PURCHASING POWER: A TENTATIVE APPROACH AND AN APPEAL

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Social historians often find <u>post-mortem</u> estate inventories to be an invaluable source. They tell us a great deal about familial relationships, material culture, inheritance practices, business patterns, and the shared understandings of religion, death, or proper behavior. But to place these inventories in perspective one must know the relative wealth of the estate being inventoried. Although all inventories have the drawback of only referring to those with some property, many of them deal with very modest estates, while others refer to the extremely wealthy. So before drawing conclusions about some of the information an inventory reveals, it is important to take into account the total value of the estate . When the purchasing power of a currency varies significantly over time, however, an estate of several <u>contos</u> may be a sign of extraordinary wealth at one time and be relatively common among persons of a middling sort several decades later. How should we establish the value of the currency? This note traces some of my tentative steps in that direction and asks readers to comment on them and suggest alternative approaches.

One common technique is simply to convert the currency at any one time to that of a more stable economy, e.g., the pound sterling or the U.S. dollar. Several problems arise from this method, however: First, the purchasing power of the foreign currency may have changed even in the country that minted it.[1] Second, in a country like Brazil for instance, with marked economic variations by region, the exchange rate (FX) in one port was not always equivalent to that in another.[2] Third, the data on exchange rates in Brazil is mostly about the period after 1808, whereas many historians, myself included, study earlier

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[1] See, e.g., Scott Derks, ed., *The Value of a Dollar: Prices and Incomes in the United States, 1860–1999*, 2d ed. (Lakeville, CT: Grey House Publishing, 1999).

[2] For this reason I have chosen to rely on the data for Salvador in Kátia M. de Queirós Mattoso, *Bahia: A cidade de Salvador e seu mercado no século XIX*, Coleção Estudos Brasileiros, no. 12 (São Paulo and Salvador: HUCITEC and Secretaria Municipal de Educação e Cultura, 1978), p. 243n.

periods as well (a recent article in the Boletim de História Demográfica by Nelson Nozoe and others

listed several studies on the exchange rate but none covering the colonial period).[3] For this reason it

would be helpful to find exchange rates for Portugal before 1808. But most important, one may properly

ask whether the foreign exchange rate is the best guide to local purchasing power, given that many of

those at the lower end of the socio-economic scale never or rarely bought imported goods nor depended

directly on exports for their livelihood. For them food is more important, and as a general rule the price

of goods produced locally tends to move in tandem with the price of food over time.

My current research focuses on the social history of Salvador from 1780 to 1860 and is based, to

a considerable extent, on post-mortem estate inventories. At first I relied on the foreign exchange rate in

Salvador to evaluate the total wealth of the deceased, but I was dissatisfied with the result for the reasons

mentioned above. I then turned to some other works for models. Eulália Lahmeyer Lobo, in her classic

study of the Rio de Janeiro economy from the middle of the nineteenth century to 1945, develops a table

in which the cost of foodstuffs from 1820 to 1930 is indexed to 1820 values. She weights various foods

by their importance in the diet of three classes – unskilled workers, skilled and salaried workers, and the

wealthy (although it is unclear how she knows the appropriate weight for each item except for the class of

skilled and salaried workers, which she draws from a 1949 study by the Fundação Getúlio Vargas). She

calculates that farinha de mandioca accounted for 38 percent of an unskilled worker's alimentary

expenditures, beans for 21 percent, and dried meat for 17 percent (she gives no figures for fresh meat).

Obviously she believes these three items were the most important ones as they added up to over three-

quarters of the expenditures of someone in that class.[4] In Salvador, however, where virtually all legal

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[3] Nelson Nozoe, et al., "Brasil: Breves comentários sobre algumas séries referentes à taxa de câmbio," *Boletim de História Demográfica* (http://www.brnuede.com/) Ano XI, no. 32 (May 2004): unpaged. For a discussion of the various approaches to the study of purchasing power over time see Nathaniel H. Leff, *Underdevelopment and Development in Brazil,* Vol. I: *Economic Structure and Change, 1822–1947* (London: Allen & Unwin, 1982), pp. 97-130.

[4] Eulália Maria Lahhmeyer Lobo, *História do Rio de Janeiro (do capital comercial ao capital industrial e financeiro)*, 2 vols. continously paged (Rio de Janeiro: IBMEC, 1978), pp. 504, 748-751, 958-960.

sales of farinha, rice, corn, and beans were channeled through the Celeiro Público created in 1785, we have available detailed statistics on the volume of these four items from 1785 to 1849; and farinha de mandioca accounted for 87.44 percent of the total, whereas beans represented only 1.35 percent.[5] So among these four items the price of farinha seemed most important for my purpose.

And considering that my intent is to evaluate the wealth of those who died with some property, I decided that I would not consider dried meat but only fresh meat. Fortunately for me, Kátia de Queirós Mattoso has done the spade work of calculating the price of farinha and meat in Salvador from 1789 to 1908, and these data have the added advantage of including the last years of the eighteenth century. On the other hand, she was unable to supply prices for foodstuffs for the ten years from 1833 to 1842.[6]

Virtually every estate inventory in Salvador from 1780 to 1860 included slaves, even among those that listed very little else. It is well known that the price of slaves increased dramatically during the period I am studying, albeit there were periods in which they declined.[7] So I determined to take their price into account in calculating the real value of an estate. To find a series with data for most of the period of my interest, I turned to the work of Maria José de Souza Andrade, which is based on an examination of 1,269 inventories and has almost continuous data for male skilled African slaves from 1811 to 1860.[8]

I chose the year 1824 as the base year for establishing an index, for several reasons. It lies roughly half way through the period in question. By then the war for Brazilian independence had ended

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[5] Mappa demonstrativo do numero d'alqueires dos differentes generos que pagarão a contribuição . . . e teve principio em 9 de setembro de 1785 até 31 de maio de 1849, Arquivo Público do Estado da Bahia, Seção Colonial e Provincial, Maço 1611.

[6] Kátia M. de Queirós Mattoso, "Au nouveau monde: Une province d'un nouvel empire: Bahia au XIXe siècle" (Ph.D. diss., Université de Paris-Sorbonne, 1986), pp. 447-458.

[7] Kátia M. de Queirós Mattoso, Herbert S. Klein, and Stanley L. Engerman, "Trends and Patterns in the Prices of Manumitted Slaves: Bahia, 1819–1888," *Slavery and Abolition* 7, no. 1 (May 1986): 59–67.

[8] Maria José de Souza Andrade, *A mão de obra escrava em Salvador, 1811–1860*, Baianada, 8 (São Paulo and Brasília: Corrupio and CNPq, 1988), pp. 207-208.

but the political instability that ensued had not yet begun, so values continued to reflect colonial understandings of economic realities. The export economy of the region still prospered. And by this date I could include price data for all four items of my inquiry. So I prepared an overall index, based on 1824 prices for farinha, meat, slaves, and the pound sterling (or, rather, the pence sterling).

The most difficult decision, however, was whether to give more weight to some of these items than to others. In reading the work of the economist Nathaniel Leff I was struck by the ease with which this sophisticated econometrician and careful scholar arbitrarily determined in his study of Brazil to give equal weight to foreign exchange and foodstuffs, albeit dividing the latter into two markets, Rio de Janeiro and Salvador.[9] I concluded that, given that my purpose was to evaluate the relative wealth of those leaving estates in Salvador, the best course of action was to weigh these four factors equally. Yet it is particularly to this question that I invite the commentary of readers, while welcoming their insight on any matter, such as the exchange rate before 1808.

Comments may be addressed to me at rgraham@newmexico.com

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[9] Leff, *Underdevelopment and Development in Brazil,* Vol. I, p. 124.

Table A.1
Arriving at an index of prices and exchange rates for Salvador, 1790-1860:
Prices of foodstuffs in réis and exchange rates (FX), plus indices and a conversion multiplier
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Year	Farinha price (réis per liter)	5-yr ave.	Farinha index (1824=100)	Meat price (réis per kg)	5-yr ave.	Meat index (1824=100)	FX-SSA (d. per milréis)	FX-SSA (réis per d.)	5yr. Ave.	FX-SSA index (1824=100)	Ave. price healthy skilled male African slave ("moço") (in réis)	5yr.ave.	index of slave prices (1824=100)	Ave.index of farinha, meat, FX-SSA & slave price 1824=100	Multiplier for any figure
1789	13,2			40,7											
1790	10,6			40,7											
1791	10	12,5	31	40,7	41,8	26								29	3,51
1792	13,4	13,4	33	40,7	44,5	28								30	3,29
1793	15,4	15,1	37	46,4	47,2	29								33	2,99
1794	17,6	17,2	43	54,2	50,4	31								37	2,71
1795	19,2	18,2	45	54,2	52,8	33								39	2,57
1796	20,4	19,5	48	56,3	61,0	38								43	2,32
1797		23,0	57		68,0	42								50	2,02
1798	20,7	24,2	60	79,3	74,9	47								53	1,88
1799	31,62	24,0	59	82	82,9	52								55	1,80
1800	24,26	22,7	56	82	83,6	52								54	1,85
1801	19,27	23,2	57	88,4	84,8	53								55	1,82
1802	17,49	20,1	50	86,5	84,6	53								51	1,95
1803	23,34	17,6	44	84,9	84,9	53								48	2,08
1804	16,26	16,6	41	81	84,0	52								47	2,14
1805	11,58	17,2	42	83,8	85,6	53								48	2,09
1806	14,23	18,3	45	83,6	85,4	53								49	2,03
1807	20,38	17,3	43	94,7	84,2	52								48	2,10
1808	29,01	17,5	43	83,9	81,0	50	72	14						47	2,13
1809	11,3	18,9	47	75	81,7	51	73,6	14						49	2,05
1810	12,7	19,6	48	67,6	80,2	50	71,7	14	14	67				55	1,81
1811	21	17,5	43	87,2	80,5	50	73,6	14	13	67	129.444	130.576	68	57	1,75
1812	23,9	18,4	46	87,3	82,8	52	76,6	13	13	66	118.000	129.182	68	58	1,73
1813	18,4	19,9	49	85,4	86,1	54	76,6	13	14	68	144.285	129.182	68	60	1,68
1814	16	21,2	53	86,5	86,3	54	76,1	13	14	72	125.000	131.821	69	62	1,62
1815	20	25,5	63	84,1	87,8	55	64	16	15	72		143.571	75	66	1,51
1816	27,9	29,9	74	88	92,3	57	57	18	15	75	140.000	146.250	77	71	1,41
1817	45	30,6	76	103,0	103,0	64	72,3	14	16	79	165.000	164.167	86	76	1,31
1818	40,8	29,5	73	107,9	108,3	67	66,1	15	17	82	155.000	172.280	90	78	1,28
1819	19,4	27,9	69	139,8	114,4	71	57,8	17	17	85	196.666	178.280	94	80	1,26
1820	14,2	24,6	61	110,6	144,8	90	51,5	19	18	91	204.736	177.050	93	84	1,19
1821	19,9	35,2	87	118,7	160,9	100	50	20	19	96	170.000	176.550	93	94	1,06
1822	28,5	35,7	88	247,1	155,6	97	49	20	20	99	158.846	169.307	89	93	1,07
1823	94,2	37,3	92	188,3	166,8	104	50,7	20	20	99	152.500	174.421	91	97	1,03
1824	21,9	40,4	100	113,2	160,7	100	48,2	21	20	100	160.454	190.631	100	100	1,00
1825	22,2	40,4	100		131,8	82	51,8	19	22	108	230.303	210.771	111	100	1,00
1826	35,3	27,6	68	94	103,6	64	48,1	21	24	120	251.052	226.414	119	93	1,08
1827	28,6	36,4	90		119,4	74	35,2	28	28	139	259.545	260.323	137	110	0,91
1828	29,8	36,4	90		128,3	80	31,6	32	33	164	230.714	284.262	149	121	0,83
1829	65,9	33,8	84	144,8	152,9	95	24,6	37	37	183	330.000	305.265	160	130	0,77
1830	22,5	32,4	80	146,2	161,9	101	22,8	44	37	183	350.000	312.489	164	132	0,76
1831	22,2			167,7			25	40	36	178	356.065	333.872	175	176	0,57
1832	21,7			188,7			35,1	28	33	163	295.666	328.206	172	168	0,60
1833							37,8	26	29	145	337.631	326.933	172	158	0,63
1834							38,7	26	26	131	301.666	330.886	174	152	0,66
1835							39,2	26	28	136	343.635	349.753	183	160	0,63
1836							38,4	26	29	145	375.833	376.437	197	171	0,58
1837							29,5	34	30	151	390.000	406.656	213	182	0,55
1838							28,6	35	32	157	471.052	427.929	224	191	0,52
1839							31,6	32	33	164	452.758	446.845	234	199	0,50
1840							31	32	34	168	450.000	465.095	244	206	0,49
1841							30,3	33	35	171	470.416	478.551	251	211	0,47
1842							26,8	37	37	183	481.250	486.750	255	219	0,46
1843	19			173,6			25,8	39	38	190	538.333	486.416	255	223	0,45
1844	18,3			173,6			23,1	43	39	194	493.750	498.269	261	228	0,44
1845	37,4	36,7	91	217,1	200,14	125	25,4	39	39	192	448.333	510.176	268	169	0,59
1846	52,1	41,3	102	208	211	131	26,9	37	39	194	529.677	510.404	268	174	0,58
1847	56,7	46,3	115	228,4	223,78	139	28	36	38	189	540.789	505.233	265	177	0,56
1848	42,2	45,4	112	227,9	222,76	139	25	40	37	185	539.473	507.294	266	175	0,57
1849	43,2	43,1	107	237,5	224,24	140	25,8	39	37	182	467.894	520.807	273	175	0,57
1850	32,6	39,0	96	212	221,88	138	28,7	35	37	183	458.636	529.711	278	174	0,58
1851	40,7	42,6	105	215,4	221,88	138	29,1	34	36	178	597.241	557.623	293	178	0,56
1852	36,1	44,1	109	216,6	218,68	136	27,4	36	35	175	585.312	607.044	318	185	0,54
1853	60,2	45,9	114	227,9	230,96	144	27,6	36	36	177	679.032	698.174	366	200	0,50
1854	50,7	50,4	125	221,5	251,66	157	27,6	36	36	179	715.000	749.976	393	213	0,47
1855	41,7	64,5	160	273,4	281,44	175	27,5	36	36	180	914.285	853.851	448	241	0,42
1856	63,5	72,9	180	318,9	327,74	204	27,5	36	37	184	856.250	990.772	520	272	0,37
1857	106,6	86,8	215	365,5	381,1	237	26,6	38	38	187	1.104.687	1.047.772	550	297	0,34
1858	101,9	99,7	247	459,4	427,7	266	25,5	39	38	189	1.363.636	1.086.915	570	318	0,31
1859	120,2	97,6	241	488,3	438,6	273	25,6	39	39	192	1.000.000	1.144.581	600	327	0,31
1860	106,2	85,8	212	506,4	430,14	268	25,8	39	39	192	1.110.000	1.157.879	607	320	0,31
1861	52,9			373,4			25,5	39							
1862	48			323,2			26,3	38							

Célula: B6
Comentário: From Kátia M. de Queirós Mattoso, "Au nouveau monde: Une province d'un nouvel empire: Bahia au XIXe siècle" (Ph.D. diss., Université de Paris-Sorbonne, 1986), pp. 447–58.

Célula: E6
Comentário: From Kátia M. de Queirós Mattoso, "Au nouveau monde: Une province d'un nouvel empire: Bahia au XIXe siècle" (Ph.D. diss., Université de Paris-Sorbonne, 1986), pp. 447–58.

Célula: H6
Comentário: From Kátia de Queirós Mattoso, Bahia: A cidade de Salvador e seu mercado no século XIX, Coleção Estudos Brasileiros, no. 12 (São Paulo and Salvador: HUCITEC and Secretaria Municipal de Educação e Cultura, 1978), p. 243n.

Célula: L6
Comentário: From Maria José de Souza Andrade, A mão de obra escrava em Salvador, 1811–1860, Baianada, 8 (São Paulo and Brasília: Corrupio and CNPq, 1988), pp. 207–08.