

Medema, Steven G.

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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'

STEVEN G. MEDEMA

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CENTER FOR THE
HISTORY OF POLITICAL ECONOMY
AT DUKE UNIVERSITY

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

Steven G. Medema*

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* Department of Economics and Center for the History of Political Economy, Duke University.
Email: sgm37@duke.edu. The excellent research assistance of Ziyu Huang is gratefully
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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

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

⁵One 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 his 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” when evaluating taxes and expenditures (Shultz & Harriss, 1949, 20).¹⁵

Though Dalton’s marginalist approach to the expenditure question had commonalities the work of Pantaleoni in Italy, Saxe in Germany, and Lindahl in Sweden, his book made no reference to this literature. One scholar who *did*, however, was Harvey Whitefield Peck, a student of E.R.A Seligman and professor of economics at the University of Vermont.¹⁶ His *Taxation and Welfare* (1925) devoted 175 of its 280 pages to public expenditures, including a chapter on “The General Theory” of the subject. Economic theory, Peck argued, could do much to clarify “the most desirable ratio of public to private goods” (30), and he considered the applications of marginal utility theory to this subject by Sax, Wickseil and Lindahl particularly fruitful toward this end. Peck’s own treatment gave great emphasis to Lindahl’s (1919) finding that public goods production should be undertaken to the point where the marginal utility from public and private goods is identical—a proposition that is equivalent to Dalton’s claim about the optimal extent of government activities (31-32).¹⁷ Yet here, as with Dalton (and Lindahl), expenditure analysis was essentially a handmaiden to the tax side, with “the scope of public expenditure” simply a synonym for “the desirable amount of taxation” (4-5). These were normative theories of public finance, but without a sense for government as an important and productive economic agent.

Despite (or perhaps in some instances because of) the attention given to Dalton’s principle of maximum social advantage, complaints about the state of public expenditure analysis remained a regular refrain five decades after Bastable’s initial lament.¹⁸ Yet, hope continued to spring eternal. While Shultz and Harriss (1949, 26) found “economic theory” of “little help” in determining the scope of government activity and expenditure circa 1949, the sixth edition of their text, published five years later, offered a slightly more optimistic assessment, noting that “Scholarly interest in problems of the scope of government activity is increasing” and citing in support of this claim the publication of Dahl and Lindblom’s *Politics, Economics and Welfare* (1953) and Harold Somers’ (1951) article on “Public Spending and Economic Welfare,” which summarized recent

¹⁵ Interestingly, and perhaps not coincidentally, Shultz also introduced a discussion of marginal-cost pricing under decreasing costs into the 1949 edition Shultz and Harriss (1949).

¹⁶ Shirras (1924, 27), too, provided a bit of discussion of the German and Italian literatures, though not nearly so extensive as Peck.

¹⁷ Peck did not seem to recognize the correspondence between Lindahl’s conclusion and that of Dalton, as he mentioned Dalton’s result only much later in the book, when discussing taxation and without any reference to Lindahl at that point. See Peck (1925, 115).

¹⁸ In addition to the references cited above, see, e.g., Shirras (1924, 27) and Shultz (1931, 57). There were also several books of “readings” in public finance published during this period, but the space devoted to public expenditures was typically minimal, and even this was basically descriptive rather than theoretical. See, e.g., Bullock (1906; 1920; 1924), Mills and Starr (1932), and Fagan and Macy (1934). The exception was Harold Groves’ *Viewpoints on Public Finance: A Book of Readings* (1947), which included a reprint of Peck’s (1925) chapter on “The General Theory of Public Expenditure.”

work on the subject by scholars including Kaldor and Hicks, Arrow, and Samuelson on the subject (Shultz & Harriss, 1954, 72n10). The seeds of change, it seemed, were in the air.

IV. The Seeds of Change

Though the 1940s and 1950s brought little substantive change to the expenditures side of public finance—at least until the tail end of the 50s—things happening elsewhere in economics were, in time, to prove foundational for the field’s transformation. Some of these changes were almost wholly internalist, while others were the product of evolving social circumstances on which economists became increasingly inclined to weigh in.

The general equilibrium turn that began in the 1940s and played such a large role in post-WWII economic theorizing gave rise to a variety of developments in welfare economics that proved integral to the eventual transformation of public finance.¹⁹ Abram Bergson’s (1938) formulation of the social welfare function and Paul Samuelson’s subsequent elaboration and refinement of it in his *Foundations of Economic Analysis* (1947) offered a mathematically sophisticated way to frame discussions of the effects of economic policy making. Arrow’s *Social Choice and Individual Values* (1951a), of course, threw a bit of cold water on all of this not long thereafter by suggesting that, under reasonable assumptions, it was not possible to aggregate individual preferences (e.g., through a voting process) in a way that would allow one to rank alternative states of the world. Nonetheless, his findings did not prevent economists from theorizing based on social welfare functions and had the further effect of calling attention to the important role that political decision processes play on the policy front, stimulating discussions of collective choice processes along the way (Igersheim, 2019).

Of far greater import, in terms of our story, is the role played by the fundamental theorems of welfare economics (Allais, 1943; Arrow, 1951b), which demonstrated the optimality of a competitive system under properly specified conditions. These theorems had the twin effects of feeding economists’ faith in the virtues of competitive markets and stimulating research into situations where the conditions necessary for optimality failed to obtain. Of particular import here was Samuelson’s (1954) “The Pure Theory of Public Expenditure,” the title being an intentional poke at economists’ neglect of said theory. “The Pure Theory” supplemented Samuelson’s discussion in the *Foundations* by demonstrating the conditions necessary for the optimal provision of collective consumption goods. While this neatly tied up one of the remaining loose threads in

¹⁹Landmark works in welfare economics generally during this period include Lange (1942), Lerner (1944), Reder (1947), and Myint (1948).

welfare theory, operationalizing this finding and explaining why “*no decentralized pricing system can serve to determine optimally these levels of collective consumption,*” it also reinforced the problem of optimal public provision, in that agents would have an incentive to provide “false signals” about their preferences under benefit-principle taxation schemes (388-89). Though scholars including Sax, Wicksell, Lindahl, Musgrave, and Bowen had trod this ground before, their collective influence on the Anglo-American literature, whether in welfare economics or in public finance, had been minimal. It was Samuelson’s 1954 treatment, along with a follow-up piece on the subject providing a graphical and more intuitive treatment for the many economists ill-equipped to deal with the mathematics (Samuelson, 1955), that solidified the place of the theory of public goods in welfare analysis.²⁰

The problems introduced by collective consumption were just one of several potential flies in the ointment of competitive markets theory on which economists began to fixate at mid-century. External economies and diseconomies of various forms, from pollution to industry-wide cost economies were also brought under the lens of welfare analysis, initially with a focus on how and why these circumstances worked as impediments to optimality and, with time, how governmental policy could be employed to remedy these ‘market failures,’ as they had come to be known (Medema, 2019). Increasing returns, too, posed problems for market optimality, as competitive market processes virtually outcomes attended by some degree (perhaps substantial) of monopoly power and associated welfare losses. The question of the moment was that of the appropriate pricing policy to deal with this and, specifically, whether marginal-cost pricing (accompanied by a government subsidy to cover attendant losses) was superior or inferior to average-cost pricing—a question that also had implications for state enterprise pricing decisions.²¹ The related problem of optimal product pricing under episodic demand and potential capacity constraints, more commonly known as the ‘peak-load’ problem and particularly germane to public utility pricing, also spawned a significant literature during this period. Here, marginal-cost pricing is complicated by variations in marginal costs between peak and off-peak periods, and work by Boiteux (1949), Houthakker (1951), Steiner (1957), and Hirshleifer (1958) began a long process of deriving pricing schemes that would satisfy the dictates of optimality under different peak-load-related conditions.

None of the aforementioned market failure issues were new to economic analysis. Indeed, the problems that we now associate with public goods and externalities had been identified for more than a century as points of tension for the laissez-faire principle, and Dupuit (1844) had

²⁰ On Samuelson’s development of the theory of public goods, see, e.g., Pickhardt (2006), Desmarais-Tremblay (2017), and Sturn (2010).

²¹ Hotelling (1938), Lerner (1944), and Meade and Fleming (1944) argued in the affirmative, while Coase (1946) suggested that the efficiency implications were in fact not clear as between these two options and that multi-part pricing offered a better way forward.

grappled with the marginal cost pricing issue already in the 1840s. Though the various modern analyses of market failure suggested, in theory at least, rather clear-cut policy recommendations for achieving optimality, a fly in the ointment arrived via Richard Lipsey and Kelvin Lancaster's "The General Theory of Second Best" (1956). Lipsey and Lancaster, both then of the London School of Economics, demonstrated that if there exists an inefficiency in one part of the system, the pursuit of efficiency (e.g., via a policy designed to equate price with marginal cost) in another area typically will make matters worse, from an efficiency perspective, rather than better.²² This insight, also a product of general equilibrium analysis, suggested that conducting a piecemeal approach to policy was likely to be wrongheaded, an inefficiencies version of whack-a-mole. To further complicate matters, Lipsey and Lancaster showed that it is very difficult to identify the "second-best" solution, as the information required to implement it is not likely to be available to the economist or policy maker. Even so, the development of the theory of market failure continued apace. While second-best considerations were sometimes acknowledged and occasionally even probed, the focus remained on the identification and remedying of market failures in a first-best theoretical context.

The post-WWII period also brought with it the legacies of both New Deal public works projects and wartime economic planning, the perceived possibilities associated with which helped to feed a move away from attitudes that, while perhaps not as government minimalist as seen in previous centuries, were nonetheless very cautionary about potentially expanded roles for the State. As Michigan State's Richard Lindholm (1950, 60) put it, "the general recognition that government economic 'meddling' may be necessary for an efficiently operating economy" had increased since the 1930s, and with it the "popular and therefore political acceptability of government economic activity." But the magnitude of many of these projects and the associated claims on society's resources raised concerns about the extent to which they were cost-justified. Though the origins of cost-benefit analysis go back to Dupuit and the French engineering tradition, its practical use dates to the U.S. Flood Control Act of 1936, which established that the government should participate in flood control efforts "if the benefits to whomsoever they accrue are in excess of the estimated costs." It was only in the late 1950s, however, that economists including Otto Eckstein (Harvard), Roland McKean (RAND), and John V. Krutilla (Resources for the Future), began to develop sophisticated methods to evaluate the costs and benefits of government projects. Though the initial impetus for this work was the problem of water resource development and conservation, its

²² Consider, for example, an economy with several monopolists, each of whom is a polluter. Both monopoly and pollution generate inefficiencies. An attempt to eliminate the monopoly and replace it with a more competitive market will reduce the monopoly distortion, but it will also lead to more pollution and thus *increase* that distortion. A first-best solution is not available here.

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

V. Musgrave, Buchanan, and a New Framework for Public Finance

The Second World War brought the publication of new and revised texts to a virtual halt, and it hardly needs stating that the economic analysis which emerged in the war's aftermath was in some ways profoundly different from that of the interwar period. Both mathematical modeling and Keynes-inspired approaches to macroeconomics and fiscal policy were increasingly prominent in the scholarly literature, the former bringing with it the ascendance of general equilibrium analysis, the fingers of which run in all directions in our story.

The Keynesian turn was met with a prompt reaction in the public finance texts, where chapters, often multiples of them, on fiscal policy became the flavor of the moment. Changes on public expenditure side, on the other hand, were much more slow in coming. Despite Mehta and Agarwala's (1951, v) contention that "modern developments in economic theory have supplied some useful tools to the students of Public Finance wherewith to shape with greater precision his conclusions in the service of the fiscal activities of the State," their analysis of public expenditures, limited to 21 out of 575 pages, did not go beyond Dalton in theoretical sophistication. Nor was their book an outlier. The two editions of Ursula Hicks' *Public Finance* (1947; 1955) contained precious little discussion of public expenditures and continued to rely on on Smith's "three duties" to frame of the role of the State. Harold Somers did no better in his *Public Finance and National Income* (1949), its discussion of public expenditures being confined to national trends.

Even so, some sense that a transition might afoot was signaled by Edward Allen and O.H. Brownlee's *Economics of Public Finance* (1947), which approached the subject "largely through welfare economics" as shaped by Abba Lerner, Alvin Hansen, Gerhard Tintner, and Leonid Hurwicz (vii). One facet of this transformation was an increased stress on fiscal policy as an element of public finance but another, more important for our purposes, was the "Increased emphasis ... being placed on interrelationships between governmental receipts and expenditures." The combined effect, they concluded, was that "Public finance is fast becoming the study of the *public economy*" (4).

Their welfare economics approach to the subject made Allen and Brownlee the first to attempt to shape the expenditure side of public finance out of what economists now refer to as the problem of "market failure" and to do so on an explicitly normative basis. The operative question, in their estimation, was that of "when government should use resources which otherwise could be

used in the private economy,” and the answer was to pursue the course that would “maximize the size of the total product.” This had the effect of making the public sector problem identical to the private sector one, with the total product being maximized when the marginal products of resources were equalized between the private and public sectors (Allen & Brownlee, 1947, 137-138).

Reliance on the market posed three particular problems, in their estimation: (i) government may be able to produce some goods and services more efficiently than the private sector; (ii) market prices may not accurately reflect social benefits and costs, and (iii) monopoly power is likely to engender inefficiencies. Each these issues, and the rationale for state action and expenditure that it created, were discussed at length in their book (140-153).

Nor were Brownlee and Allen alone in providing this welfare economics flavor. Richard Lindholm’s *Public Finance and Fiscal Policy* (1950, 64-67) and Kenyon Poole’s *Public Finance and Economic Welfare* (1956) struck many of these same notes. “Welfare” language, including that of *social* benefits and costs and references to “marginal social benefit” replacing those to “marginal utility” (Due, 1954, 18; Poole, 1956, 44), was creeping into the texts, along with citations to the work of scholars tilling these soils, including Bowen, Buchanan, Reder, and Samuelson.

A. Musgrave’s Public Household

Of the several transformative moments along the path that brought public expenditure theory into the public finance conversation in a more fulsome way, Richard Musgrave’s 1959 treatise, *The Theory of Public Finance: A Study in Public Economy* represents perhaps the most significant break from earlier works in the field. Though his analysis of public expenditures was not significantly more lengthy than those found in earlier works, occupying roughly twenty percent of the book’s 600-plus pages, the nature of his discussion was radically different. This difference was an artifact both of recent developments in welfare theory and of Musgrave rather unique (among Anglo-American authors) orientation to his subject, one informed by his vast exposure to the literature of the continental traditions.²³

Where previous Anglo-American authors had expressed concerns about the lack of a theory of public expenditures, Musgrave went a step further, pointing to the need for a more all-encompassing “theory of the *public sector*.” To remedy this perceived deficiency, he proposed a “*normative or optimal theory of the public household*,” a theory that would allow the economist to “determine the optimal budget plan on the basis of initially defined conditions and see how it can

²³ This was on evidence already in his 1939 essay, “The Voluntary Exchange Theory of Public Economy (1939), which was published in the *Quarterly Journal of Economics* and built on the work of Wicksell, Sax, de Viti de Marco, and Lindahl.

be achieved” (Musgrave, 1959, 4, emphasis added).²⁴ Concerns about realism and measurability, often raised against Dalton’s maximum advantage principle, were, in a sense, neither here nor there for Musgrave. The normative model “is not designed to be realistic in the sense of describing what goes on in the capitals of the world,” he said, but instead “to show what would go on if optimal results were achieved” (4). The pursuit of optimality, in turn, was said by Musgrave to involve three basic objectives: pursuing an optimal allocation of resources, a “proper” distribution of income, and economic stability (4-5). Only the first two of these will concern us here.

The *raison d’être* of the allocation branch, for Musgrave, is the reality that we cannot rely on the market system to generate efficient allocations of resources. In some instances, market results are simply sub- or supra-optimal, as with situations including monopoly, decreasing costs, external economies and diseconomies, and differences between private and public perceptions of risk. Here, Musgrave argued, state action “*may be* desirable and feasible,” depending on “the nature and severity of the inefficiencies” (6-8). Goods that satisfy what he classified as “social wants,” on the other hand, provide a more significant rationale for state action, as their collective consumption aspect means that “the market mechanism fails altogether.” The problem here, as Musgrave pointed out at great length, lies in the inability to exclude people from consuming the good once it has been provided (what he labeled “the exclusion principle”). Agents thus have an incentive to disguise their true preferences to avoid payment, absent the knowledge of which it also becomes impossible for the authority to determine the optimal levels of these social goods and the tax prices that go with them (8-10).

As Musgrave took pains to emphasize, however, preference revelation was only one of several problems for the public household’s allocation problem. Judgments regarding optimality rely on a “proper” distribution of income based upon which individuals can register their demands, which raises “a most difficult set of ethical, social, and economics problems” (17, 20). The difficulties are further compounded by the interdependence of the allocation, distribution, and stabilization processes and budgets. This, said Musgrave, means that the public household’s problem is best approached from a *general equilibrium* perspective to the problem. And that he did, developing a simple model—a system of simultaneous equations for each of the three public budgetary sectors— to derive the optimal allocation of resources across the branches of government (32-37). Determining the optimal overall budget added an additional layer of complication, owing to the need to account for resource tradeoffs between the satisfaction of private and public wants and here, too, Musgrave sketched a simple general equilibrium framework

²⁴ This public household is at once similar to and different from asserted correspondence between the theory of the individual consumer and the theory of the state highlighted by earlier writers and discussed above. See Desmarais-Tremblay (2021).

for thinking about the problem (55-57). Though all of this was tentative and provisional—even “crude,” as he put it—Musgrave considered it “superior to the one-sided concept of taxable capacity” characteristic of the earlier literature, which ignored both the expenditure side of the budget and the fact that there is a certain amount of government activity (and thus expenditure) “without which the *private sector* cannot exist” (57, 51).

This concern to integrate the tax and expenditure sides of the budget led Musgrave to reject the ability-to-pay approach (90-115) in favor of modern versions of the benefit approach, ably developed by Pantaleoni, Mazzola, de Viti de Marco, Sax and Wicksell, and culminating in the voluntary-exchange approach of Lindahl. The lesson that he took from these more recent formulations was not so much that taxes should be based on benefits received from governmental services as that they function as prices paid for public services and, in equilibrium, should accurately reflect demands for them. It was a market view with welfare implications, as an efficient equilibrium allocation will only obtain if tax prices are equal to benefits received. But even these modern formulations, including Lindahl’s, were inadequate, as their partial-equilibrium settings considered public wants independent of private ones. Samuelson (1954), he noted, had put things on a better course in setting his analysis of collective-consumption goods in a general equilibrium framework. But this had only further highlighted the challenges posed by the exclusion principle’s implications for accurate preference revelation, bringing the political process to the fore as the vehicle through which the prices and quantities are brought into (likely sub-optimal) equilibrium. And even if one were to ignore these preference-revelation concerns, there remained the problem of multiple optimal equilibria and the distributional considerations that must factor into the choice among them. The benefit principle was of no help here, Musgrave emphasized, leaving us reliant on a “more specific social welfare function” to choose among the available optima (61-89, 133-35).

It would be wrong to suggest that Musgrave, at long last, brought a well-developed theory of public expenditure into the analysis of public finance. Yes, he did devote a bit of attention to the Samuelsonian analysis of public goods, to the implications of alternative voting processes for achieving efficient allocations (116-35), and even to decreasing-cost industries and the use of tax and subsidy policies to promote efficiency in these situations (136-39). But his discussion smacks more of the collage than the painting, of parts that are related but not smoothly integrated. What he did contribute, though, was a framework, and this in multiple related senses. First, his emphasis on a normative approach and his extensive fleshing out of some basic structures—those of the public household—that could form the basis for such an approach moved the discussion forward a good deal. But just as important was the *content* given to those basic structures—the allocative, distributive, and stabilization functions of government. This at once put general equilibrium theory

at the heart of his public expenditure analysis and gave shape to a normative approach without loosing it entirely from the the subject's positive heritage. Each of these functions was one into which extant tasks ascribed to government could be fit. Indeed, many of those associated with the allocation and distribution branches were as old as public finance itself. And though stabilization was something of a johnny-come-lately, it had proved its mettle to many in the decades prior to Musgrave's writing, to the point where it had become a *de rigueur* element of major works in public finance. Not surprisingly then, this tripartite classification scheme was quickly picked up by subsequent writers.

B. Buchanan's Positive Reinforcement

Musgrave's treatise might fairly be described as the most influential book-length study in the history of public finance, but not everyone was interested in buying his plea for a normative approach. His most critical opponent was James Buchanan, who had spent much of the 1950s working to integrate the tax and expenditures sides of public finance and to build the analysis of the political process into the subject. Despite their shared affinity for the Continental tradition and a remarkable commonality of vision for the field, Buchanan he made no bones about his opposition to Musgrave's and other normative approaches, arguing instead for a positive approach to the subject:

We approach government differently when we begin to consider it, not as some organic or unitary being which acts independently, but as a means through which private citizens make decisions collectively. Here we can immediately discard as irrelevant all attempts at defining "social utility" or "social welfare" independently of individuals' own estimates. We try instead to understand more fully the manner in which individuals make decisions relating to collective activity. We try to examine the conditions under which individuals will freely choose to sacrifice privately enjoyed goods and services in return for publicly provided goods and services. ... We shall, in the chapters that follow, derive "principles" only insofar as these arise out of positive analysis. (Buchanan, 1960, 15-16)

Even so, Buchanan's public expenditure analysis had much in common with Musgrave's, derivative of the decision made by each to ground the analysis in an exchange-based framework.²⁵ The connection is neatly brought out by Buchanan's notion of "the ideally neutral fiscal system," which he defined as "one that provides collective goods and services 'efficiently'" (Buchanan, 1965, 139). Such a system forces members to face prices for these goods and services that are analogous to those which would emerge in private goods markets, and that each person's tax share

²⁵ Johnson (2015) provides a history of the treatment of voluntary exchange theories in public finance.

is equivalent to his or her personal valuation of the goods in question—the same conditions that emerge from Musgrave’s welfare-based approach. Buchanan’s breakdown of the subject also reflected the allocative, distributive, and stabilization functions, if not the normative accompaniments, of Musgrave’s public household, the first of these leading him to take up topics including, in addition to collective goods, public utility pricing and the decreasing costs problem, congestion externalities, and cost-benefit analysis.

All of this bears noting because it suggests that the methods which emerged from post-WWII welfare economics were not inherently normative, in the sense of being useful only for dictating the appropriate roles for the State. They also offered a new methodology for the positive approach to public expenditures that had dominated public finance pre-Dalton and which continued to prove attractive to many scholars in the field. In particular, the efforts by Musgrave and Buchanan to link up the expenditure and revenue sides, their elaboration of a framework for doing so, and their perspective on the topics that this would bring into public expenditure theory set the tone for what was to come.

VI. Economizing the Public Sector

Musgrave’s sketch of a normative theory of the public household turned out to be a transformative moment in the history of public expenditure theory. His tripartite framing in terms of the allocation, distribution, and stabilization functions of government was picked up overtly by numerous writers over the next two decades, typically with normative accompaniments, and was quite obviously at least running under the surface in many other treatments.²⁶ Where later writers slowly began to move beyond Musgrave was in the deeper and broader probing of the allocation and distribution functions. Much of this involved in fleshing out a normative theory of public expenditures built on advances in and integrated through the ever-expanding framework of welfare economics and locating the rationale for state action in the need to deal with problems of market failure so revealed.

This transformation, though, played out in dribs and drabs. The first move essentially involved putting the old analysis in new normative clothes, with welfare theory replacing the positive and utilitarian approaches as *explanda* for the scope of state action. Defense, roadways, education, and other governmental activities taken as given or argued to be obviously worthwhile under the maximum social advantage criterion were now classified as ‘public’ or ‘collective

²⁶ See, e.g., e.g., Buchanan (1960), Due (1963), Herber (1967), Eckstein (1967), Winfrey (1973), Auld and Miller (1975) and, of course, Musgrave and Musgrave (1973). Several writers added a fourth function here, the promotion of economic growth. See, e.g., Herber (1967) and Eckstein (1967).

consumption' goods, the provision of which by the state was justified based upon inefficiencies arising from indivisibilities in consumption and associated preference revelation problems, *à la* Samuelson and Musgrave, as well as by spillover effects not properly captured through the marketplace. But this new approach also brought greater breadth to the analysis of public expenditures, reflecting both the growing scope of state action over the 20th century and the market-failure issues introduced into the conversation by welfare theory.

The initial treatments here were largely motivational, a self-contained chapter or two devoted to the basic conclusions of welfare theory, with brief explanations (often as little as a paragraph) of how government involvement with problems of public goods, externalities, and pricing under decreasing costs (typically in the context of public utilities) could be justified on economic grounds—occasionally with more sophisticated accompanying analytics but typically not.²⁷ Public goods were sometimes given their own chapter here, but beyond that there was little in the way of deep probing or of systematic integration of this material into a theory of public expenditure that went beyond the basic “government action as a response to market failure” rationale. That no larger vision for the subject had yet taken shape was reflected in the propensity to shunt off discussions of topics such as public-sector pricing to ‘special topic’-type chapters completely removed from the discussion of public expenditures, if they were discussed at all.

The second half of the 1960s brought even clearer signals that significant changes were afoot. One important marker here was Leif Johansen’s *Public Economics* (1965), which provided a rigorous theoretical exposition of the subject, requiring a background in both “macroeconomic theory and economic welfare theory” (ix).²⁸ The book included a lengthy (nearly 70 pages) chapter on “The Extent of Collective Consumption and Public Activity,” which presented a theory of public expenditures overtly grounded in welfare economics. At its base was a general equilibrium model of the public expenditure process, from which he derived associated optimality conditions before moving on to the introduction of a social welfare function and the problem of welfare maximization. Johansen then led the reader through a detailed discussions of public goods and Lindahl’s pricing analysis, the efficiency-related problems associated with majority voting, decreasing costs in production and external effects, all with a view to showing the conditions under which governmental action, in one form or another, might be merited. Though Johansen prefaced this material with a disclaimer that this was new and unsettled territory, and thus that his discussion of it was “somewhat less coherent and more speculative” than other parts of the book, it proved a harbinger of what was to come (124).

²⁷ See, e.g., Prest (1960), Rolph and Break (1961), Due (1963), and Eckstein (1964).

²⁸ Johansen’s book, based on lectures he had given in Oslo, was originally published in Norwegian, in two parts, in 1962 and 1964. The English translation appeared in 1965.

John Due's decision to completely rewrite, and retitl, his text for the fourth edition, published in 1968, provides yet another indication of the changes underway.²⁹ This revision, Due explained, was the product of several (and, in retrospect, related) forces: "changing orientation and emphasis in the field of governmental finance in the last decade, ... new material that has appeared in recent years," and the need to alter the organization of the material and "raise the level of analysis" to reflect this (1968, ix). On the expenditure side this, for Due, meant taking account of contributions by Samuelson, Buchanan, Anthony Downs and Gordon Tullock, as well as by economists at RAND (on programming) and by Eckstein and others on water resources (i.e, cost-benefit analysis) (ix). What in his 1963 edition had been an opening chapter providing a positive depiction of "The Role of Government in the Economy" became a normative one on "The Rationale of Government Activity." Both had the basic allocation-distribution-stabilization flavor of Musgrave's scheme, but Due's 1968 discussion of allocation and distribution now grounded these in the particulars of welfare theory. From there, Due moved on to a chapter on public goods provision, building on the theory of individual consumer choice and taking up the role played by political processes and the agencies of government, followed by a lengthy chapter devoted to budgeting systems (PPB) and cost-benefit analysis (Due, 1968, chs. 1-3). Consistent with most other books of the period, however, Due continued to defer the analysis of pricing under decreasing costs, peak-load pricing, and congestion problems until much later in book, reinforcing our perception of a theory less than fully formed.

It does seem, though, that things were beginning to move quickly. In 1974, John Head, who had been working on public expenditure theory topics for more than a decade, was in a celebratory mood, writing in the introduction to his *Public Goods and Public Welfare*:

Only now, after almost a quarter of a century of development, are the outlines of a new public finance reasonably clear, with public expenditure *taking its rightful place in the center of discussion*. In the new public expenditure analysis the early insights of British and continental European writers have been deepened and further developed to provide a comprehensive theory of public spending; and this development at the theoretical level has been accompanied by important advances at the applied level in cost-benefit analysis and program budgeting. (Head, 1974, vii)³⁰

One needed to look no further than Robert Millward's synthetic treatment of the subject in his *Public Expenditure Economics: An Introductory Application of Welfare Economics* (1971), which

²⁹ Previous editions had been titled *Government Finance: An Economic Analysis*. In 1958, Due changed the title to, *Government Finance: Economics of the Public Sector*.

³⁰ Head's book treated welfare theory, collective decision making, public goods, and externalities.

ranged over welfare theory, public goods, externalities, marginal cost pricing, peak loads and benefit–cost analysis, to find grounds for Head’s exuberance, to say nothing of evidence for the role played by welfare economics in this transformation. If Head was to be believed, the neglect of public expenditure analysis, a seven-decade drumbeat of lamented heard as recently as Herber (1967, ix), seemed finally to have been rectified.

But a glance at the texts published between the late 1960s and the early 1980s suggests that Head may have been guilty of premature exuberance, for the conceptions of public expenditure theory they reflected were very haphazard beyond a common base in the welfare theorems. Social welfare functions, social choice, public goods (pure and impure), cost-benefit analysis, decreasing costs, peak-load problems, externalities, and the economics of the political process all feature in the texts, but with no uniformity at all in terms of which of these topics were covered or the depth of the discussion.³¹ That is, though the field had stabilized around welfare theory as a starting point for the discussion of public expenditures and the scope of state action, the same could not be said for the essential constitutive elements of that theory, despite Millward’s signaling that these strands could be drawn together into an integrated whole. Indeed, Atkinson and Stiglitz’s highly influential *Lectures on Public Economics* (1980), which is often seen as a pivot point signaling the arrival of a new approach, gave the expenditure side only modest attention and is more evidence of the stabilization *process* than of stabilization itself.

When stabilization did come, in the mid-1980s, public expenditure theory bore little resemblance to what was found in the texts even two decades earlier. A succession of advanced books published over the course of that decade provided lengthy and very sophisticated treatments of public expenditure theory, treatments that consciously reflected the normative thrust and general equilibrium basis that had come to dominate the field. Tresch’s *Public Finance: A Normative Theory* (1981), the weightiest of these at some 650 pages, ranged across the spectrum of public expenditure analysis in both first- and second-best contexts, with more than half of its content devoted to the expenditure side. The other two advanced texts published during this decade, Starrett’s *Foundations of Public Economics* (1988) and Jean-Jacques Laffont’s *Fundamentals of Public Economics* (1988), while not nearly so hefty, were also heavily tilted in the expenditure

³¹ Compare, for example, Herber (1967), Due (1968), Fromm and Taubman (1973), Winfrey (1973), (Musgrave & Musgrave, 1973), and Brown and Jackson (1978). Recognition of what we would now call “public choice” concerns was certainly not new in the public finance literature. See, e.g., Plehn (1897, 22), Adams (1899, 21-23, 147), Hunter (1921, 41), Hunter and Allen (1940, 28-29), Shultz (1931, 78-112), King (1935, 8-9), Kendrick (1951, 70-78), and Poole (1956, 50-51, 54-55). Backhouse and Medema (2012) provide a discussion of the prevalence of these concerns in Cambridge economics.

theory direction, their contents well-described by Starrett as “a synthesis of recent developments in normative welfare economics that have direct application in public finance” (1988, 3).³²

This same perspective filtered down depictions of the field provided in the less advanced treatments, where new texts by Boadway (1979), Hyman (1983), Rosen (1985), and Stiglitz (1986) devoted one-third to more than one-half of their coverage to public expenditures. At the base of the analysis was welfare economics, including the fundamental theorems with their demonstration of the optimality of a competitive market system. Deviations from optimality—market failures of both the allocational and distributional varieties—were then said to provide, in potential at least, the grounds for government action and associated expenditures, typically with a nod to the qualifications associated with the theory of second best. The activities and expenditures thus prescribed for the state included the provision of public goods, the correction of externalities, pricing problems under conditions of decreasing costs and peak-loads, and the provision of social insurance, with the Tiebout model invoked in the analysis of allocation problems at the local level. The theory underlying each of these was probed in detail, both in terms of the factors that led to the non-optimality and how government action offered the prospect of remedying them.³³ Cost-benefit analysis was presented as a box of tools with broad application to these various efforts, while public choice concerns associated with voting, representative government, and the bureaucracy called into question the ability to achieve the optimal solutions prescribed by economic theory via political-*cum*-governmental processes.³⁴ With the analysis of taxation proceeding from this same welfare base, public finance had finally, more than a century after Bastable first threw down the challenge, had become an integrated whole.

VII. The Long Arc

The conviction that economics had nothing to say about the proper scope of state action—that this was the province of political theory and philosophy—is a mark of the changes underway in economics during the late nineteenth century. The task for the economist wishing to pronounce on the public finances was simply to take the existing set of state activities as given, from which base one could assess expenditure trends and, especially, take up issues of financing. With this dominant

³² Interestingly, none of these advanced books paid any significant attention to the public choice literature.

³³ Though our discussion of this history has ignored the treatment of issues in state and local public finance, we see a similar trend through time there in the reliance on the Tiebout model. On Tiebout, see Singleton (2015).

³⁴ Stiglitz (1986) even went so far as to add specialized chapters on health, defense, and education to those dealing with more general theoretical issues in public expenditure.

vision of public expenditure analysis, it is hardly surprising that there were was little movement on the theorizing front in the US and Britain during this period.

The integration of economic analysis into the study of public expenditures began with the effort to draw parallels between the individual consumer and the state. The decision to make government expenditure the exogenous variable, with revenue adjusted to it, initially retarded the development of a tight theoretical connection on consumer theory lines, but it is here that we find the seeds of later developments, including Dalton's "maximum social advantage" approach and Musgrave's model of the "public household." Dalton's efforts to integrate the tax and expenditure sides through his theory of maximum social advantage and the marginal equivalences derived from it moved the discussion forward somewhat, but only somewhat. Taxation remained the horse that pulled the cart. Yes, the goal was to maximize the social advantage, and the benefits associated with government expenditures were part of the calculus, but the question of how much revenue to raise was the governing consideration, and Dalton's theory offered no guidance regarding the appropriate scope of state action. In a sense, his maximum social advantage principle was little more than J.S. Mill's (1848) "expediency" criterion in fancy dress (Medema, 2009, 339-340).

That said, what Dalton *did* do was begin to shift the conversation in a more overtly normative direction. Taxation analysis had long included a significant normative component, reflected in the debate over ability-to-pay versus the benefit principle as the appropriate determinant of tax shares. Against the view that economics had *nothing* to say about the appropriate role for the state and the level of its expenditures, Dalton offered an alternative view, one more consistent with the allusions to the theory of the individual consumer that had been commonplace in the public finance literature. In a sense, he began to close the loop between the theories of individual and state, making public expenditure, in both form and extent, an endogenous *economic* variable rather than simply an historical datum or the monetization of duties defined by other fields.

Dalton's approach did not meet with anything like universal approval, however, both for practical (measurement) reasons and because some saw it as sanctioning a seemingly endless expansion of government activity. Though ideological considerations were at the heart of the latter criticism, it also reflected a lack of precision in Dalton's principle, of a solid theoretical grounding for what the government should be on about, and why. That precision, along with a more fulsome integration of the expenditure and revenue sides, arrived via developments in general equilibrium analysis and welfare economics. The fundamental theorems demonstrated the optimality of a competitive system under certain assumed conditions, and deviations from this, which Bator (1958) labeled "market failures," were seized upon to provided a rationale for state action—the provision

of public goods, externality correction, measures to deal with decreasing costs in production, and the like. Of course little of this market failure analysis was new to economic thinking, in a conceptual sense, nor were the forms of government ‘intervention’ so implied. But its systematization under the banner of welfare economics offered economists a theoretically sophisticated way to think about the role of the state. In doing so, it obviated the need to draw upon political theory or an extant set of state actions and provided, in time, “a useful organizational framework” for public economics (Atkinson & Stiglitz, 1980, 10).

What remains is to explain how and why, in the end, public expenditure theory found its grounding in welfare economics and its applications. Atkinson and Stiglitz (1980, 10) have suggested that, from the perspective of someone steeped in economic theory, “the development of [public economics] from the standard theorems of welfare economics is a natural one.” But if this were true, why did we not see a similar set of developments building on the welfare theory of Pigou a half-century earlier?

Two mid-century developments seem to be key here. The first was economists’ growing preoccupation with the analysis of optimal resource allocation, itself derivative both of the latest fashions in theoretical modeling and of the increasing acceptance of the Robbinsian definition of economics as “the science which studies human behavior as a relationship between ends and scarce means which have alternative uses” (Robbins, 1932, 15).³⁵ The fundamental theorems and welfare economics generally were simply one important manifestation of this, but integral in our history. The second key event was Musgrave’s effort to outline a normative theory of the public household and, in particular, ascribing to that household a specific set of ‘preferences’: allocation, distribution, and stabilization. This defined the basic contours of the economic role of government and thus of government expenditures. Modern public expenditure theory emerged from the collision of these two forces, with developments in welfare economics providing a growing body of theoretical and measurement tools readily applicable to normative questions of allocation and distribution and thus capable of filling Musgrave’s boxes in a manner consistent with modern economic sensibilities.³⁶

³⁵ On the Robbins definition of economics and its gradual diffusion, see Backhouse and Medema (2009a; 2009b).

³⁶ One interesting conjecture here is that the *macroeconomic*-stabilization policy side of public finance may have helped pave the way for, or legitimize, the normative approach to public expenditure theory. If so, there is a minor associated irony here in that stabilization policy was written out of public finance in the 1970s.

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