Much unpublished data are being collected and analyzed by scholars. However, many of these works use short-term time series that do not attempt to analyze recent Nicaraguan history as a whole but instead use the Revolution and 1979 as a starting point for their data and, consequently, their analyses. More farsighted scholars, generally economic historians, have successfully collected data in a more historical fashion. Bulmer-Thomas's work stands alone in its reorganization of data and creation of a long-term (64 years) series.

Conclusion

The purpose of this brief review has been to illuminate the paucity of quantitative works on Nicaragua, to make scholars aware of some of the statistical data that do exist, and to urge further research using long-term quantitative analysis.

Long-term time series and studies are needed to improve our understanding on the nature and historical context of the Nicaraguan Revolution. Works like that of Bulmer-Thomas which reorganize data to compensate for the deficiencies in the statistics are essential to our understanding of Nicaraguan economic development. Although growing in number, there are still relatively few quantitative studies for Nicaragua.

Statistical data gathering in Nicaragua has increased and the volume of statistical publications has risen over time. Despite the problems of a war-torn economy, the Nicaraguan government has continued to publish statistical data. Thus, albeit sporadic, the data do exist. With continued research in Nicaragua one is certain to uncover much more quantitative data than what is discussed here.

⁴⁴ New York: Holmes and Meier, 1985, p. 162.

⁴⁵ See the Methodological Appendix in Bulmer-Thomas, *Political Economy*, pp. 295-306.