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It's fundamental: Welfare theorems, market failures, and the turn from "public finance" to "public economics"

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IT'S FUNDAMENTAL: WELFARE THEOREMS, MARKET FAILURES, AND THE TURN FROM 'PUBLIC FINANCE' TO 'PUBLIC ECONOMICS'

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**It's Fundamental: Welfare Theorems, Market Failures, and the
Turn from 'Public Finance' to 'Public Economics'**

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If the money raised be more beneficially employed by the state, than it would have been by those who have contributed it, then I say the public has gained ...; consequently, the statesman has done his duty, both in imposing the taxes, and in rightly expending them. (Sir James Steuart (1767, 709)

... fashion has great influence in economics, which suggests that we ought periodically to survey the neglected areas of theory to make sure that they do deserve to be left in their underdeveloped and backward states. (Samuelson 1958, 332)

I. Introduction

In a paper delivered at the December 1955 meeting of the Econometric Society, Paul Samuelson noted that though economists had done “work of high quality and great quantity in the field of taxation,” the theory of public expenditure had been “relatively neglected” (Samuelson, 1958, 332). As evidence for his contention, he cited A.C. Pigou’s *A Study in Public Finance*, the third edition of which had been published in 1947, noting that,

In a book of some 285 pages, Pigou devotes most attention to taxes. At least 200 pages to taxes; of the rest, most are concerned with fiscal policy and its impact on the business cycle. What about the pure theory of public expenditure? I can find barely half a dozen pages devoted to the heart of the matter ... And even if we widen the category—to include Pigou’s definitions of transfer and exhaustive expenditure and his discussion of pricing of state-operated public utilities—we still cannot bring the total of pages much beyond twenty. (332)

Nor was Pigou an outlier here, for even a passing glance at other books on the subject written during the middle third of the century reveal that Pigou’s treatment was anything but exceptional.

When William Petty wrote his *Treatise of Taxes and Contributions* (1662), often considered the first major work in public finance, his goal was to lay out how the many necessary functions of the state might best be financed. In setting himself this task, however, Petty was obliged to spell out these necessary functions. And so he did, enumerating a set of tasks that the

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government should fulfill before launching into a lengthy analysis of the financing process. Subsequent commentators—most famously, Adam Smith (1776, Bk.V)—largely did likewise, and for some three centuries. The Anglo-American treatments of the subject, which in the late nineteenth century began to take the form of the self-contained treatise, typically opened with a brief, almost obligatory statement of the proper functions of the state before launching into their extensive disquisitions on sundry aspects of taxation, public debt and, perhaps, fiscal policy. The operative point here is that these roles assigned to the state were *asserted* as givens, and typically briefly, rather than *demonstrated* in a theorized sense, even if the tasks ascribed—national defense, a system of justice, public works, and the like—resonate with modern theoretical sensibilities.

The last third of the twentieth century, though, saw a significant structural change in this pattern, with the cursory treatment of the functions of the state characteristic of works to this point slowly giving way to deeper and more systematic inquiries. Indeed, by the mid-1980s the ‘public expenditure theory’ lacuna in public finance that Samuelson lamented some three decades earlier had largely been filled with the theories of public goods, externalities, marginal-cost and peak-load pricing problems, cost-benefit analysis, the theory of second best, and the analysis of income-transfer programs. The goal of the present project is to document and explain this transformation—that is, how it was that public expenditure theory, as it is now known, came to be absorbed within public finance during the latter part of the twentieth century.

This paper will argue that the seeds of this transformation can be found in the mid-century reformulation of economic analysis on general equilibrium terms and associated developments in welfare economics. The fundamental theorems of welfare economics, which demonstrated the optimality of a competitive system, became the starting point for public finance, and situations to which the theorems did not apply became the field’s *raison d’être*. When married to Richard Musgrave’s (1959) theory of the “public household,” welfare economics was molded into a theory of public expenditure that provided a set of normative grounds for state action, reflecting a vision of the government as a central player in large-scale optimal allocation problem.

II. The Emergence of Anglo-American Public Finance

Despite the extensive attention given by economic thinkers from Petty forward to the financing of government activities via taxation and debt instruments, the field of ‘public finance’ only began to take shape in the late nineteenth century. The earliest works in the subject can be found on the Continent, and this literature was largely unknown to the Anglo-American authors who are the

focus of our analysis.¹ For the English-speaking world, J.R. McCulloch's monumental *Treatise on the Principles and Practical Influence of Taxation and the Funding System*, first published in 1845, had to suffice as the only systematic inquiry into the subject for nearly fifty years, and even this book, for all of its girth, paid no attention to the issue of public expenditures. Later commentators were quick to ascribe this lacuna to the laissez-faire mood of the age, perhaps best reflected in Sir Henry Parnell's 1830 tract, *On Social Reform*. Parnell was nothing if not a minimalist, arguing that "every particle of expense that is that is incurred beyond what necessity absolutely requires for the preservation of social order, and for protection against foreign attack, is waste, and an unjust and oppressive imposition upon the public" (Parnell, 1830, 118). Parnell's viewpoint may have been an extreme—J.S. Mill's (1848) conception of the role of the state, for example, was far more elaborate—but whatever the case, public finance was on the back burner for much of the nineteenth century.

A. Bastable's Lament

The template for twentieth-century public finance treatises and texts was laid down by the Irishman Charles Francis Bastable, whose *Public Finance* was first published in 1892. Bastable, who for five decades (1882-1932) held the Whately Chair in Political Economy at Trinity College, Dublin, had by that point achieved some recognition for his writings in the analysis of international trade, a body of work very much in the spirit of Smith, Ricardo, and J.S. Mill.² His work on public finance had a similarly classical flavor, though tempered with a substantial doses of historicism not uncommon in British economics during that period.

Despite the extensive attention given to the public finances by writers including Smith, Ricardo and Mill, Bastable considered public finance a "branch of *political science*," making it a subject "distinct from that of political economy" (1892, v, emphasis added). Yet, he was dismayed by the lack of theoretical attention devoted to the subject by British writers in recent decades, an omission that he attributed to "the excellence of English financial institutions and management" (v). This, he noted, made for a stark contrast with France, Germany and Italy, where up-to-date texts and treatises on the subject were readily available, with Paul Leroy-Beaulieu's *Traite de la Science des Finances* (1883) hailed by Bastable as "probably the best-known and most generally valued" of these works (1892, vi-vii).

Bastable thus set out to fill this lacuna in the literature "by going over the whole field of Public Finance," which he defined as the "supply and application of state resources" (1), to provide a sense for "the leading facts and present position" of the subject (v). His selection of topics and the

¹ For an introduction to some of this literature, see Musgrave and Peacock (1958).

² A brief account of Bastable's life and career can be found in Boylan and Maloney (2011).

space accorded to each was, he indicated, a reflection of the state of play in the field. The book began with two introductory chapters on the nature and history of public finance before moving on to eight chapters, totaling 138 pages, dealing with various facets of the public expenditures problem. From there followed 19 chapters on revenues, eight on public debt and three on administration, all in a book running to 672 pages.

For Bastable, the public finances demanded a serious “scientific study,” grounded in both “general principles, and careful reference to former experience.” The state’s actions affect the life of the ordinary citizen in myriad ways, many often not obvious, he said, making a “careful examination” of the consequences of alternative courses of state action “indispensable”—particularly given the vast expansion in the range of activities undertaken by the state over time (2-3). Bastable admitted that the scope of the subject had been broadened since Smith’s writing to include discussions of budgeting and administrative processes; yet, he argued, not all had been progress, for “In one respect the scope of Public Finance has been curtailed by some of its ablest expounders.” The problem? That those who work on the subject—and he cited Leroy-Beaulieu as emblematic of the issue—“have refused to regard the problems of public expenditure as part of their subject” (5). The stated rationale for this stance was “the difficulty of scientifically determining the proper amount of state outlay” and the associated task of assigning functions to the State (5), with Leroy-Beaulieu justifying his position this way:

This kind of inquiry ... does not belong to the Science of Finance. ... A State has wants: it does not belong to us at present to know what they are, and what they ought to be, but how it is possible to satisfy them with the least loss and sacrifice to individuals. If you engage a builder to build you a house, it is not his business to inquire if the building is too large for your income or your social position. What does concern him is to build the house in question with the utmost possible solidity, convenience, and beauty, at the lowest cost to the owner. (Bastable, 1892, 5; quoting Leroy-Beaulieu, 1883, vol. I, 2, 3)

English and American writers, Bastable noted, had largely followed this same path, with the result that commentaries on public finance dealt with taxation or with public debt but paid no attention at all to the expenditure side (Bastable, 1892, 5).³ This, in Bastable’s estimation, was a grave mistake as a matter of both theory and practice, and one he set out to remedy.

Bastable allowed that public expenditure issues “do not admit of quite as precise treatment as those referring to taxation,” aspects of the latter “permitting the use lengthened deductions.” Yet he insisted that the connections between revenue and expenditure make careful attention to the the

³ See, e.g., Bastable’s “List of Works Referred To” (xix), as well as his discussion recent publications dealing with taxation and public debt (32-33).

latter just that much more important, just as it is for the problem of the individual consumer (6). This essential similarity between the economic problems of the individual and the state, in fact, became the starting point for Bastable's analysis. The commonalities, in his estimation, were obvious: Each has "receipts and expenditures" and "endeavors, or should endeavor, to obtain the greatest result with the smallest effort" (39). The difficulty plaguing this calculus, however, is the measurement of the benefits associated with many of the functions, such as the provision of national defense and the administration of justice, that likely would fall to the state (39). Despite these limitations, the juxtaposition of the problems facing the individual and the state was one that turned out to have tremendous staying power in the literature, putting the analysis of "the number and order of state wants" at the heart of public finance, just as just as individual wants are at the heart of the theory of consumption (43).

This, of course, raised the immediate question of how to discern state wants. Bastable resisted the attempts at classification offered by Mill ('necessary' and 'optional') and Wilhelm Roscher ('necessary,' 'useful,' and 'superfluous'/'ornamental'), arguing that they reflect already-formed judgements about what the government should be doing and that a more reasoned approach was in order. But again, the course of action was not obvious. One approach, more deductive, would be to start with a theory of the state and derive from that implications for the scope of government action and the specific amounts that should be expended on the activities to which that analysis points. The second, more inductive approach, would examine the history of governmental activities to draw lessons for the present and the future. His own preference was for a combination of these approaches, one guided by utilitarian principles:

The construction of a "cut and dried" formula for the duties of the State is perhaps an impossible task, but a careful study of the nature and forms of state activity as determined by the character of its organization will help to elucidate the difficult problem of its suitable duties. (48)

With this method as his guide, Bastable laid out his analysis of public expenditures in a series of chapters devoted to defense; justice and security; regulation and poor relief; education and religion; and expenditures on industry, commerce and the maintenance of government. In each case, his mode of analysis involved a mixture of historical discussion of how and why the state's role in that area had evolved to its current state, the elaboration of arguments for and against particular types and categories of expenditures (typically informed first of all by Smith's discussion), and some data on the trends in government spending on the activities in question. Two chapters dealing with the division of tasks between national and local authorities and with some "general questions" related to expenditures and their growth rounded out his discussion.

What stands out in Bastable's treatment is how little the level of 'analysis' had moved beyond that found in Smith's *Wealth of Nations* or, more charitably, Mill's *Principles* and its basic "expediency" principle (1848, 800). Beauty was still very much in the eye of the beholder, with judgments as to the form and extent of state action largely loosed from the fundamental principles of the science of political economy. Indeed, despite Bastable's insistence on the parallels between the individual's decision problem and that of the state, he had "not thought it advisable to devote space to discussion of the financial [read, public finance] bearings of the latest economic theories" (vi) and so the analysis went forward, for a time at least, without reference to the recent theories of individual behavior found in writers such as Jevons, Edgeworth, and Marshall.⁴

B. An American Bastable?

Five years after the appearance of Bastable's first edition, University of California, Berkeley assistant professor Carl Plehn published his *Introduction to Public Finance* (1897), a text that was much influenced by Bastable's treatment of the subject and would, Plehn hoped, provide the reader with "those things which are necessary ... for independent research" in the subject (v).⁵

Like Bastable, Plehn saw public finance doing for the state what political economy does for the individual, both analyzing the use of limited "material means" to satisfy a set of wants (1). He also followed Bastable in placing the determination of those wants outside of the scope of political economy, emphasizing that this "is no part of our subject, but belongs wholly to Political Science" (2). Plehn seemed to take some comfort in this separation, as he was thus "relieved from the burden, assumed by many writers on the subject, of attacking or defending the actions of different governments in matters as to the propriety of which there is a question" (3). Even so, he was harshly critical of the lack of attention paid to the expenditure side prior to Bastable's writing, calling it a "blindness" attributable in part to "The predominance in England and France of a theory of the State which minimized the importance of government action" (5).

But what was the role of public expenditure analysis if political science sets the boundaries of state action? Plehn, like Bastable, found an answer in the parallel with consumption theory: the analysis of the "form, amount, and effect" of public expenditure "belong to Public Finance, just as the form, amount, and effect of consumption belong to Political Economy" (8). But whereas the individual shapes expenditures to income, public expenditures are determined *first*, only after which does one turn to analyzing how best to obtain the money necessary to finance them. Given that "the

⁴ Bastable did reference Marshall's *Principles* (1890) on a few occasions but made no use of its analytics to inform his discussion of public expenditures.

⁵ One of the interesting facets of this early literature is the extent to which later authors cited and relied upon the texts written by their predecessors, an indication of the difference between the texts—treatises of this earlier time, which were treated very much as literature in the field, and the modern textbook.

modern State is quite as likely to neglect some important and desirable function which it could perform, as to increase its functions beyond what would be wise,” Plehn concluded that some attention to “the main features of expenditure” is a necessary starting point for the analysis (9).

Plehn rejected Bastable’s approach of relying on historical governmental practices to define the appropriate scope of State expenditures, arguing that this simply replaced the subjective view of the author with the subjective views of statesmen at a particular point in time. His own goal was to “eliminate the personal element entirely and make a classification that does not depend upon the way in which the desirability or undesirability of the different functions is regarded” (28). Toward this end, he was particularly taken with Gustav Cohn’s classification of government expenditures in his *System der Finanzwissenschaft* (1889).⁶ This scheme, which Cohn called the “economic analysis of civic housekeeping,” classified expenditures according to the “common” and “special” benefits that they convey: (i) a benefit common to all citizens, (ii) benefits to individuals that are treated as common benefits, (iii) an individual and a common benefit, and (iv) an individual benefit only (Plehn, 1897, 28-31).⁷ Though Plehn devoted a good deal of effort to spelling out the types of expenditures that fall into each category and levels of spending on these activities in the U.S. and England (33-68), he offered little in the way of theoretical ‘analysis’ and certainly nothing that would link this material with recent developments in economic thinking.

C. Henry Carter Adams and the Embrace of Economics

Only two years after the publication of Plehn’s book we find a second important entrant into the American market, Henry Carter Adams’ *The Science of Finance: Public Expenditures and Public Revenues* (1899). Adams’ public finance *bona fides* were undoubtedly as strong as those of any American at that time. He had completed his thesis on the history of taxation in American in the early decades of the republic at Johns Hopkins under the direction of Francis Amasa Walker in 1878, studied public finance under Adolph Wagner in Berlin, and published a well-received treatise on public debt in 1887. Though his earliest academic positions had been in political science at Cornell and Michigan before assuming a professorship in Political Economy and Finance at Michigan in 1887, Adams broke with Bastable and Plehn in insisting that public finance is “part of the Science of Economics,” rather than political science. An economic orientation, he argued, reduced the basic problems of the subject to two: (i) “What are the legitimate and necessary wants of the State?” and (ii) “How may these wants be the most economically and advantageously supplied?” (2)

⁶On the history of the idea of the State as a “public household,” see Desmarais-Tremblay (2021).

⁷Cohn’s “economic analysis of housekeeping has commonalities with the idea of the state as a “public household.” Desmarais-Tremblay (2021) provides a nice discussion of this topic in the context of Richard Musgrave, about whom more below.

Adams was insistent that previous treatments of the subject, which proceeded with “a cursory statement of public functions” followed by “statistical inquiry,” were insufficient—that public finance had reached the point where “an investigation into public expenditures must take upon itself the form of a theoretical investigation” (33). His response was to devote significantly more attention to the subject than had Bastable or Plehn—roughly one third of his 550-plus pages. This included a full 75 pages given over to theoretical issues, though this came with a warning that the reader should not expect to find “conclusions ... of a very definite or explicit character” (26).

One aspect of the extant literature that, for Adams, spoke to the need for more effort on the theoretical front was its bifurcated nature. The “English conception of public expenditure,” he said, reflected “the doctrine of *laissez-faire* in its most extreme form,” perhaps best seen in the above-quoted passage from Parnell. This perspective “implied a fixed limit to governmental functions,” rendering a theory of government expenditures unnecessary (53). While Adams had no use for the Parnell-like viewpoint, he took a similarly dim view of what he labeled the “German” conception of public expenditures, which created “a presumption in favor of government whenever a new social function makes its appearance” (52). The “truth,” Adams argued, lies somewhere between these two extremes, but understanding exactly where requires “the concurrent study of public and private functions” (53).

When it came to actually developing a ‘theory’ of public expenditures, however, Adams went no further than had Cohn and Plehn, laying out a classification of scheme of his own. Where Cohn had focused on the recipients of the benefits flowing from government expenditures, Adams’ classification scheme emphasized functionality, breaking down expenditures into those serving “protective,” “commercial,” and “developmental” functions (Adams, 1899, ch. 3).⁸ But here, as with the Cohn–Plehn categories, the connections with economic theory were very weak, derived from what one might call general principles of social necessity rather than being outcomes or implications of an underlying economic theory.

D. Bastable Redux

Though Bastable could celebrate the “distinct revival of interest in respect to financial questions” in the preface to his second edition in 1895, a revival that subsequent writers attributed to Bastable’s efforts, his analysis of public expenditures was unchanged beyond some updating of the figures (Bastable, 1903, ix). The third edition of 1903, though, signaled a whiff of change, this via a

⁸The “protective” functions included that against both foreign enemies and what Adams called “social disease” that weakened society—e.g., lawlessness, physical disease, poverty, and the like. “Commercial” functions included the post office and the banking system, while “developmental” ones covered categories such as education, recreation, and the regulation of business.

new appendix to the final chapter of his discussion of public expenditure.⁹ This appendix, “On the Classification and Guiding Maxims of Public Expenditure,” opened with the claim that:

The rapid development of financial study in recent years has led to a careful examination of the more backward divisions of the subject, in order to bring them into scientific form. The theory of state expenditure has naturally attracted a large part of this fresh energy.
(146)

While this “energy” had not brought the analysis up to par with that on the tax side—paralleling, he said, the lagging of consumer theory behind production theory in economics—he did see some forward movement, particularly in the systems for classifying expenditures developed by Cohn and Adams.¹⁰

These classification systems reflected a desire to bring order to the subject, to be sure. But in Bastable’s opinion, they also shared the problem of being non-“scientific,” in that the determination of which goods and activities belong in which categories is problematic and likely to vary from observer to observer (147-148). This only reinforced Bastable’s disposition toward an positive, inductive approach to the subject with a grounding outside of, rather than within, economics:

In truth, the forms of public expenditure are determined by the various needs of the State, and it thus appears that the consideration of these several wants in their concrete manifestation is, so far as inquiry has yet gone, the most convenient and instructive way of discussing this class of financial problems. *No ingenuity of analysis can remove the subject of public finance from the domain of Political Science*, which, in turn, takes its starting point from the institutions and activities of the State.

Similar difficulties beset the framing of the general canons of expenditure. Beyond the broad rule of aiming at the maximum result, it is not easy to reach any important conclusions by the deductive method. (148-49, emphasis added)

Nonetheless, he did not rule out the possibility that economics could eventually make a contribution here, presciently concluding that:

If scientific principles of expenditure are developed in the future, it will be by (a) the use of the marginal doctrine applied to the last increments of outlay in each particular direction, and (b) the more critical examination of the actual processes by which the public economy

⁹The chapter in question is chapter VIII of Book I and deals with “Some General Questions of Public Expenditure.”

¹⁰Bastable’s discussion of Cohn seems to have been cribbed from Plehn’s (1897) text, despite the fact that Cohn’s book had been translated into English by Veblen in 1895.

is carried on. At all events, a long time must pass before any rules claiming the authority that the Smithies canons of taxation have acquired can be elaborated. (149)

III. Going Normative: Dalton and the Principle of Maximum Social Advantage

The heritage of these early works in the field, and of Bastable's book in particular, is remarkable, with regular references to them appearing for the next half-century. Plehn's book, like Bastable's, had great staying power. It went through five editions, the last being published in 1926, with its discussion of public expenditures remained essentially unchanged throughout this period. That is, while public finance continued to grow and develop, the imprint of the late nineteenth century remained strong.¹¹

Perhaps because of this, the dearth of attention paid to the theory of public expenditures remained, depending on the author, a subject of either indifference or concern—but not of action—into the 1920s. Cambridge's Marjorie Eve Robinson (1922), for example, devoted almost no attention to the subject in her contribution to the Cambridge Economics Handbooks series but did not seem to consider the lacuna in the literature a major problem—though two reviewers thought otherwise of her own limited discussion (Furniss, 1923; Snavely, 1923). Jacob Viner, too, could be counted among the indifferent. Though his lengthy and extremely critical *JPE* review of Plehn's fourth edition and Merlin Hunter's new text, *Outlines of Public Finance* (1921), concluded by emphasizing the “urgent need” for new textbooks in public finance, his discussion made no reference whatsoever to any inadequacies in the treatment of public expenditures (Viner, 1922, 256).

Even so, there remained a steady drumbeat of calls for a more sophisticated treatment of the expenditure side (e.g., (Dalton, 1921, 199). Ironically, Hunter, the University of Illinois economist whose book came in for such scathing criticism at the hands of Viner, actually moved the discussion forward a bit, with his book signaling the beginnings of a move to frame the discussion in *normative* terms. Though Hunter refused to lay down a hard-and-fast rule for evaluating expenditures, owing to “the immaterial nature of such a large part of the services rendered,” he found a guiding principle in the utilitarian calculus, arguing that, “in general,” a government expenditure was justified only if it increased “utility” by more than if the money had been “left in the hands of the individuals” from whence it came (40-41). Having said this, he proceeded to offer

¹¹ See, e.g., Shultz (1931), King (1935), Buehler (1940), and Mehta and Agarwala (1951). Robert Murray Haig, writing in a 1925 assessment of “Recent Books on Taxation and Finance,” remarked of Findlay Shirras's text, which devoted a goodly amount of attention to public finance in India, that it was “perhaps not unfair to characterize it as Bastable served with curry” (Haig, 1925, p. 607).

a number of illustrations of how governments failed to meet the standard suggested by this principle.

It was the LSE's Hugh Dalton, though, who first attempted to link up the expenditure and revenue sides in a more theoretically sophisticated fashion in his *Principles of Public Finance* (1923). Emphasizing that expenditures and taxation "form two symmetrical branches of the subject," Dalton considered the propensity of earlier writers to place public expenditures outside the boundary of public finance "clearly illogical" (5). Nor did he have any sympathy for the "barren and negative view of the proper activities of the State" that underpinned this and continued to dominate public finance. He saw these minimalist attitudes as a legacy of the "superficial views and shallow precepts" carried forward from the writings of Say, Parnell and others (7) and criticized "modern economists" for being "slow to correct vulgar prejudices on this matter" and put the subject on "a proper footing" (144).

For Dalton, this "proper footing" was a scientific one and included the adoption of a *normative* standard for judging government expenditures—what he called "the principle of maximum social advantage":

If ... public finance is to be treated as a branch of science, economic or political, and not merely as a string of catchpenny maxims, one fundamental principle must lie at the root of it. This we may call the Principle of Maximum Social Advantage. ... This principle is obvious, simple and far-reaching though its practical application is often very difficult. But the difficulty is inherent in the subject, and cannot legitimately be avoided by substituting a wrong principle for a right one, in order to arrive more easily at practical conclusions. (9)

Dalton acknowledged that the social advantage involved factors that went beyond those economic, but "economic welfare" was his operative yardstick. This "economic welfare," he said, could be enhanced in two ways: via "improvements in productive power" and in "the distribution of what is produced." Government activities, then, are justified to the extent that they further those ends (10-11). The categories of expenditure that clearly met this test were several, including defense and the administration of justice, of course, but also railway development, irrigation and afforestation, support for research and invention and employment exchanges, education and training, public health, and unemployment insurance (164).

In working out the implications of his principle of maximum social advantage, Dalton, too, found inspiration in the correspondence between the decision problems of the individual and the State. Unlike his predecessors, however, he took things a step further by beginning to tighten the theoretical connection, insisting that the government should act on the same principles as does the

individual. Here, the theoretical advances of recent decades provided some direction, as respects both how government spends its revenue and the overall scope of government activities.

First, Dalton argued that the welfare-maximization required that the “The marginal utility *to the community* of all forms of public expenditure should be equal” (18), including as between present and future community needs (20). This, of course, is the government expenditure equivalent of Gossen’s second law. Dalton recognized that this rule was not unambiguous; it required the adoption of “an objective standard of public welfare, or social advantage” and raised myriad measurement issues. But for Dalton, this was simply a practical complication. What mattered was that “*the distribution of a given total of expenditure between different objects is thus theoretically determined*” (18, emphasis added).

Of course, this Gossen-esque rule did not resolve the question of how total state expenditures should be determined but here, too, Dalton found a “clear” answer in economic theory:

Public expenditure in every direction should be carried just so far, that the advantage to the community of a further small increase in any direction is just counterbalanced by the disadvantage of a corresponding small increase in taxation or in receipts from any other source of public income. (18)

In essence, Dalton was modeling government expenditure a two-stage process, with revenues adjusted to the point where the marginal benefit of public expenditure is equal to the marginal cost (or sacrifice) associated with the tax and then, total revenue being established, this revenue is allocated across the expenditure alternatives until marginal benefit is equal for each. The outcome of this balancing approach, Dalton said, achieves “the ideal” of expenditure and revenue (18-19).¹²

That it was Dalton who brought this approach, at once normative and grounded in marginal equivalences, into the public finance literature is not surprising. Trained at Cambridge, where he was a student of Pigou and Keynes, thinking about public-sector activity in welfare-maximizing, partial equilibrium terms, and as a process where substitution at the margin was central, would seem to come naturally. But so, too, did an appreciation for the limits of the analysis. Like Pigou in his *Economics of Welfare* (1920), Dalton did not attempt to delude his readers into thinking that the public authorities could carry out programs of expenditure according to these theoretical dicta. In reality, he said, the “tug-of-war” between rival departments and between departments and the Treasury are of great consequence, as are pressures exerted by special interests, the media, and

¹²Not surprisingly, Dalton’s corresponding maxim for the revenue side was that the “marginal social disadvantages, or disabilities, of raising income” should be equalized across income sources (19).

other influential forces (19). Yet, he was adamant that the theory which he had laid out provided a useful framework *both* for thinking about how best to organize the activities of the State *and* to assist the analyst and the policy maker in evaluating the budgetary situation (145). In particular, Dalton considered it “desirable that public departments should cultivate to the full what may be described as a *marginal sense*, and, with the aid of cost accounting in suitable cases, should balance the advantage of a small increase in their activities against its cost.” Such an approach would, he believed, yield a reasonable sense for where activities should be expanded and where curtailed (173-74).

Dalton’s principle of maximum social advantage and the marginalist conclusions that flowed from it became something of a staple in the public finance texts going forward. Even Pigou, whose thin discussion of expenditures in his *Public Finance* we encountered earlier, managed to find time to lay out Dalton’s “optimum” expenditure criteria for the reader (1928, 50-51).¹³ But Dalton’s insistence on moving the subject in a normative direction normative turn did not meet with universal acceptance. Princeton’s Harley Lutz, though critical of the lack of attention to public expenditures and of the English minimalist and German maximalist discussions that had dominated public finance (1924, 28-29), had no more use for normative analysis than most of his predecessors, making clear in his introduction that the “student of public finance” is not concerned with judgments as to the appropriate tasks for and scope of government action, but instead with the “facts of public activity” (5-6).

Other critics appeared to see no benefit in what one might call a ‘pure theory’ of public expenditures, in part because of the inability to effectively quantify the relevant benefits and costs. William Shultz (1931, 66), for one, cautioned his readers against being drawn in by the marginal utility criterion which, as “a mathematical formula,” has “a deceptive air of definiteness and finality” about it and implies that “the propriety of any proposed governmental activity can be determined with the sole assistance of a calculating machine.” Even decades later, when abstract, marginalist theorizing was much more entrenched in economics, we find Cornell’s Slade Kendrick dismissing Dalton’s argument on the grounds that “public policies do not reduce themselves to mathematical niceties” and that the principle of maximum social advantage provides “only the vaguest guidance for determining whether any proposed expenditure should be approved” (1951, 70).¹⁴ Interestingly, Shultz reversed course a bit around this same time, perhaps under the influence of his co-author, Columbia’s C. Lowell Harriss, calling the maximum social advantage “a highly suggestive principle” that had the benefit of encouraging “the student, the voter, and the public

¹³ See also, e.g., Shirras (1924, 38, 41), Buehler (1936, 47-48), and Mehta and Agarwala (1951).

¹⁴ See also Lutz (1924, 31-32).

official to compare alternatives and to look at the ‘margin’ rather than at totals or averages”

work on the subject by scholars including Kaldor and Hicks, Arrow, and Samuelson on the subject (Shultz & Harriss, 1954, 72n10).

welfare theory, operationalizing this finding and explaining why “*no decentralized pricing system can serve to determine optim*

grappled with the marginal cost pricing issue already in the 1

potentially broad applications quickly made it both a widely used tool for the evaluation of public expenditures and a subject-matter of scholarly inquiry.

used in the private economy,” and the answer was to pursue

be achieved” (Musgrave, 195

for thinking

