The Common Core of Budgeting: Public Spending in Malta from 1788 to 2024

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Abstract

Government budgets tell us a lot about politics. Beyond recording the priorities of different political regimes, budgetary changes give a window into how governments process information and respond to problems. But reliable budget data is mostly limited to democracies over the last 60 years. How do spending priorities look in non-democracies? How different are modern budgets from historical ones? We analyze a unique dataset of Maltese public budgets covering roughly 250 years and several regime configurations—from the late confederal theocratic rule of the Knights of the Order of St John (ca. 1778), through British colonial administration (1800), independence and democratization (1964), and EU membership (2004), up to 2024. Descriptive analyses reveal three noteworthy patterns: First, there is a "common core" of budgeting centered around social services, healthcare, and government operations that is a major proportion of total spending regardless of the regime or historical period. Second, outside of this common core, budgets have modernized with defense spending plummeting and spending on public education increasing. Third, budgetary changes across the centuries consistently show the signature patterns of punctuated equilibrium theory, indicating the general nature of the human cognitive limitations on which the theory is built.

Keywords

Malta; budgeting; punctuated equilibrium theory

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Introduction

Public budgets are among the most analytically transparent records of government behavior. They represent binding decisions about resource allocation — a direct record of what governments prioritize. Beyond what budgets reveal about priorities, budgetary changes carry information about how governments respond to new information. This insight forms the basis of Baumgartner and Jones's punctuated equilibrium theory (PET), which argues that disproportionate information processing, based on the limits of human cognition as well as the inefficiencies imposed by complex political institutions, produces a characteristic signature in policy outputs: long periods of incremental adjustment punctuated by infrequent but sharp reallocations, as accumulated demands overwhelm the friction of established routines (Baumgartner and Jones 1993; Jones and Baumgartner 2005). Thus, government budgets not only encode policy priorities and show how they do (or do not) shift with political control, but they also can tell us something about institutional responsiveness.

A central question in this literature is how regime type shapes budgetary behavior. How (and how much) do the spending priorities of authoritarian regimes versus democracies differ? Relatedly, how do these types of regimes process information? An emerging literature argues that authoritarian regimes should be worse at processing and responding to inputs than democracies because they lack incentives and accurate information. On the other hand, they might be better at reallocating once those in power decide to do so; the lack of internal checks and balances may allow greater responsiveness. Thus, the question is whether the information advantage of open and democratic systems outweighs the institutional advantages that autocrats may enjoy in responding to new challenges (see Lam and Chan 2015; Baumgartner et al. 2018; Epp 2018; Jones et al. 2019). These questions have obvious theoretical stakes, but it has proven difficult to answer them empirically. Cross-national designs must contend with the fact that

countries often vary dramatically with respect to wealth, institutional history, size, and culture, making it difficult to isolate the effect of regime type from the many other factors that shape budgetary outcomes. Longitudinal within-country designs offer a cleaner strategy in principle, but have been constrained by the limited temporal reach of available budget data (see, however, Sebők and Boda 2021, whose analysis of policy and budgetary dynamics in Hungary covers the period from 1867 to 2018; also see Bulut and Yldirim 2020 who conducted similar analyses for the case of Turkey since 2002; and Baumgartner et al., 2018, who included transitions in Brazil and Hungary in their cross-national analysis). Most comparative budget research draws on data from the postwar period or later, when regime variation within any single country is modest. The result is that the literature's claims about how regime type shapes governmental behavior rest on comparisons that are either cross-nationally complicated or historically shallow.

We address this problem with a dataset that, to our knowledge, has no precedent in the comparative budgeting literature: annual public expenditure data from Malta covering roughly 250 years and four fundamentally distinct regimes — the late theocratic rule of the Knights of the Order of St. John (budget data from 1779 to 1796), British colonial administration (1800 to 1964), post-independence democratic governance (1964 to 2004), and the EU membership period (2004 to present). These transitions are not the routine alternations of party control, but instead represent dramatic transformations in sovereignty, in the logic of political accountability, and in the administrative architecture through which resources are extracted and allocated. And the Malta case also offers a methodological advantage beyond its temporal span: as a small island nation with a bounded and stable geography, it holds constant many of the environmental and demographic pressures that complicate inference. The underlying demands that populations make on government — security, welfare, basic administration — have not changed so radically

across these centuries as to render comparison meaningless. And the geographical area has not changed.

When we compare budget allocations across regimes, three patterns emerge. First, PET dynamics are present in all four regimes. There is no time in history, even in the pre-modern theocratic period where government functions were severely limited compared to what they are today, when budgets shifted regularly, smoothly, and without punctuations. Second, we identify a recognizable common core of public spending centered on defense, health care, and the maintenance of government operations. Notwithstanding the dramatic differences in who governed, by what authority, and toward what ideological ends, these elements make up a substantial proportion of all budget expenditures. Third, beyond the common core, spending priorities have changed dramatically — the Knights' accounts record spending on falconry, the upkeep of noble households, and the purchase of enslaved persons, for example. We also document a massive shift away from defense spending moving from the historical to the contemporary period. These changes are consistent with budgetary modernization. A modern state shows a greater diversity in spending patterns as well as significantly more spending on social services, particularly education, compared to pre-modern states. These differences appear to be historical rather than institutional. For example, spending on education expanded in the period around 1900 during which Malta remained firmly under the control of an imperial power. While the independent government of the country certainly has expanded social services and education spending, the British colonial powers also responded to a change in the times unrelated to any change in regime.

These findings speak to a basic question about the nature of governance. However much regimes differ, they appear unable to escape a core set of responsibilities that the task of rule

imposes on them. The theocracy, the empire, and the democracy alike had to keep populations alive, maintain order, and sustain the administrative apparatus through which all other functions were discharged. That punctuated dynamics persist across this variation suggests, in turn, that the information-processing constraints identified by PET are neither artifacts of pluralist competition nor frictions imposed by democratic accountability, but reflect foundational elements of organizational behavior under conditions of complexity and bounded rationality.

Our paper is organized as follows: First, we provide some historical background. Second, we lay out our theoretical expectations. Third, we present our data and analyses. We then discuss the implications of these findings and conclude.

Budgeting in Three Historical Regimes

Table 1 summarizes the different historical regimes and the surviving budgetary records on which our analysis is based.

Table 1: The three regimes and the surviving budget records.

Regime	Period	Surviving Budget Records
Knights of St. John	1530–1798	Knights' accounts: 1779–1796 (last 18 yrs)
British colonial	1800–1964	Blue Books 1821–1937; early Budget Office reports 1936–1964
Democratic self-rule	1964–present	Late Budget Office reports 1965–2003; modern budgets 2001–2024

The Knights of St. John (1530–1798)

The religious-military Order of the Knights of St John took control of Malta in 1530, when the Holy Roman Emperor Charles V, as King of Sicily and with papal approval, granted it to them after the Ottomans had driven them from Rhodes (Mallia-Milanes 1993). Over the next two and a half centuries, the Order grew from a religious order into a sovereign Hospitaller state with a full apparatus of government. Authority was concentrated in the Grand Master, a near-absolute sovereign elected for life by an electoral college in which each *langue* (group of national origin)

was represented, advised by the Grand Council. The Order was organized into national *langues*, each based in its own auberge in Valletta. The senior knight heading each langue held one of the Order's principal offices—the treasury, the army, the fleet, the hospital—so government was organized in functional branches: defense, customs, the treasury, the courts, quarantine, and the hospitals (G. A. Pirotta 1991).

The Order drew its income primarily from the revenues of its commandery estates across Catholic Europe, supplemented by minted currency, occasional taxes, and local receipts from customs and property (G. A. Pirotta 1991). That dependence on the European commanderies became its weakness in its final decade, when the French Revolution removed the French estates and pushed the Order into financial distress. Defense—fortifications, the galley fleet, the great harbour works—dominated its spending, not surprisingly for a military order holding a central-Mediterranean fortress. The *Sacra Infermeria*, the Order's renowned hospital, came next (Castillo 2006; G. A. Pirotta 1991). We were able to locate the accounting books in *Scudi*, the original unit of the ledgers, for the final eighteen years of the regime, 1779–1796 (with a gap in 1792–1794), before Napoleon's conquest of 1798 ended the Order's rule. We were not authorized to take pictures of the old accounting books, so we transcribed the contents in our spreadsheets.

Table 2 shows a representative year, 1788, in the Order's own categories. The two defense heads (Navy and ports, land) together take more than half the budget, and the hospitals come next. Other relevant expenditures included the purchase of enslaved persons, the postal service, or expenditures for the poor. Among the 13 "other" categories were falconry, the library, the law courts, nobility, and the religious foundations. Several expenditures were clearly typical of a theocratic, military regime and have no counterparts in modern budgeting. For example, the

state sponsored celebrations for events such as the birth of a royal child in various parts of Catholic Europe; it also provided food and housing to its own aristocratic populations.

Table 2: Knights' Accounts, 1788.

Category	Share
Defense (Navy and Ports)	37.6%
Defense (Land)	15.0%
Hospitals	9.7%
Factories and storages	6.9%
Fees (honoraria), allowances, salaries and various expenses	6.8%
International Affairs	4.3%
Tables (food and beverages)	4.0%
Budget and Debt	3.7%
Slaves - purchase and prisons	2.3%
Postal service	2.1%
Poor, Disabled and Orphans	1.9%
Pensions, annuities and gratifications	1.7%
Other (13 categories)	3.9%
Total	99.9%

Note: Budget by original category (share of the year's expenditure; categories beyond the top twelve collapsed).

British Colonial Rule (1800 to 1964)

Napoleon seized Malta in 1798 on his way to Egypt. Within a few months, the Maltese had risen against the French and requested British help. Britain took control in 1800 and then held the islands for more than a century and a half (Castillo 2006; Lee 1973). Britain was drawn by geography. Malta's natural harbour and central-Mediterranean position made it a fortress and naval base, and that strategic logic, rather than a program of colonial development, organized the colony's government and its budget (Lee 1973; Castillo 2006).

Malta was governed as a Crown Colony. Executive authority rested with a Governor advised by an Executive Council, with legislation passing through a Council of Government. All institutions reported to the Colonial Office in London; the colonial record survives in the Colonial Office series, of which the Blue Books are an important part. Budgetary authority

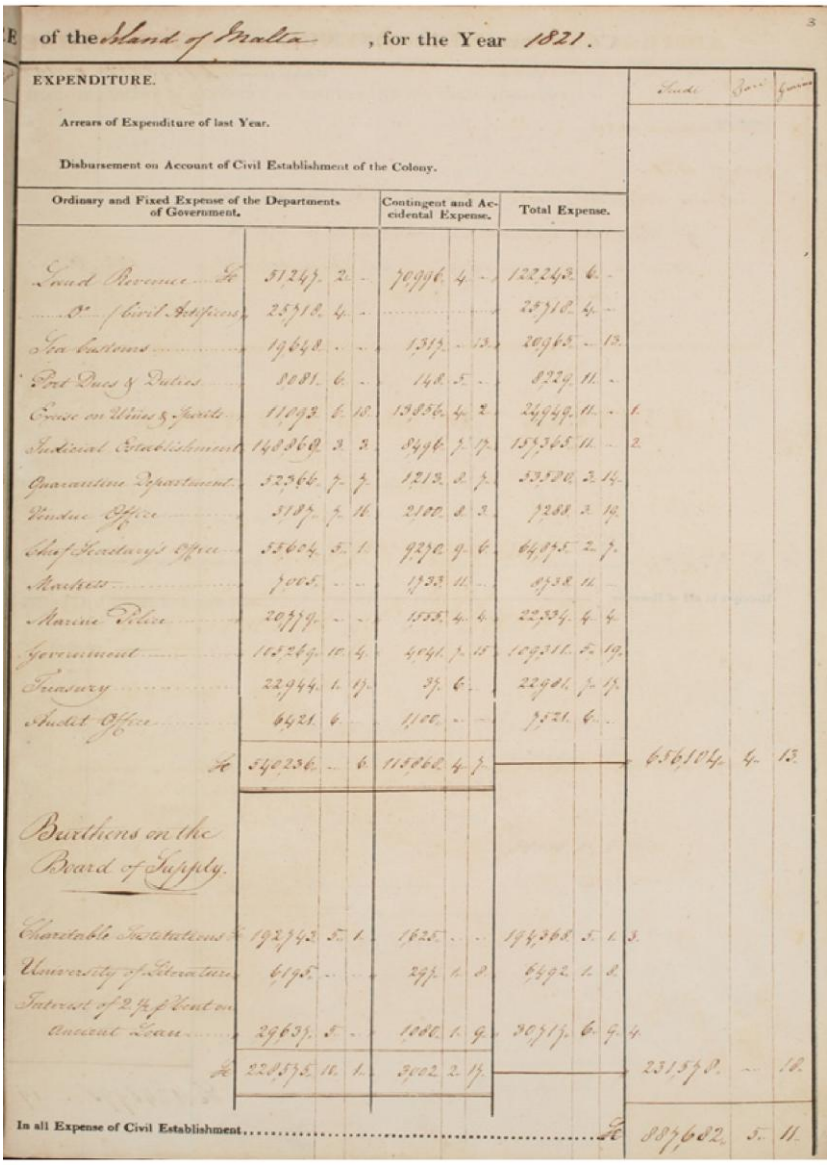
passed to Maltese hands slowly and unevenly, through a number of constitutional back-and-forths: a nominated Council of Government in 1835, limited Maltese representation in 1849, the Cardwell principle of 1864 that money votes on local affairs should not be forced against the elected members—the point at which budgetary control began to move locally—the Knutsford constitution of 1887, its withdrawal under Chamberlain in 1903, and the Amery constitution of 1921, which created a diarchy consisting of an elected Maltese government for local affairs and a nominated imperial government for the "Reserved Matters" of defense and foreign policy (Lee 1973; Cremona 1994; Pirotta 2012). The 1921 experiment collapsed into direct rule by 1933, and universal suffrage arrived only in 1947 (Fenech 2005).

The opening decade of British rule also produced an accounting break, which reflects in a gap in our data. Under Governor Maitland (1813–1824) the administration and budget transitioned towards a more modern British organisation, and replaced the Order's fee remuneration with a rudimentary civil service with fixed salaries (G. A. Pirotta 1991; Bartolo 1980). Yet the deeper pattern was one of continuity: The colonial service inherited the Order's apparatus, and a long series of retrenchment commissions across the nineteenth and early twentieth centuries repeatedly failed to cut the "establishment" (public service salaries) that had become a heavy charge (G. A. Pirotta 1991). In 1876, public-service salaries were more than 40% of total revenue, with the bread tax alone supplying about a third of revenue. Meanwhile, the population grew from about 100,000 in 1849 to some 150,000 by the 1880s (G. A. Pirotta 1991).

We found budget records for the British era in the Bluebooks from 1821 to 1937, and in the early Budget Office reports (originally issued as Financial Perspectives) from 1936 to 1964, across the internal currency transition from *Scudi* to Pounds Sterling in 1827. Figures 1 and 2

provide illustrations of the records themselves—the earliest handwritten return and a later printed one.

Figure 1: The earliest Blue Book return, 1821.



of the Island of Malta, for the Year 1821.

EXPENDITURE.

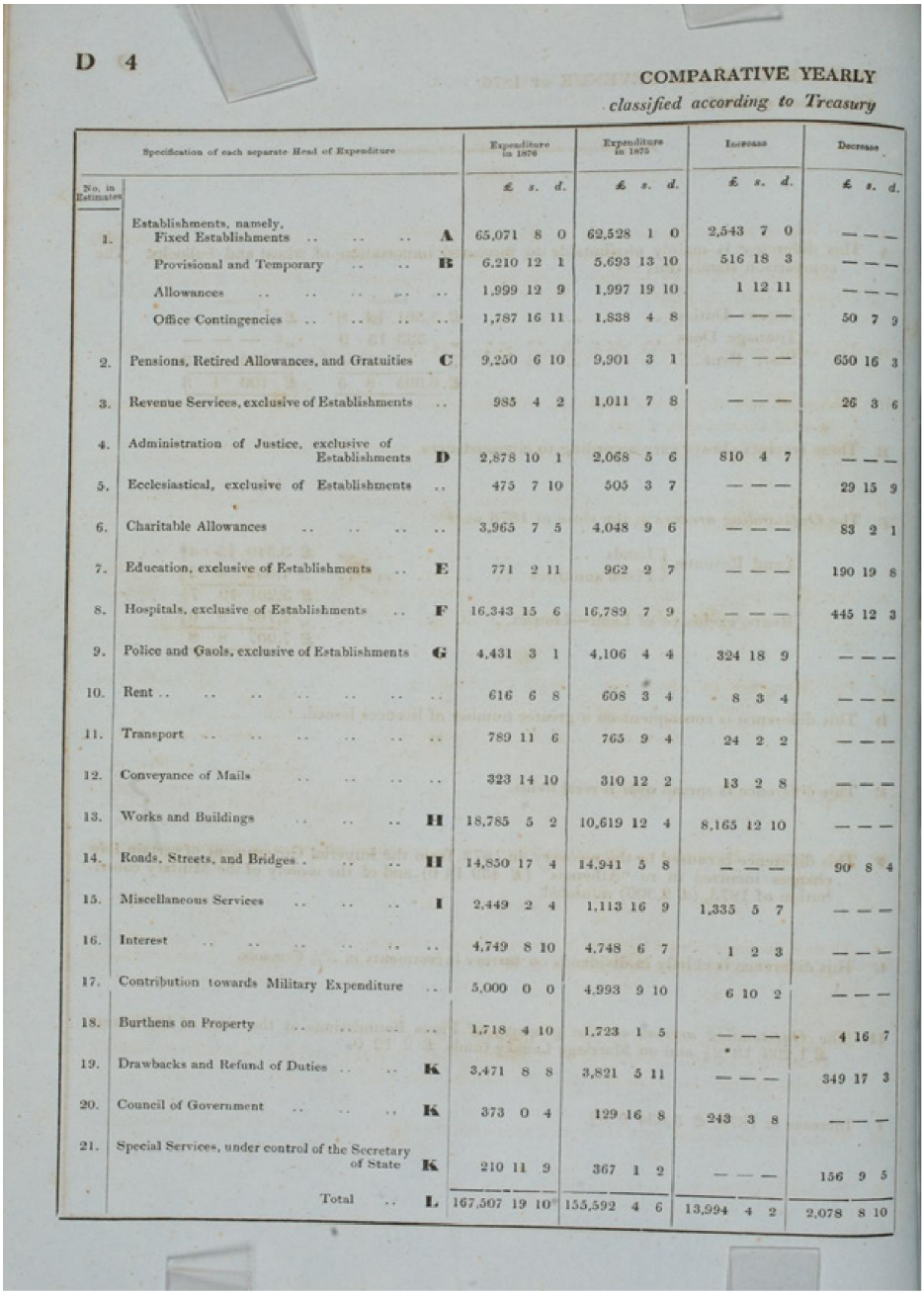
Arrears of Expenditure of last Year.

Disbursement on Account of Civil Establishment of the Colony.

Ordinary and Fixed Expense of the Departments of Government.	Contingent and Accidental Expense.	Total Expense.	Stg.	Sous	Grains
Land Revenue &c	51247. 2. -	70996. 4. -	122243. 6. -			
Office of Civil Auditors	25712. 4. -		25712. 4. -			
Sea Customs	19648. - . -	1315. - . 13.	20963. - . 13.			
Port Dues & Duties	8081. 6. -	148. 5. -	8229. 11. -			
Excise on Wines & Spirits	11093. 8. 10.	13856. 4. 2.	24949. 11. -	1.		
Judicial Establishment	148869. 3. 3.	8496. 7. 7.	157365. 11. -	2.		
Quarantine Department	52366. 7. 4.	1213. 8. 7.	53580. 2. 14.			
Vendue Office	5185. 7. 11.	2100. 8. 3.	7288. 3. 14.			
Chief Secretary's Office	55604. 5. 1.	9270. 9. 6.	64875. 2. 7.			
Marshes	7005. - . -	1933. 11. -	8938. 11. -			
Marine Police	20779. - . -	1555. 4. 4.	22334. 4. 4.			
Government	103269. 10. 4.	4041. 7. 15.	107311. 5. 19.			
Treasury	22944. 1. 17.	37. 6. -	22981. 7. 17.			
Audit Office	6421. 6. -	1100. - . -	7521. 6. -			
&c	540236. - . 6.	115868. 4. 7.			656104. 4. 13.	
Burthens on the Board of Supply.						
Charitable Institutions &c	192743. 5. 1.	1625. - . -	194368. 5. 1.	3.		
University of Literature	6195. - . -	297. 1. 2.	6492. 1. 2.			
Interest of 2½ p.t Rent on Ancient Loan	29637. 5. -	1000. 1. 9.	30637. 6. 9.	4.		
&c	228575. 11. 1.	3002. 2. 19.			231578. - . 16.	
In all Expense of Civil Establishment ..... &c					887682. 5. 11.	

Note: Handwritten: expenditure on account of the Civil Establishment of the Colony, with the 'Burthens on the Board of Supply'. "Burthen" is an archaic word for burden or cost.

Figure 2: A printed Blue Book expenditure return for 1876.



D 4

COMPARATIVE YEARLY

classified according to Treasury

No. in Estimates	Specification of each separate Head of Expenditure		Expenditure in 1876 £ s. d.	Expenditure in 1875 £ s. d.	Increase £ s. d.	Decrease £ s. d.
1.	Establishments, namely, Fixed Establishments	A	65,071 8 0	62,528 1 0	2,543 7 0	— — —
	Provisional and Temporary	B	6,210 12 1	5,693 13 10	516 18 3	— — —
	Allowances		1,999 12 9	1,997 19 10	1 12 11	— — —
	Office Contingencies		1,787 16 11	1,838 4 8	— — —	50 7 9
2.	Pensions, Retired Allowances, and Gratuities	C	9,250 6 10	9,901 3 1	— — —	650 16 3
3.	Revenue Services, exclusive of Establishments		985 4 2	1,011 7 8	— — —	26 3 6
4.	Administration of Justice, exclusive of Establishments	D	2,878 10 1	2,068 5 6	810 4 7	— — —
5.	Ecclesiastical, exclusive of Establishments		475 7 10	505 3 7	— — —	29 15 9
6.	Charitable Allowances		3,965 7 5	4,048 9 6	— — —	83 2 1
7.	Education, exclusive of Establishments	E	771 2 11	962 2 7	— — —	190 19 8
8.	Hospitals, exclusive of Establishments	F	16,343 15 6	16,789 7 9	— — —	445 12 3
9.	Police and Gaols, exclusive of Establishments	G	4,431 3 1	4,106 4 4	324 18 9	— — —
10.	Rent		616 6 8	608 3 4	8 3 4	— — —
11.	Transport		789 11 6	765 9 4	24 2 2	— — —
12.	Conveyance of Mails		323 14 10	310 12 2	13 2 8	— — —
13.	Works and Buildings	H	18,785 5 2	10,619 12 4	8,165 12 10	— — —
14.	Roads, Streets, and Bridges	H	14,850 17 4	14,941 5 8	— — —	90 8 4
15.	Miscellaneous Services	I	2,449 2 4	1,113 16 9	1,335 5 7	— — —
16.	Interest		4,749 8 10	4,748 6 7	1 2 3	— — —
17.	Contribution towards Military Expenditure		5,000 0 0	4,993 9 10	6 10 2	— — —
18.	Burthens on Property		1,718 4 10	1,723 1 5	— — —	4 16 7
19.	Drawbacks and Refund of Duties	K	3,471 8 8	3,821 5 11	— — —	349 17 3
20.	Council of Government	K	373 0 4	129 16 8	243 3 8	— — —
21.	Special Services, under control of the Secretary of State	K	210 11 9	367 1 2	— — —	156 9 5
	Total	L	167,507 19 10	155,592 4 6	13,994 4 2	2,078 8 10

Note: The Figure shows Chapter D of the budget, by separate Head of Expenditure The original heads the Blue Books panel plots are legible here – ‘Fixed Establishments’ and ‘Provisional and Temporary’ (the central personnel pool reallocated in the primary series), ‘Interest’, ‘Burthens on Property’, ‘Police and Gaols’, ‘Charitable’, ‘Contribution towards Military Expenditure’.

Table 3 presents the printed 1876 return as a budget. The single largest category is the "Fixed Establishment," and together with the Provisional and Temporary establishment line it accounts for more than two-fifths of the year's spending. This terminology refers to the civil service salaries, not to the Department or area of expenditure where each employee works Public works, hospitals, pensions, charitable institutions, and police follow: all of them recognizable functions of a nineteenth-century colonial state.

Table 3. British Blue Books, 1876.

Category	Share
Fixed Establishment	38.9%
Public Works and land revenue	20.1%
Hospitals, exlusive of Establishments	9.8%
Pensions	5.5%
Provisional and Temporary (Establishment)	3.7%
Contribution towards Military Expenditure	3.0%
Interest & Burthens	2.8%
Police, Police Establishments, Prisons and Gaols	2.6%
Charitable	2.4%
Drawbacks and Refund of Duties	2.1%
Administration of Justice	1.7%
Miscellaneous	1.5%
Other (11 categories)	6.0%
Total	100.1%

Note: Categories as reported in the original.

Democratic Self-Rule (1964 to present)

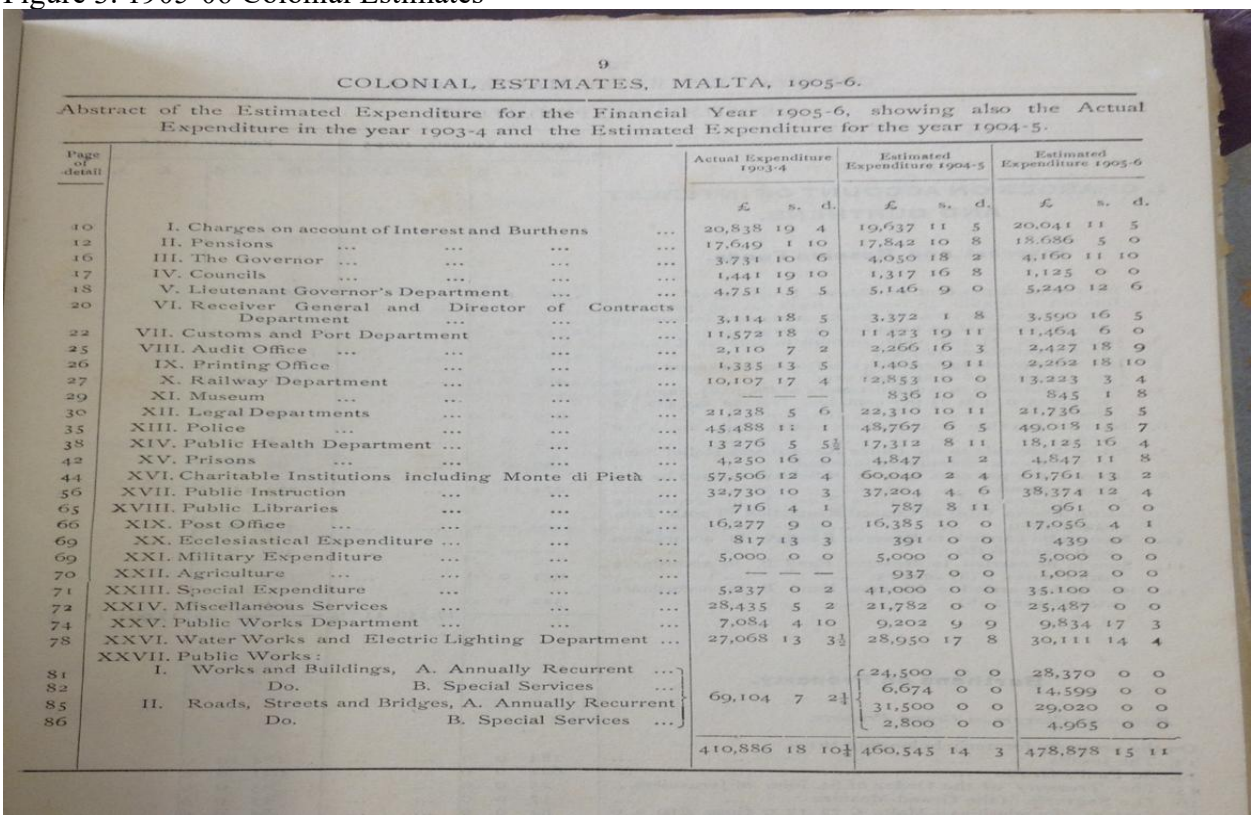
Malta moved from fortress colony to sovereign state over the post-war decades. It emerged from the Second World War economically devastated and dependent on the imperial spending on shipping and defense. The central problem of the era was how to convert the economy of a military base into one that could stand on its own (J. M. Pirotta 1991). A proposal to integrate Malta directly into the United Kingdom was debated between 1955 and 1958 and broke down; the constitution was suspended; internal self-government returned with the Blood constitution of 1961; independence followed in 1964, and the islands became a republic in 1974 (Dobie 1967;

Cremona 1994). As a small state whose only real resource was its people and location, the economic answer to dependence soon became diversification toward services and tourism, backed by sustained public investment, particularly in education.

The modern regime is a parliamentary democracy. A textbook case of a Westminster model, with a unicameral House of Representatives, a government drawn from it, and, since 1974, a ceremonial President as head of state. Its politics are among the most distinctive in Europe. A single-transferable-vote electoral system that elsewhere fragments party systems, sustains in Malta one of the purest two-party systems in the democratic world, with near-universal turnout and a deep left-right cleavage that produces sharp but infrequent alternation in office (Frendo 1991; Hirczy 1995; Hirczy and Lane 2000; Cini 2002; Carammia and Pace 2023). The state looms large in economy and society: the public sector is large and politically penetrated, and the clientelism that both parties operate is a structural product of the island's smallness rather than a cultural residue (Veenendaal 2019). EU membership only arrived in 2004.

The most consequential fiscal fact of the era is the arrival of a modern welfare state. Overall, modernization processes which had begun in the British era continued under a government answerable to Maltese voters rather than to an imperial center. The fiscal record runs from the late Budget Office reports (1965–2003, see the estimates plate below) into the modern national budgets (2001–2024), across the transition from the Maltese Lira to the Euro. Figures 3 and 4 present replications of the budget documents for 1905-06 and for 2011, respectively.

Figure 3. 1905-06 Colonial Estimates



9

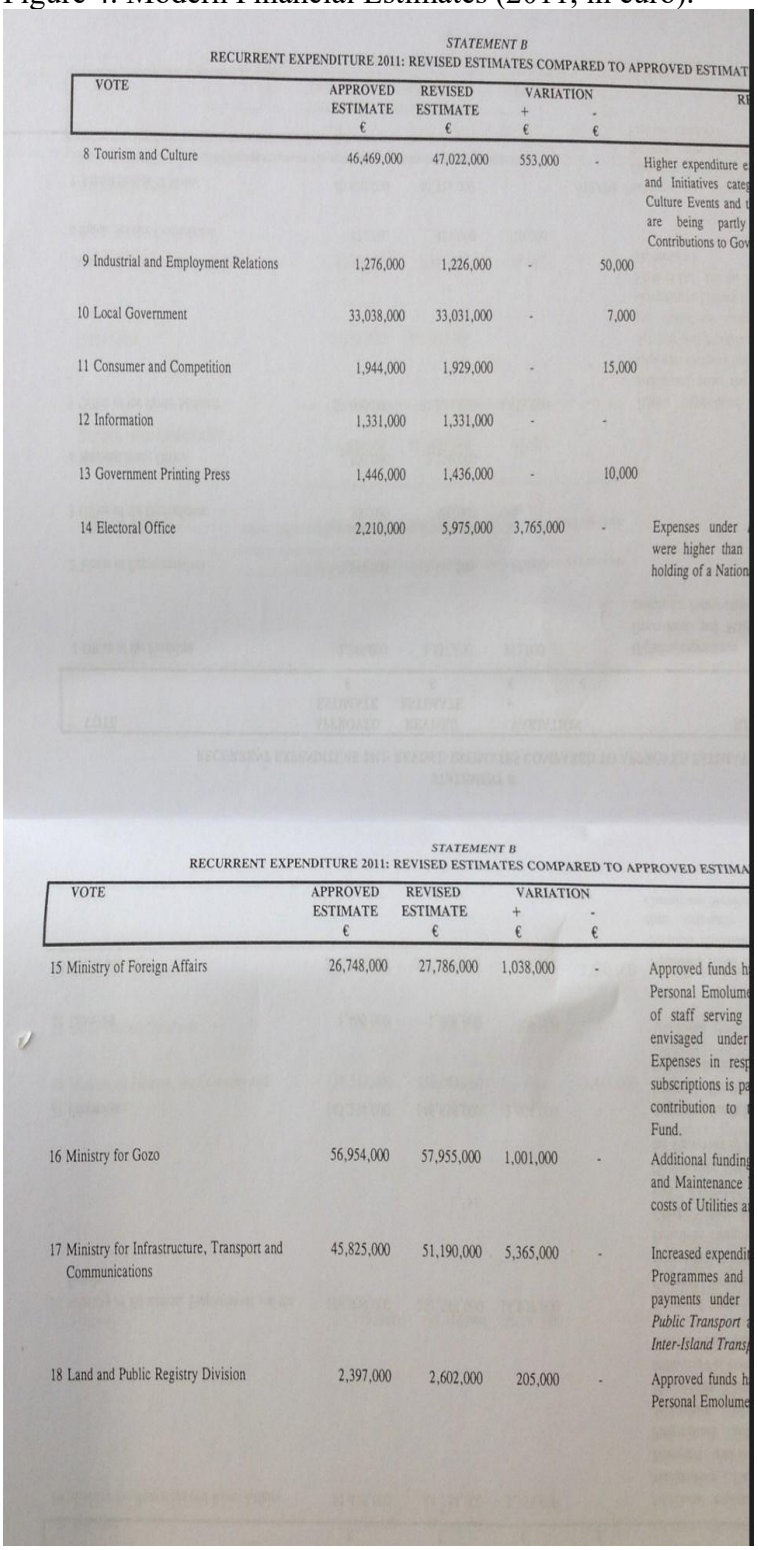
COLONIAL ESTIMATES, MALTA, 1905-6.

Abstract of the Estimated Expenditure for the Financial Year 1905-6, showing also the Actual Expenditure in the year 1903-4 and the Estimated Expenditure for the year 1904-5.

Page of detail		Actual Expenditure 1903-4	Estimated Expenditure 1904-5	Estimated Expenditure 1905-6
		£ s. d.	£ s. d.	£ s. d.
10	I. Charges on account of Interest and Burthens ...	20,838 19 4	19,637 11 5	20,041 11 5
12	II. Pensions	17,649 1 10	17,842 10 8	18,686 5 0
16	III. The Governor	3,731 10 6	4,050 18 2	4,160 11 10
17	IV. Councils	1,441 19 10	1,317 16 8	1,125 0 0
18	V. Lieutenant Governor's Department	4,751 15 5	5,146 9 0	5,240 12 6
20	VI. Receiver General and Director of Contracts Department	3,114 18 5	3,372 1 8	3,590 16 5
22	VII. Customs and Port Department	11,572 18 0	11,423 19 11	11,464 6 0
25	VIII. Audit Office	2,110 7 2	2,266 16 3	2,427 18 9
26	IX. Printing Office	1,335 13 5	1,405 9 11	2,262 18 10
27	X. Railway Department	10,107 17 4	12,853 10 0	13,223 3 4
29	XI. Museum	— — —	836 10 0	845 1 8
30	XII. Legal Departments	21,238 5 6	22,310 10 11	21,736 5 5
35	XIII. Police	45,488 11 1	48,767 6 5	49,018 15 7
38	XIV. Public Health Department	13,276 5 5½	17,312 8 11	18,125 16 4
42	XV. Prisons	4,250 16 0	4,847 1 2	4,847 11 8
44	XVI. Charitable Institutions including Monte di Pietà ...	57,506 12 4	60,040 2 4	61,761 13 2
56	XVII. Public Instruction	32,730 10 3	37,204 4 6	38,374 12 4
65	XVIII. Public Libraries	716 4 1	787 8 11	961 0 0
66	XIX. Post Office	16,277 9 0	16,385 10 0	17,056 4 1
69	XX. Ecclesiastical Expenditure	817 13 3	391 0 0	439 0 0
69	XXI. Military Expenditure	5,000 0 0	5,000 0 0	5,000 0 0
70	XXII. Agriculture	— — —	937 0 0	1,002 0 0
71	XXIII. Special Expenditure	5,237 0 2	41,000 0 0	35,100 0 0
72	XXIV. Miscellaneous Services	28,435 5 2	21,782 0 0	25,487 0 0
74	XXV. Public Works Department	7,084 4 10	9,202 9 9	9,834 17 3
78	XXVI. Water Works and Electric Lighting Department ...	27,068 13 3½	28,950 17 8	30,111 14 4
	XXVII. Public Works:			
81	I. Works and Buildings, A. Annually Recurrent ...	69,104 7 2¼	24,500 0 0	28,370 0 0
82	Do. B. Special Services ...		6,674 0 0	14,599 0 0
85	II. Roads, Streets and Bridges, A. Annually Recurrent		31,500 0 0	29,020 0 0
86	Do. B. Special Services ...		2,800 0 0	4,965 0 0
		410,886 18 10¾	460,545 14 3	478,878 15 11

Estimated expenditure by Head (Interest & Burthens, Pensions, Police, Charitable Institutions including Monte di Pieta, Public Instruction, …).

Figure 4. Modern Financial Estimates (2011, in euro).



STATEMENT B

RECURRENT EXPENDITURE 2011: REVISED ESTIMATES COMPARED TO APPROVED ESTIMAT

VOTE	APPROVED ESTIMATE €	REVISED ESTIMATE €	VARIATION + €	VARIATION - €	RE
8 Tourism and Culture	46,469,000	47,022,000	553,000	-	Higher expenditure e and Initiatives categ Culture Events and t are being partly Contributions to Gov
9 Industrial and Employment Relations	1,276,000	1,226,000	-	50,000	
10 Local Government	33,038,000	33,031,000	-	7,000	
11 Consumer and Competition	1,944,000	1,929,000	-	15,000	
12 Information	1,331,000	1,331,000	-	-	
13 Government Printing Press	1,446,000	1,436,000	-	10,000	
14 Electoral Office	2,210,000	5,975,000	3,765,000	-	Expenses under were higher than holding of a Nation

STATEMENT B

RECURRENT EXPENDITURE 2011: REVISED ESTIMATES COMPARED TO APPROVED ESTIMA

VOTE	APPROVED ESTIMATE €	REVISED ESTIMATE €	VARIATION + €	VARIATION - €	
15 Ministry of Foreign Affairs	26,748,000	27,786,000	1,038,000	-	Approved funds h Personal Emolume of staff serving envisaged under Expenses in resp subscriptions is pa contribution to Fund.
16 Ministry for Gozo	56,954,000	57,955,000	1,001,000	-	Additional funding and Maintenance costs of Utilities a
17 Ministry for Infrastructure, Transport and Communications	45,825,000	51,190,000	5,365,000	-	Increased expendit Programmes and payments under *Public Transport Inter-Island Transp*
18 Land and Public Registry Division	2,397,000	2,602,000	205,000	-	Approved funds h Personal Emolume

Note: Statement B – recurrent expenditure by Vote, revised vs approved estimates. This expenditure-by-function structure remains consistent across a century.

The modern budget is coded directly in COFOG, and Table 4 lists the 2011 estimates by the ten first-level divisions of COFOG. The welfare state is dominant: social protection is the single largest division at about a third of spending, with general public services near a sixth and education and health each near an eighth. The defense expenditures that dominated the Order's budget and underwrote the British fortress has shrunk to less than 2%.

Table 3. Maltese Government Budget, 2011.

Category	Share
Social Protection	32.8%
General Public Services	17.0%
Economic Affairs	13.3%
Health	12.9%
Education	12.6%
Public Order and Safety	3.2%
Environmental Protection	3.2%
Recreation, Culture and Religion	2.2%
Defense	1.9%
Housing and Community Amenities	0.9%
Total	100.0%

Note: The original codes are COFOG second-level, aggregated here to the ten top-level divisions.

This review of the historical material and explanation of the budgetary structures in place over time sets the stage for our theory and empirical analysis. We turn to that now.

Theoretical Expectations

Our first set of expectations comes from punctuated equilibrium theory. This suggests that there will be common characteristics across government budgeting no matter what the time period, regime type, or organizational structure of the budget documents analyzed. As long as we can compare spending from year to year with common budget categories, the theory predicts high degrees of kurtosis reflecting a pattern of routine reallocation of funds in most cases based on last year's share, with occasional dramatic adjustments because of leaders' inability to adjust simultaneously to so many evolving potential problems, most of which are measured only with

uncertainty. This is a hard test of the PET theory because of the length of time covered in our analysis and the inclusion of pre-modern government systems. One could imagine a rival theoretical expectation that the Knights, with their theocratic regime, limited scope, and dictatorial powers, would have had greater ability to make proportionate adjustments in their (relatively small) budgets in the face of stochastic disturbances and evolving social trends. In fact, this test can be seen as one of whether PET dynamics which have been commonly observed in modern budget systems are a pathology of modern times, or a historical constant reflecting basic human cognitive limitations. We opt for the latter interpretation but provide the data in later sections to verify or disconfirm this hypothesis:

H1. *Budgets in each time period and regime type will show high levels of kurtosis.*

Our second set of theoretical expectations has to do with the "core" and "periphery" of government. Jennings et al. (2011) point out that certain functions of government, such as paying the salaries of the civil service, are always there. Others are more discretionary and may rise and fall as budgets allow or as government preferences and priorities change. We therefore expect a common core of spending categories to be present throughout the time period, including transportation, ports, infrastructure, civil service, and so on. Because Malta is a small country, national defense is not a core function as it might be in another country; in addition, during British rule, defense was ensured by the imperial power, not the local government.

H2: *A common core of budgeting will be consistent throughout the entire historical period.*

Finally, we have a modernization hypothesis. Because our time span covers the industrial revolution, the invention of electricity and the automobile, and other revolutionary scientific and technological changes, we expect that this would have an impact on spending priorities. Also, the movement from pre-modern agrarian society to a modern capitalist economy generated changing

needs. We expect therefore an expansion in modern budgeting categories such as scientific research, mass education, health care, and various forms of social welfare programs as the nation transitioned to a modern capitalist and industrialized economy.

H3. *Following the transition to a modern economic system, higher shares of spending will go to categories associated with social welfare, education, the needs of the poor, and environmental issues.*

This hypothesis carries a corollary: As new spending areas arise, the old ones do not disappear. Therefore, modern governmental budgets are more diverse than the pre-modern ones.

H4. *Following the transition to a modern economic system, the budget becomes more diverse, with spending spread more evenly across many categories rather than concentrated in a small number.*

Data and Analyses

We collected information on budgetary expenditures in Malta across two and a half centuries from four sources: the Knights' accounts (1779–1796), the British Blue Books1 (1821–1937), the Budget Office financial reports (originally issued as Financial Perspectives, 1936–2003), and Eurostat data on modern national budgets (2001–2024).

Overall, the series spans 1779–2024, with complete data for 189 of 246 years and some gaps: the Knights' accounts break in 1792–1794; we could not locate a comparable fiscal series for the inter-regime years 1797–1820; the Blue Books lack 1823 and 1826; and the Budget Office financial reports are intermittent in the mid-twentieth century, notably 1938–1946 wartime years and around independence years between 1957 and 1966. Consistent with the

[1] The Blue Books were the annual statistical returns each British colony compiled for the Colonial Office in London. It was an empire-wide template of revenue, expenditures, salaried establishments, trade, and population, bound in the blue covers that gave them their name.

literature, we calculate only annual changes in share of budgets, with no values calculated for periods where annual changes cannot be observed.

The original categories of expenditure are highly heterogeneous—the Order's "tables", "slaves", or "falconry" do not map onto any modern budget fuction or category, and the modern COFOG codes have no eighteenth-century counterpart. As a common functional language, we recoded every item into Comparative Agendas Project (CAP) major-topics, extended with a small set of Malta-historical topics (numbered 91–95 and 99) for functions that would not fit within the standard scheme, some of which were the object of a substantial share of the budget: Religious foundations (2.2% on the average), Slavery (2.9%), Hereditary nobility (0.5%), Falconry / royal pastimes (4.9%). Throughout, original categories permit detailed within-era descriptions, while the CAP topics permit the cross-era comparison.

Information on inflation in Malta across the entire period is extremely uncertain (Caruana-Galizia; Falzon et al., Allen 2001), so we focus here only on relative expenditures, which also addresses changes in currency from the Scudo to sterling, Lira, and euro. That is, for each budget year, we sum the spending across categories summing to 100 percent of the annual budget. We do not asses overall growth in government spending here because we have no reliable data on inflation. Our "percent-percent" analysis of budget change is also consistent with the literature on budgeting and PET (see for example Jones et al., 2009). We included all expenditures except, during the Colonial period, military expenditures incurred by the British; we did include Maltese-incurred military spending. Between 1842 and 1990, the Blue Books recorded salaries and running costs under a single centralized "Establishment" head—covering roughly two-fifths of the budget—rather than against the departments that spent them. That block was zero before 1842 and after 1890, so it seems to be a booking convention rather than a

reorganisation of spending. In our analyses, we removed fixed establishments and, within each year, rescaled the remaining topics' shares to sum to one, making composition comparable across the break.[2]

Composition in original categories

Figure 5 through Figure 8 show the share of the budget in each regime's own categories, over time, in the categories used in the original documents. For each source/period (e.g. Blue books between 1821-1937), we created Figures showing the evolution of spending over time. Figures 5 through 8 show these. Because of the high number of categories within each time period, the figures show only the top categories with minor categories combined as "other."

[2] In practice, we dropped the establishment block (four original CAP-20 categories: Fixed Establishment, Provisional & Temporary, Office Contingencies, Allowances), and recomputed each surviving topic's share over that year's remaining total:

$$s^{*}i,t = \frac{ei,t}{\sum_{j \notin E} e_{j,t}} = \frac{s_{i,t}}{1 - S_t^E}$$

where S_t^E is the establishment's share that year.

Figure 5. Knights of St John, 1779–1796 (original categories).

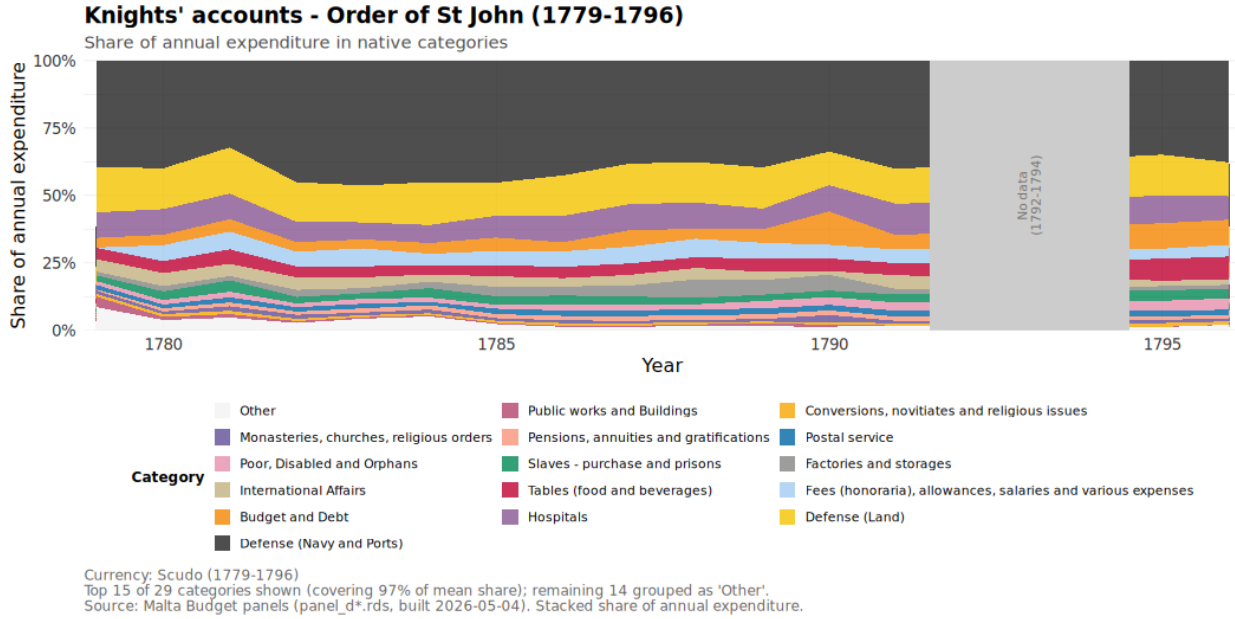
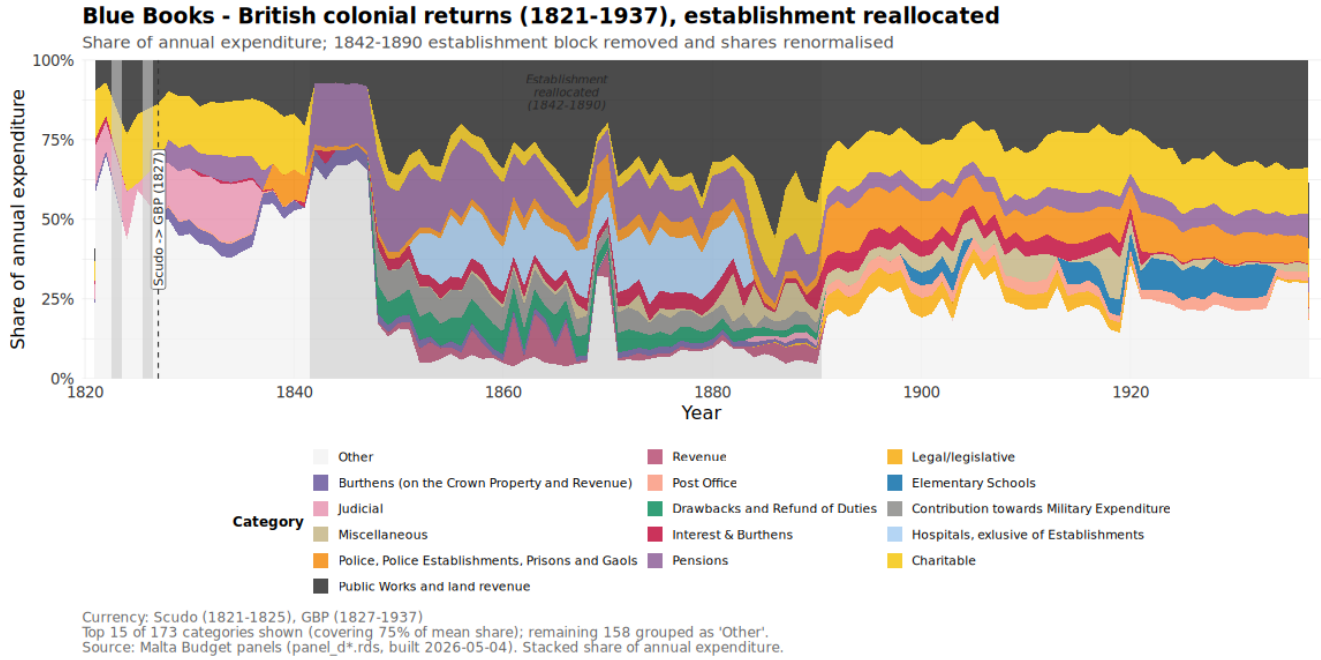


Figure 6: British Blue Books, 1821–1937 (original categories).



Note: “Establishment” reallocated.

Figure 7: Budget Office financial reports, 1936–2003 (original categories).

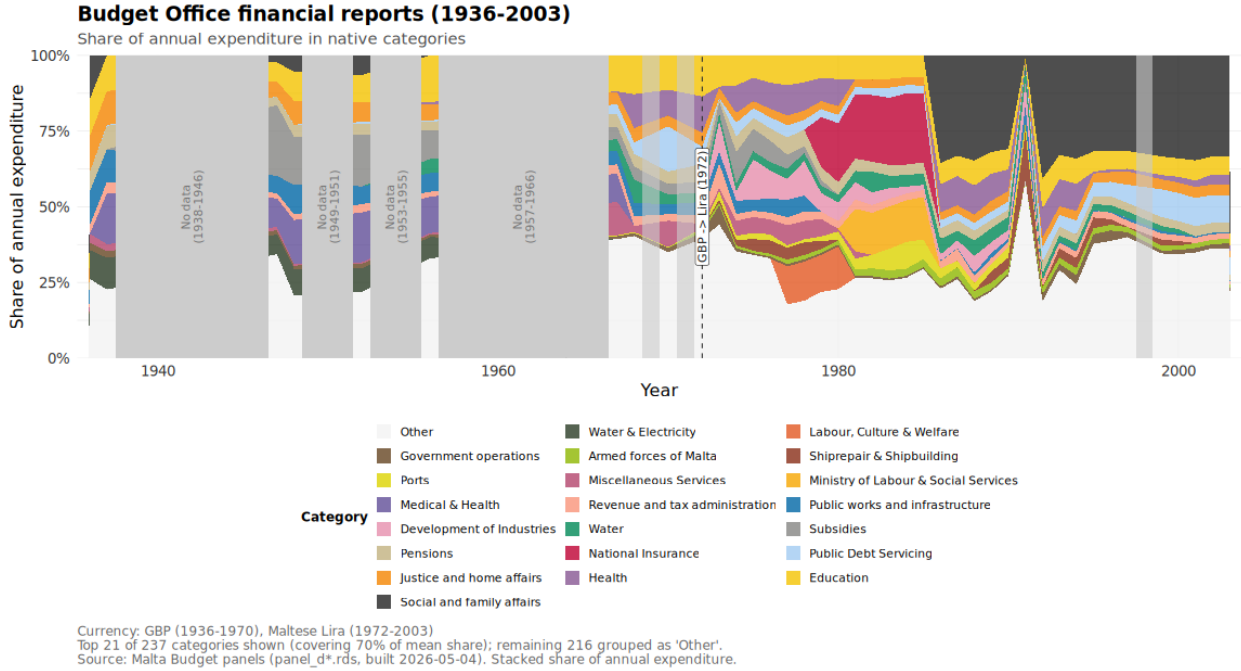
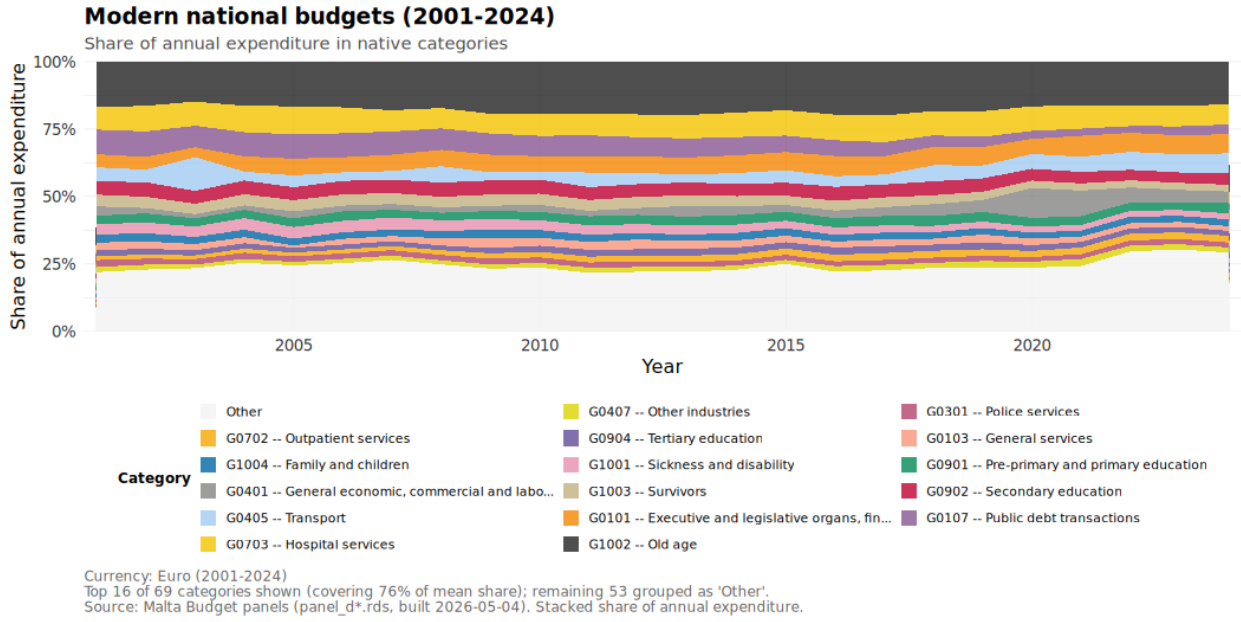


Figure 8: Modern national budgets, 2001–2024.



Note: (original G-codes with COFOG L2 labels).

The Figures show the change and widening of the state's reach. The most distinctive budget was that of the Knights. Defense was by far the largest single category, with the Hospital second; falconry, religious foundations, and slavery were visible but small. In the Blue Books,

public works and transport, government operations, and education grew as the colonial state took shape, while crown and colonial-governance items run as a steady minority.[3] In the Budget Office reports, compound social-welfare lines gradually expand to dominate the budget, and education and health grow with them. Social welfare (alone covering almost 30% of the budget), health, and education remained dominant even in the modern national budgets, and along with macroeconomic management they took most of the budget; meanwhile, the share of small functions became larger than in any earlier period.

This descriptive material allows the reader to have a feel for the nature of spending in different time periods and across regimes. In the next section, we use common budget categories to analyze, rather than just describe, these changes.

Results

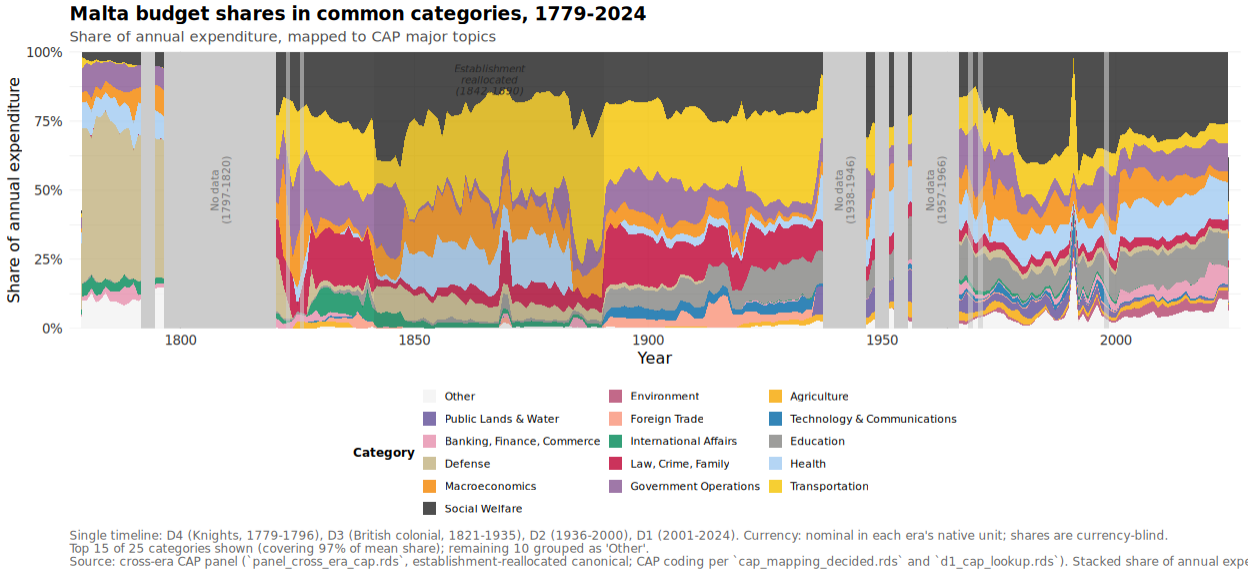
Composition across the eras

The radical changes resulting from the establishment of the structures of a modern state, colonial government, independence and transition democracy, and access to the European Union, did not change the fact that every system had to build roads and perform certain core functions of government. Figure 9 shows the whole budget in CAP-topic shares across two hundred and forty-five years, and indeed continuity across the modern era becomes apparent. Only the budget of the Knights was structurally different from the other regimes, mainly because of the dominance of defense spending during that era. As Malta shifted from a military fortress in the middle of the Mediterranean sea, defense became a residual expenditure. During the colonial period, responsibility for defending the island—and exploiting its strategic position—was taken

[3] These are shares resulting from the reallocation of the fixed establishment; as-reported Blue Book shares are in the appendix

over almost entirely by the British government; independent Malta then became a neutral state with a small army. But otherwise, the main functions of government—government operations, health, macroeconomic management—were shared across all eras. Clearly, the scope of core functions grew over time to also include expenditures associated to economic and political modernization: transportation, education, and the welfare state. Figure 9 shows both patterns: a stable core, and a directional rise—both products of the same mechanism, as we show in what follows.

Figure 9: Cross-era CAP stacked area, 1779–2024.

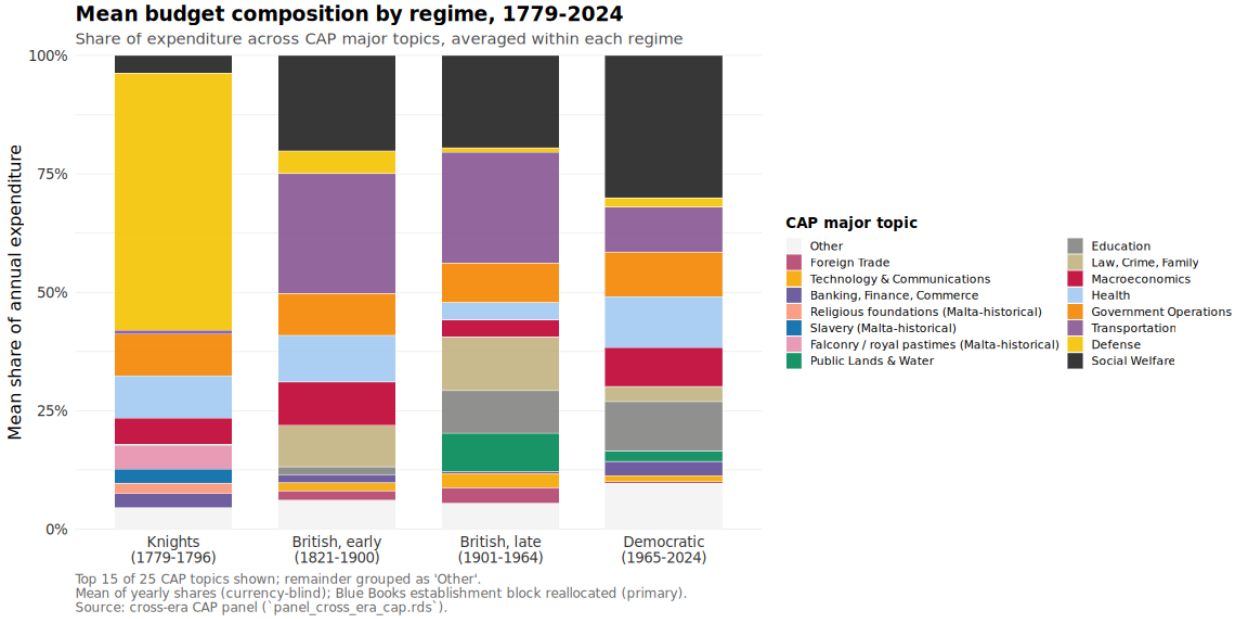


Note: "Establishment expenses reallocated – primary. Grey areas represent missing data.

The persistent core across regimes

The budget's composition by function is stable across regimes, even though the spending categories themselves change. Figure 10 shows the mean CAP-topic share in each regime, with the British period split at 1900. Aggregating expenditures by regime makes stability and change in priorities visible at a glance.

Figure 10: Mean CAP-topic composition by regime



Note: "Establishment expenses reallocated – primary; British period split at 1900).

A small set of functions—government operations, macroeconomic management, transport, social welfare, health, and education—take up roughly the same share of spending under modern regimes. Patterns of spending in government operations, health, and macroeconomics were not so different even under the Knights. The single most visible movement is defense, which dominated the Knights' budgets and all but vanished by the modern era. In turn, social welfare, education, and transportations built up the modern core.

This is consistent with historical reconstructions. G. A. Pirotta (1991) finds that the colonial administration inherited the Order's apparatus, and that two functional clusters—security and welfare—dominated spending in every era. Under the Order this meant fortifications and the Holy Infirmary; under Britain, the fortress and the charitable establishments; after independence, the welfare state. Some degree of continuity or incremental change in the administrative state contributed to stability of the functional core.

Common core versus periphery

We define the core by its content. The modern core includes the CAP topics that rank in the top seven by mean share in each of the three modern records—the Blue Books, the Budget Office reports, and the contemporary budgets. Six topics qualify in all three. The more conservative true core requires the top seven in all four records, the Knights included; in that case, only four topics survive that test.

Figure 11: The modern core by individual topic: each core CAP topic's share over time

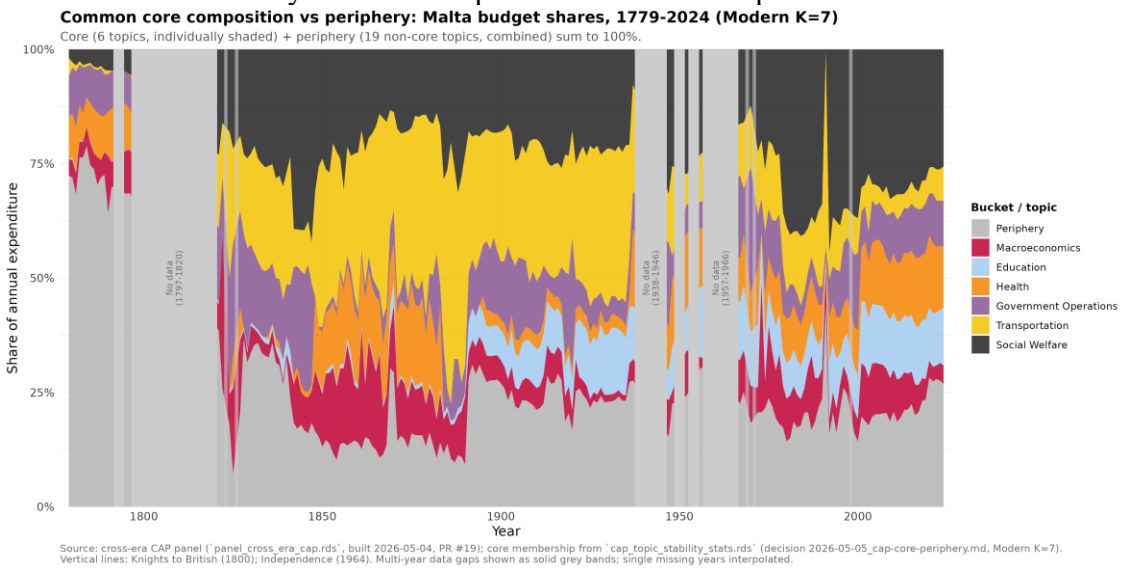


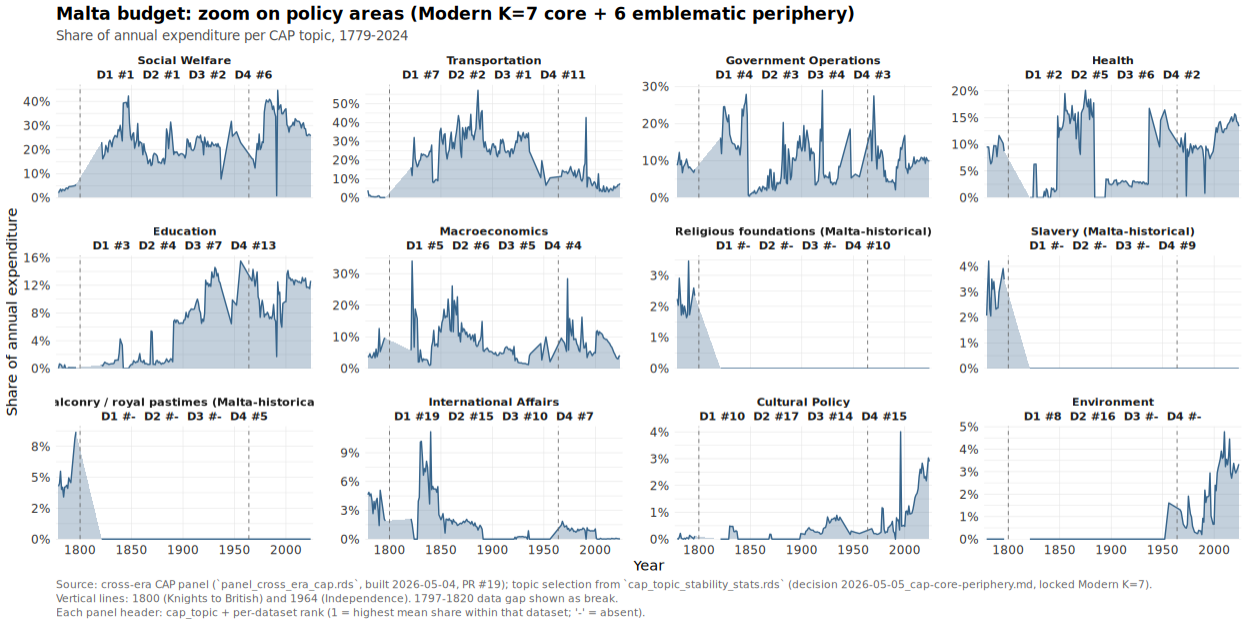
Figure 11 groups the budget into the core and the periphery, and breaks the core into its member topics. The four true-core topics carry 27% under the Knights, 46% in the Blue Books, 57% in the Budget Office reports, and 60% in the modern budgets. The two modern-only topics—transportation through the colonial era, education from the late nineteenth century—add about 33 percentage points in the Blue Books and about 22 in the Budget Office reports, but almost nothing under the Knights.

The periphery is heterogeneous. Defense at 54% under the Knights is the single largest share in the entire dataset, and what marks the Knights regime as the outlier. The Knights periphery included a number of functions which disappeared in the the modern era; the colonial

periphery was led by law and crime (about 11%), which became prominent in democratic Malta; the modern periphery, in turn, includes such topics as banking, environment, defense, and cultural policy.

Figure 12 shows the six modern-core topics separately, with regime boundaries marked, and it pairs them with six emblematic periphery functions. It permits to better appreciate the distinct trajectories of topics inside each group. The first pane in the graph shows social welfare spending, which largely appeared in the first half of the XIX century; it then oscillated between 20-30% until the second world war, and between 30-40% after. Transportation (the second pane) also appeared during the colonial period, and soon became one of the largest expenditures; but it decreased markedly after WWII. Government operations and macroeconomics oscillated around relatively stable means throughout the entire period. Health, in turn, absorbed a large share of the budget for large parts of the period observed, except around the beginning and the end of the British period. Since WWII, it became stably the largest function in the Maltese budget. Figure 12 also shows some emblematic periphery topics. Three of them—religious foundations, slavery and falconry—disappeared after the Knights era; international affairs has been small but present everywhere; cultural policy and the environment, in turn, appeared or largely grew in the second half of the XX century, and became typical and important functions of the democratic era.

Figure 12: Modern K=7 partition



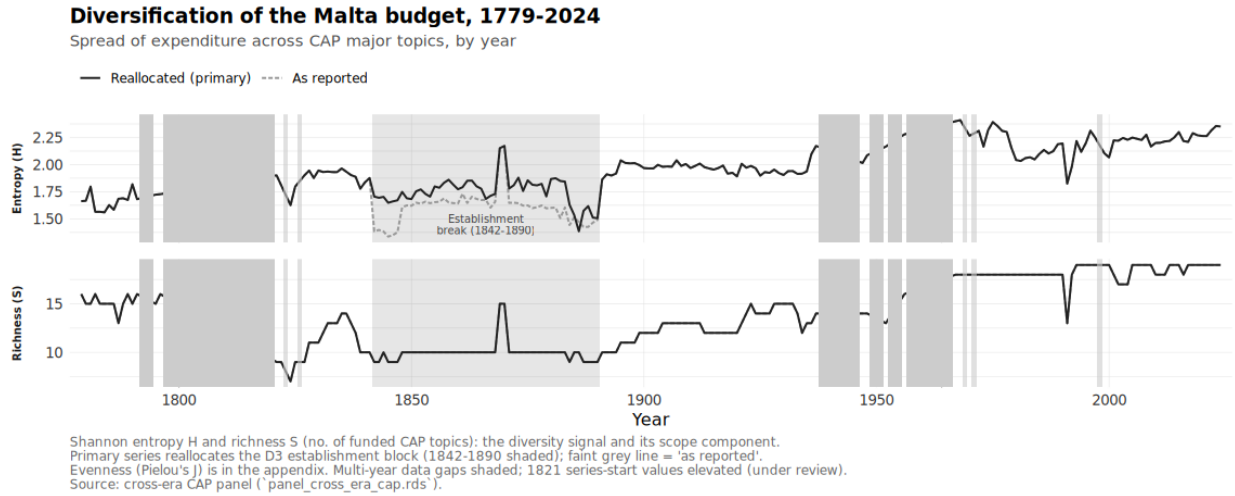
Note: six core CAP topics (top row and first two panes of middle row) and six emblematic-periphery panels (remaining panes in middle, and bottom row). Dashed lines at regime boundaries (1800, 1964).

Modernization

Alongside of the stable core, we also observe another long-term pattern—one that is directional, however. Two concurrent processes established it: the budget comes to fund more functions, and a recognizable set of those functions rises across the whole span.

Figure 13 shows the process of increasing diversity of the budget. Mean Shannon entropy (upper panel) rose across eras, from 1.67 to 1.87 to 2.21. Diversity grew slowly until 1900; it increased to higher average levels during first half of the XX century; it reached highest levels in the democratic era. Although at varying levels of intensity, the growth of diversity has been steady overall: ranking the years by date and by entropy gives a strong positive rank correlation (Spearman's rho between year and H = 0.83), so later years tended to be more diverse than earlier ones, on average.

Figure 13: Diversification over 245 years



Note: Shannon's entropy H and richness S on CAP-topic shares ("Establishment" expenses reallocated from 1842 to 1890, shaded region). Dark grey shows missing data.

The lower panel in Figure 13, showing the scope of functions funded in each year, demonstrates that the rise in diversity came from funding more functions more than by dividing expenditures more evenly. As the state modernized, it funded more distinct functions—public health, education, environment, culture—that did not exist or were the object of a small share of the budget at earlier times. Scope expansion was the diversification side of modernization, which coexisted with the common core and complemented it. Table 5 summarizes the data shown in Figure 13.

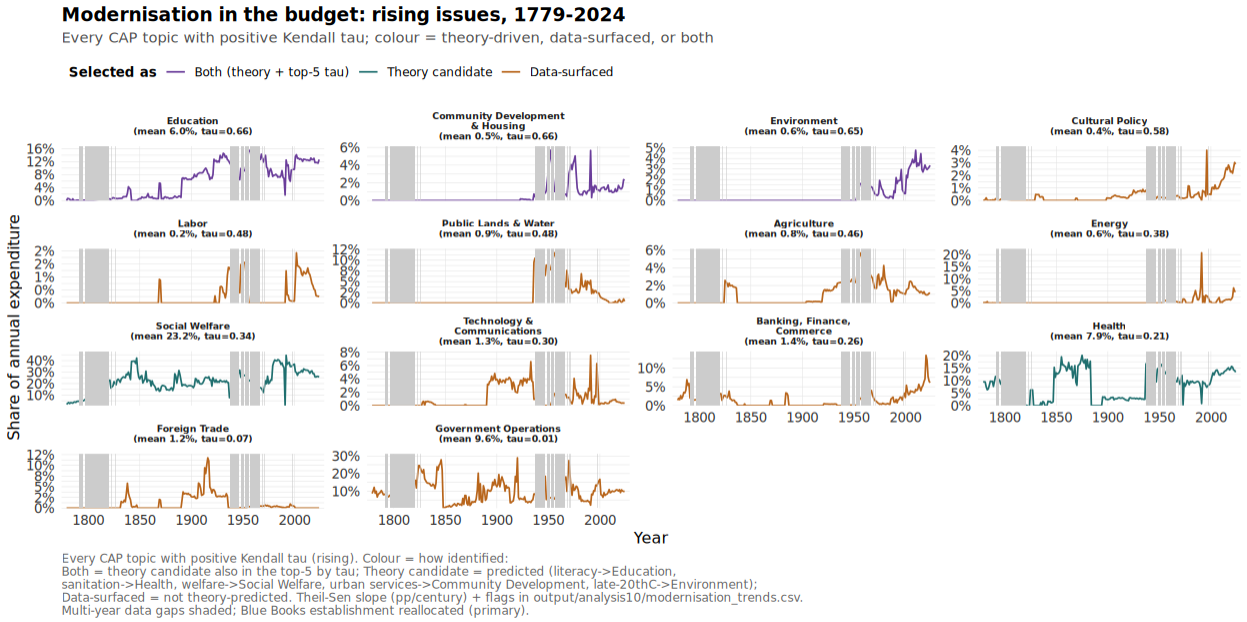
Table 5: Diversification by era: entropy, evenness, richness.

Era	Mean H	Richness S	Years
Knights (1779-1796)	1.67	15.2	15
British colonial (1821-1964)	1.87	11.4	119
Post-independence (1965-2024)	2.21	18.3	55

To observe modernization more closely, we rank every CAP topic by the long-run trend in its share and show all the topics with a rising share in that order in Figure 14.[4]

[4] We measure trends in share by using Mann-Kendall tau (Mann 1945) and Theil-Sen slope (Theil 1950).

Figure 14: Which functions modernize?



Note: Each CAP topic with a rising long-run share (positive Mann-Kendall tau), as a non-stacked relative trend; colour marks theory-driven candidates, data-surfaced topics, or both. Slopes are percentage points per century (Theil-Sen).

Modernization started in the British era following the priorities of an imperial power, and so did the late-colonial turn toward social spending (Frankema and Booth 2019; Frank 1966). The democratic span in turn permits to observe modernization under a government responsible to Maltese voters. Education is the strongest single up-trend (Kendall tau of 0.66). Funded from the 1830s, its share holds near one per cent through the mid-nineteenth century, jumps in the 1890s, and climbs through the interwar decades to about an eighth of the budget, where it settles. Education is one of the functions that modern states fund first, and Malta was no exception, even under a colonial power (Lindert 2004; Ansell 2010). Health's share also rose after about 1850 to a nineteenth-century peak near a sixth of the budget, collapsed around the turn of the century, and grew again only from the mid-twentieth—the colonial state taking on sanitation and public health in two distinct waves (Szreter 1988; Cutler and Miller 2005).

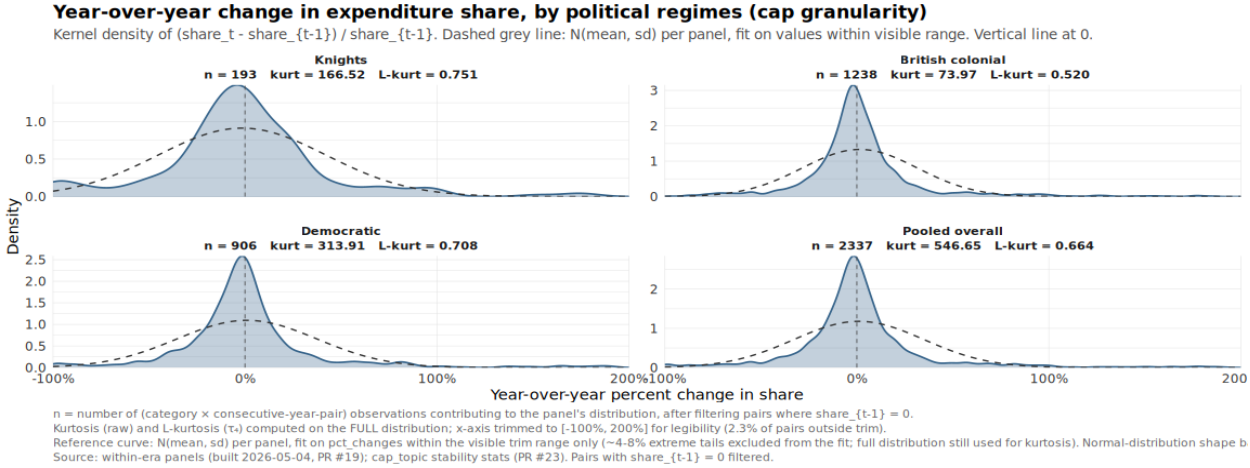
Social welfare has the steepest long-run slope of any topic, but it was a large and volatile share throughout rather than a late arrival. It was substantial already in the early British period as

poor relief and charity, and ended near a third of the budget (Flora and Alber 1981; Wilensky 1975). Finally, a cluster of genuinely new functions—the environment, community development, cultural policy: post-material, quality-of-life expenditures (Inglehart 1997)—appeared only late, and quickly attracted relevant shares of the budget.

Punctuated equilibrium across political regimes

We have seen two patterns in the composition of the budget—a stable core and a directional modernization. Both operate under the broader mechanism of punctuated equilibrium, which we now analyze directly. The empirical test for punctuated equilibrium is leptokurtosis: a distribution of year-over-year change with a tall peak of near-zero adjustments, thin shoulders of moderate change, and fat tails of radical change—many small steps, few large jumps, and little in between. Figure 15 shows that distribution for Malta, broken out by political regime. The evidence is there in every regime. Most years, in every era, the budget moves in small increments; occasionally it lurches. Punctuated equilibrium describes the Maltese budget under the theocracy, the British empire, and the democracy alike. Table 6 lays out the K and L-K scores across regimes, another statistical test of the theory.

Figure 15: Density of annual percent changes by political regime



Note: (CAP granularity, comparable across eras). Visible window [-100%, +200%]; dashed grey curve = normal fit on the visible window.

Table 6. Kurtosis and L-Kurtosis by Regime.

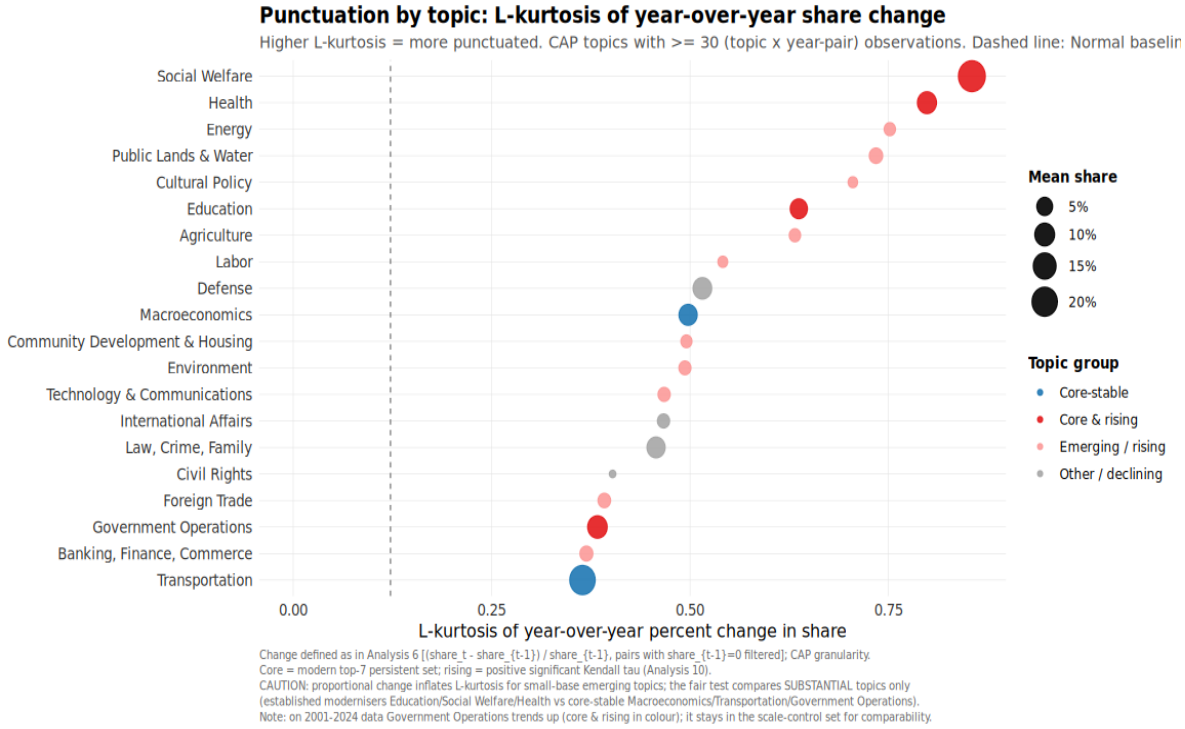
Regime	N	Kurtosis	L-kurtosis
Democratic	906	314	0.71
British colonial	1,238	74	0.52
Knights	193	167	0.75
Total	2,337	547	0.66

A normal distribution has kurtosis 3 and L-kurtosis 0.123. Every regime is sharply leptokurtic on both measures (Table 6): the punctuated pattern (H1) is robust across political eras. Observing the distribution of CAP categories makes the classification comparable across regimes—each era's original categories differ, so original kurtosis would compare unlike things. At CAP granularity, punctuation is heaviest under the Knights and the democratic era (L-kurtosis 0.75 and 0.71) and lower under British colonial rule (0.52).

The fact that core and modernizing functions coexist and partly overlap in the budget, while operating under a broader framework of punctuated equilibrium, raises an interesting question: is punctuated equilibrium more typical of one of the two processes? Core functions do not need to be stable or slow-moving; conversely, although established institutional theories describe long-term change as slow-moving (Pierson 2004; Streeck and Thelen 2005; Mahoney and Thelen 2010), directional modernization could also happen through an alternation of incremental change or stasis, and radical change. The question therefore is which functions punctuate, to what extent, and whether those functions belong to the stable core or to modernizing topics.

Figure 16 tests this. It plots every CAP topic by its L-kurtosis, coloured by group (core-stable, core-rising, emerging-rising, and other/declining) and sized by mean budget share. Encoding share as point size addresses the obvious confound—that small categories swing in jumps simply because they start from a low base: the reader can see directly whether the most punctuated functions are merely the smallest ones, or large functions that punctuate nonetheless.

Figure 16: L-kurtosis of year-over-year share change by CAP topic



Note: Coloured by group and sized by mean budget share. Among functions of comparable size, the rising modernizers (social welfare, health, education) punctuate more than the stable core (macroeconomics, transportation, government operations).

Among the budget's largest functions, the three rising modernizers (education, health, social welfare) change in markedly more punctuated steps than the three stable core functions (macroeconomics, transportation, government operations): a mean L-kurtosis of 0.76 against 0.42. These are among the largest items in the budget, each measured over more than a century of consecutive years, so the gap is not a small-category artefact—and the figure makes the point visually, since the most punctuated functions (social welfare, health) are also among the largest. Government operations edges upward on the data through 2024 but still punctuates least of the three, so the comparison turns on punctuation, not direction. A function that is still changing expresses both modes more sharply than a stable one, and the modern functions are the changing ones.

Although punctuation is one of the ways modernization advances—incremental drift is the other—modernizing functions are those that punctuate more. Long-run institutional-change literature reads modernization as smooth, cumulative gradualism (Streeck and Thelen 2005): gradual institutional transformations happen as a result of the layering of new functions and the conversion of old ones. Budgetary processes show that although the direction is cumulative, the path is not necessarily gradual: modernization itself can be a punctuated-equilibrium dynamic. Punctuations actually fall more heavily on the functions that are moving—the directional, modernizing ones—than on the stable core. Modernizing functions tend to advance through both quiet incremental change and occasional jumps, and can do so for generations, alternating the two modes.

The composition of the budget shows both a persistent core and a modernizing set of expanding functions. Core and modernizing functions coexist and partly overlap, and both are the product of a single process—punctuated equilibrium. The leptokurtic signature shows the two are products of one process: incremental and punctuated change, the two modes of a single framework, produce a persistent core and a directional modernization.

Discussion

We set out to observe the long-run composition and dynamics of public budgeting across two and a half centuries and three political regimes in Malta. We asked whether the patterns that punctuated equilibrium theory documents for modern democracies also hold under a theocracy and an imperial colony. We find that they do. The same process that produces leptokurtic distributions in each regime also generates the two long-run patterns we describe — a persistent functional core and a directional modernization.

The first result is a common functional core. Defense and security, relief for the indigent, and the maintenance of government operations together claim a large and stable share of spending in every era — roughly four-fifths of the modern budget, and a substantial share even under the Knights. This is consistent with Jennings et al. (2011): some functions are not discretionary, because the responsibility of governing imposes them whatever the regime. A theocracy, a colonial empire, and a democracy alike must keep the population alive, maintain order, and sustain the apparatus through which all functions are executed. The stability of a core is a property of governing itself rather than of any regime's priorities.

Against that core, regime and ideological differences are more modest than a regime-driven account of budgeting would predict. Composition is far more stable across radical changes of sovereign and ideology than the idea that budgets track the values of whoever governs would imply. Being simultaneously a different regime and a pre-modern state, the Knights are a clear outlier.

Punctuated equilibrium is ubiquitous. Annual change is sharply leptokurtic in every regime and across all four accounting systems, over 245 years (H1). That it appears under the Knights — with a small budget, limited scope, and concentrated authority that might, in principle, have allowed proportionate adjustment — further supports reading PET's information-processing friction as foundational rather than as an artifact of pluralist competition or democratic accountability.

We also highlighted the directional pattern of modernization, which works largely through diversification of scope. As the state modernizes it funds more distinct functions — public health, mass education, environment, culture — rather than dividing a fixed set of functions more evenly. This refines H4: the modern budget is more diverse because the state

does more things, not (only) because it spreads the agenda more equally. The functions that rise are the ones modernization theory predicts, and they appear in a recognizable sequence — social welfare first, then health and education, then the post-material functions of the late twentieth century.

Finally, the two patterns are outcomes of a single process. The literature on gradual institutional change reads modernization as smooth and cumulative (North 1990; Pierson 2004; Streeck and Thelen 2005; Mahoney and Thelen 2010). We add one qualification: the direction is cumulative, but the rhythm is not only gradual. The modernizing functions punctuate more than the stable core, so modernization is itself a punctuated-equilibrium dynamic. Punctuated equilibrium dynamics produce a persistent core and a directional modernization at once.

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