

Mapping the history of public economics in the twentieth century: an introduction to the special issue

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ABSTRACT

The papers in this issue deal with the transformation from public finance to public economics at a theoretical and philosophical level in the mid-twentieth century. Our introduction situates these papers within their intellectual context. To do so, we provide a broad outline of the trajectory of the field beginning with the transformation of welfare economics. Acknowledging the structuring role of Richard Musgrave and James Buchanan for the field, the papers highlight the key role also played by Paul Samuelson in the transition to public economics. Moreover, they underscore how ethical issues were formalised into normative economics at this critical juncture.

KEYWORDS

Public economics; public finance; welfare economics; Paul A. Samuelson; John Rawls

JEL CODES

B21; B40; D63; H00

1. Introduction

What is the difference between public finance and public economics? For some, the terms are interchangeable (Feldstein 2002; Rosen and Gayer 2010). Others saw the semantic shift as capturing the radical transformation of the field in the latter third of the twentieth century, a shift so profound that public economics simultaneously became “one of the oldest fields in economics yet ... also ... one of its newborns” (Kolm 1987, 8196).¹ As a prominent actor and witness of this transition, James M. Buchanan explained: “What has really happened in public finance is that our paradigms have been modified. We simply do not look at the subject matter of this subdiscipline in the same way that we did thirty years ago ... Today by contrast, public finance is public economics” (Heller, Buchanan, and Musgrave 1972, 63).

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¹ Hindriks and Myles argue that “public economics has always been one of [economics’] core branches” (2013, 3). Indeed, the field traces its origin to the political arithmetic of William Petty, Adam Smith’s principles of taxation, and the concomitant German Cameralistic sciences (Musgrave 1985; Sturn 2016; Desmarais-Tremblay 2021b). In the US, public finance was one of the earliest fields of specialized economics study and the first to claim scientific status (Johnson 2014b).

Part of the transformation reflected a revaluation in what were seen to constitute the interesting questions. Traditional topics such as public debt and principles of taxation were replaced with public goods, externalities, social choice, stabilisation, redistribution, optimal taxation, and inequality (Medema 2023). This paradigmatic shift was supported by new intellectual infrastructure. The Public Choice Society and its eponymous journal emerged in the mid-1960s, seeking to apply “intellectual tools drawn from economics to noneconomic social phenomena” (Tullock 1966, 1). In 1970, the publisher North-Holland proposed to create the *Journal of Public Economics*, capturing changing interests in the field. First published in 1972, the journal encouraged “scientific contributions to the problems of public sector economics, with particular emphasis on the application of modern economic theory and method of quantitative analysis. It [would] provide a forum for discussion of public sector policy and bring together work which [had] in the past been scattered among a number of less specialised journals.” The *Journal of Public Economics* was to be “more specialised than the *American Economic Review* and less specialised than the *National Tax Journal*” (Atkinson 1993, 2). Instead of the audience of tax experts served by the *National Tax Journal*, the *Journal of Public Economics* was directed at academic economists, particularly theorists. Martin Feldstein, Leif Johansen and Joseph Stiglitz served as the original co-editors. Associate editors were comprised of established economists such as Buchanan, Richard Musgrave, and Paul Samuelson, along with younger figures who would come to shape the field, including James Mirrlees and Peter Diamond.² The journal was a success, receiving approximately 100 submissions per year at its inception, increasing to nearly 300 per year by the early 1990s (Atkinson 1993). Coincident were new networks connecting academic economists working on the public sector. With James Buchanan and Julius Margolis, Musgrave founded the International Seminar in Public Economics in 1971, organising small specialist conferences, with some papers published in the *Journal of Public Economics*. It was followed by the Association of Public Economic Theory, founded in the 1990s and devoted to pertinent work by mathematical economists on model-theoretical foundations.

Scholarship on this mid-century transition identify Musgrave and Buchanan as the “fathers” of the new field of public economics, the boundaries of which were shaped by their “contrasting visions of the state” (Sinn 1999, 3; see also Buchanan and Musgrave 1999; Desmarais-Tremblay 2014; Drèze 1995; Johnson 2006; Medema 2023; Pickhardt 2006; Sturn 2016). The collection of papers in this special issue add nuance to this narrative on the history of public economics in two ways. First, Samuelson comes out as a key figure of the transition to public economics. Second, the papers highlight how normative concerns were formalised at this critical juncture.

What transformed the centuries-old field of public finance into the new field of public economics was as much methodological as topical. As several of the papers in this issue identify, the melding of general equilibrium theory with the new welfare economics proved an instigating factor for the reappraisal of the scope of public finance (Medema 2023; Walraevens 2023; Igersheim 2023; see also Brennan 1994;

² Nicholas Stern joined the *Journal of Public Economics* as editor in 1974, but the “key force” remained Atkinson, who edited the journal for 26 years (Stern in Aaberge et al. 2017).

Diamond 2002; Drèze 1995; Laffont 2002). As Steven G. Medema explains: the fundamental theorems of welfare economics, which demonstrated the optimality of competitive market solutions, simultaneously brought attention to situations of market failure (see also Marciano and Medema 2015). Within the context of welfare optimisation, such failures appeared to provide a putatively positive rationale for government intervention in the economy.

In addition, the papers in this issue instantiate the complicated and contested nature of the positive-normative distinction as applied in public economics. Over the course of the nineteenth century, different conceptions of a “science of finance” (Adams 1898; Cohn 1895) were envisioned to answer two questions: “First. What are the legitimate wants of a State? Second. How may these wants be the most economically and advantageously supplied” (Adams 1898, 2)? Indeed, Henry C. Adams’ very questions illustrate the fundamentally normative nature of traditional public finance discussions regarding the scale and scope of government, the fairness of taxes, the justification for public expenditure, and role for redistribution. Attempts to conform to Paretian proscriptions against interpersonal comparisons combined with Lionel Robbins’ straitjacket positivism put public finance in a difficult position for decades, as practitioners went to great length to devise subtle methodological positions to defend their legitimacy in analysing policy questions without having to personally endorse potentially contentious value judgments. For example, outright defences of redistribution, which had been widely recommended on utilitarian grounds in the 1920s, disappeared in the subsequent decades, seen as unscientific and unacceptable for the economist *qua* economist. Instead of a normative approach, the question of individual income inequality took a purely statistical and descriptive turn for decades (Hauser 2023).

Several of the papers consider the variety of strategies deployed by economists to articulate objective normative positions, including the social welfare function (Coker and Marciano 2023), models of social choice (Dimand 2023), and Rawlsian ideas about justice (Igersheim 2023; Guizzo and Paré Ogg 2023; Walraevens 2023).

Even the meanings of positive and normative were subject to dispute. Studies contributing to the “pure theory” of public finance reflected a belief that there were topics on which economists could make definitive scientific statements—usually by deploying general equilibrium analysis and rigorous logic (e.g., Edgeworth 1897; Pigou 1904; Benham 1934; Samuelson 1954, 1955, 1969). Samuelson’s (1954, 1955) “pure theory” for the optimal provision of public goods as a function of a prespecified social welfare function was also simultaneously inviting positive and normative interpretations (Samuelson 1954, 1955). The problems of the public sector were increasingly framed in a mathematical language that would have been incomprehensible to public finance experts working in the first decades of the century. This formalism allowed economists to present normative positions as seemingly agnostic optimisation. We can see the implications in Raphaël Fèvre and Thomas Mueller’s paper examining the post-war French economists contributions to the optimal pricing literature, work that addressed both problems of the technical computation of

marginal costs and the normative justification of public utility-pricing in terms of the greater good of the community.

In contrast, Buchanan's "pure theory" emerged from the field of public finance by challenging common presumptions about the nature of social organisation. "The pure theory of government finance may be erected on either of two political foundations, which represent, in turn, two separate and opposing theories of the state," the organismic and individualistic (1949, 496). Any collective (organismic) specification of preferences (such as a social welfare function) was normatively constructivist, comprised of "vague and general terms such as 'social utility' and 'social welfare'" (Buchanan 1949, 505 and 498). Only individualist models of social phenomena could be positive in that they were based on the parsimonious axioms capturing the pure logic of choice. Adopting Buchanan's methodological position, Charles Tiebout (1956) offered an alternative to the "Musgrave-Samuelson analysis" of public expenditure by positing a descriptive "pure theory of local expenditures" based on individual preferences and community sorting.

The difficulty of disentangling positive from normative was shared by those working along the boundaries of social and public choice theory and public finance. Anthony Downs (1957) presented his model of political parties as descriptively positive in the tradition of Buchanan (1949), offering a counterweight to the normative inflection of Kenneth Arrow's challenge to New Welfare Economics. As Robert W. Dimand discusses in his paper, the impossibility of constructing a social welfare function consistent with a set of reasonable axioms to guarantee respect for individual values, proved problematic for those interested in applying welfare theory to public policy. One result of Arrow's contrary theorem was to push Buchanan to carve out a methodologically positive space for the public choice research program (e.g., Buchanan 1954; Buchanan and Tullock 1962). A second consequence of the impossibility theorem was to feed an emerging rupture between welfare economics and the applied world of policy. We take this up in the conclusion to this special issue (Desmarais-Tremblay, Johnson, and Sturn, 2023).

By the late 1970s, the new shape of the field was increasingly evident (Medema 2023). One place this manifested was in the emergence of new field-standard graduate textbooks. The exemplar was Atkinson and Stiglitz's theoretical synthesis of new developments from the US and the UK. Although early drafts from the mid-1970s referred to "lectures in public finance" (Walraevens 2023), the textbook was published as *Lectures in Public Economics* (1980), its methodological approach modelled on Gerard Debreu's *Theory of Value* (1959). No longer could the field be characterised as it was in "the past, [when] public finance ha[d] tended to lag behind best-practice in economic theory" (Atkinson and Stiglitz 1980, 12).

The papers in this issue largely deal with the transformation from public finance to public economics at a theoretical and philosophical level. Our introduction seeks to situate these papers within their intellectual context. To do so, we provide a broad outline of the trajectory of the field beginning in the immediate post-war period in the second section. The Great Depression, Keynesian fiscal policy, and the Second World War had contributed in myriad ways to the destabilisation of traditional public finance. What emerged in the aftermath was an internationalised version dominated

by American, British, and French economists for whom the social welfare function provided a unifying basis for the different microeconomic subjects of public finance. A brief history of the points of intersection between new welfare economics and public economics is taken up in the third section before we summarise and contextualise the specific contributions of the papers included in this issue in the fourth section.

Much like in the story of blind men describing an elephant, our narrative tells but one piece of a larger story. How monetary theory and public debt were excised from public finance after more than a century of serious work on the subject goes largely unconsidered. So too does the relation of fiscal policy to public finance and the former's eventual alignment with modern macroeconomics—to mention just two out of a number of lacunae to be filled by further research.

2. Public finance in the post-war period

The Second World War forced the radical transformation of national fiscal systems. To meet the fiscal demands of financing the war, many countries vastly expanded their tax capacity, for instance in the US and the UK by extending the income tax across all income levels and significantly increasing the rates of individual and corporate taxes (Brownlee 1996). In the US, economists' experience with a semi-planned economy administered by agencies such as the Office of Price Administration, the War Production Board, or the National War Labour Board gave a generation confidence in the ability of the federal government to effectively steer the economy. Indeed, the enhancement of governmental capacity engendered by the war would prove an important stimulant to expand the purview of mid-century public finance to questions of expenditures, welfare, and inequality, in both the US and in Europe.

Keynesianism had already gained a foothold in public finance before the war. “The contribution of public finance to employment policy” was a standard course topic at Oxford by the late 1930s (Hicks 1947, xix). In the US, Alvin Hansen propagated a domesticated variant of Keynesianism in his Fiscal Policy Seminar that mixed public finance, business cycle theory, and money and banking (Desmarais-Tremblay and Johnson 2019). Fiscal policy merged further with public finance during the war, in the wake of concerns over excessive liquidity held by households in the form of war bonds which had led economists from John Maynard Keynes to Joseph Schumpeter to weigh whether further military expenditures should be funded by taxation rather than loans. The presumption that national governments could engineer macroeconomic stability led to increased scrutiny of the role of taxation to this end (e.g., Blough 1944). Inspired by the state-centred monetary theory of Georg Knapp, Abba Lerner's “functional finance” (1943, 1944, 307) went so far as to argue that the systemic purpose of taxation was to adjust consumer expenditures to control inflation. Fearing that demobilisation would be accompanied by deflation, liberal-leaning tax economists in Washington sought to demonstrate that a high-tax regime could be compatible with a full-employment peacetime economy.

Europe's post-war economic challenges were even greater. The ability of governments to adopt Keynesian-inspired policies was constrained by political and social upheaval, redefined boundaries, and mass destruction. In the immediate post-war

years, the French and Italian governments of national unity—with the participation of strong Communist parties—embarked on a consensual agenda of modernisation and indicative planning of the national economy, guided by newly established national accounts. Via the Marshall Plan, the US funded European reconstruction efforts that included the rebuilding of public sector financial infrastructure. Many of the same economists directing US policy also provided expertise in Europe and later in the Global South (Brownlee and Ide 2013). Their effort facilitated the transmission of institutional and theoretical knowledge and led to the rise of a cadre of tax engineering experts, many of whom mixed in the offices of the United Nations Economic Commission for Europe throughout the late 1940s and early 1950s. One result of the growing consensus was the minimisation of national traditions, which had historically explained the diversity of contributions made by public finance experts (Kayaalp 2004, Faccarello and Sturn 2010). While he read widely his contemporary European economists, Luigi Einaudi still sought to continue the Italian tradition in public finance. By the 1960s, his legacy was mostly lost to the next generation of public economists (Silvestri 2023). In France, in the 1940s Maurice Allais wanted to establish a separate French tradition in pure economics inspired by the work of Léon Walras and French nineteenth-century engineers, but in the 1950s, his pupils Marcel Boiteux and Gérard Debreu would make groundbreaking contributions to economics that were recognised by leading American economists as part of an international and collective theoretical endeavour (Fèvre and Mueller 2023a).

The University of Chicago's classical liberalism offered a counterpoint to the Keynesian interventionist mindset shared by so many of the public finance economists on the American East Coast. Henry C. Simons, an expert in US tax policy, proposed *A Positive Program for Laissez-Faire* as the “best basis or rationale for a program of economic reconstruction” following the Great Depression (1934, 1). In his view, “the real enemies of liberty in this country are the naïve advocates of managed economy” (1934, 2). Simons, along with Frank Knight, provided the intellectual foundation for Buchanan's individualistic reimagining of public finance in the 1960s (Johnson 2014a; Marciano 2020).

While fiscal policy pulled traditional public finance in the direction of macroeconomics, the growth of government and the rise of the welfare state sparked interest in classifying and studying governmental expenditures, a topic which had been all but ignored in the English-language public finance (Johnson 2014b, 2015; Medema 2023). Much like theories of how to organise tax systems, consideration of public expenditure was long tied to national traditions of public finance discourse. Anglo-American writing gave little scope to expenditures even into the Great Depression (e.g., Pigou 1928; Groves 1938; Simons 1938). In contrast, discussions of how to make choices about public expenditure were an important feature of the German, Scandinavian, and Italian literatures. Their consideration of public expenditure often went in tandem with views on the significance of (quasi)-voluntary exchange and the benefit principle, notably in the work of Adolph Wagner, Emil Sax, Ugo Mazzola, Knut Wicksell, Erik Lindahl, Antonio de Viti de Marco, and Luigi Einaudi (Medema 2005; Sturn 2010; Marciano and Mosca 2018; Silvestri 2023).

The German and Scandinavian public finance traditions played an important role underpinning many of Musgrave's early publications. In his first paper, Musgrave argued that voluntary exchange models and the benefit principle of taxation were unsuited for the modern nation state (1939; 1941). By presuming government-individual exchange was analogous to private market exchanges, rooted in mutual benefit, such models failed to capture the reality that "pathological" selfishness would cause individuals to free-ride in an attempt to avoid paying their share for a public good. Such behaviour would lead to a collapse of the funding structure in the absence of coercion and enforcement of payment. The necessity of coercion to achieve optimal decisions about collective or public goods was widely accepted during the Cold War. Many felt Samuelson's (1954, 1955) solution for optimal public goods provision proved the point (Fontaine 2014; Pickhardt 2006). Samuelson had also presumed free riding was the rational choice; the only solution was compulsion in the collection of tax revenue. By extending the welfare economics developed in his *Foundations* (1947), Samuelson managed to successfully integrate public goods into the framework of modern neoclassical theory. Jointness in consumption and the existence of positive externalities, and/or decreasing marginal costs explained why public goods had to be publicly subsidised. Yet preference revelation for these nonrival and nonexcludable goods remained a problem (Musgrave 1957; Sturn 2010; Desmarais-Tremblay 2017).

Throughout the 1950s, Musgrave worked on a systematic monograph of public finance. The resultant book, anchored in general equilibrium theory (but relying often on partial equilibrium analysis), covered tax theory, tax incidence, public goods and public expenditure, fiscal policy, compensatory finance, and voting theories (Musgrave 1959). It was "obligatory reading for all serious students" (Buchanan 1960, 234) and served as the basis of most public finance research through the 1960s (Diamond 2002; Feldstein 2002). In many ways, however, the book more resembled a "collage" than a stylistically coherent painting (Medema 2023). Conceptually, Musgrave claimed that contrary to Lerner, macroeconomic stabilisation was not the sole purpose of taxation. Moreover, public expenditure also had to be justified, and on their own merit, and should not be confused with other policy objectives. Other features of governmental activity that needed to be incorporated into modern neoclassical public finance included in-kind and income redistribution. Certainly, in some cases, such as public utilities or public transit, the benefit principle was applicable; for most other purposes, however, Musgrave maintained that taxes needed to be coercively collected according to citizens' ability to contribute. Against the regularly renewed calls for consumption taxes, Musgrave upheld the federal income tax as the best fiscal instrument for a developed economy. He anchored this ethical and practical judgement about tax equity in the distinction between horizontal and vertical equity, by which he explicitly recognised that people in different situations would necessarily need to pay different amounts of tax. The utilitarian theories of sacrifice developed by A.C. Pigou and F.Y. Edgeworth provided different answers depending on the preliminary assumptions, but in the end, in a democratic setting, Musgrave believed that the level of progressivity had to reflect the values of the population.

Though the primary focus of Buchanan's work throughout the 1950s was fiscal federalism and public debt, his attention was increasingly drawn to the theoretical

and philosophical implications of voluntary exchange models of public goods. Buchanan was highly dissatisfied with the standard approach to public finance that presumed decisions were made by a benevolent dictator rather than through a democratic process (Buchanan 1948, 1949). He rejected both the Samuelsonian and the Musgrave approaches to public expenditure on the same grounds. First, Buchanan argued that free riding was neither as ubiquitous nor as problematic as presumed. Second, he considered their models to be undemocratic, coercive, and overly paternalist. Third, their approach was implicitly normative, whether it be Musgrave's insistence on considering distributional implications or Samuelson's use of a social welfare function. Building on the Chicago price theory paradigm, Buchanan sought an alternative mechanism by which the voluntary features of exchange in the market could be applied to individuals' exchanges with government. Buchanan argued that the fact that it was difficult to measure the benefits accruing to individuals from public expenditure did not mean that they were not real or that it could not be done. One strategy was to apply Wicksell's unanimity rule, which required all expenditures be paired with various financing schemes and voted on until one received unanimous consent (Buchanan 1949). Yet, to build democratic decision-making strategies into traditional public finance required expanding the scope of traditional public choice to questions of social coordination (Buchanan and Tullock 1962; Buchanan 1965, 1968; Desmarais-Tremblay 2014; Johnson 2014a, 2015).

3. Public finance, neoclassical economics, and new welfare theory

Two welfare traditions dominated mid-century neoclassical public finance—the Pigouvian and the Paretian. The Pigouvian approach was developed based on Marshallian analysis of consumer and producer surplus. The goal of welfare measurement was to make economics more scientific and to facilitate the use of economic analysis as a guide to policy. Recognising that “welfare,” broadly defined, was about quantifiable states of consciousness, Pigou restricted his inquiry to economic welfare—the part of social welfare that could “be brought directly or indirectly into relation with the measuring-rod of money” (Pigou 1932, 11). Although postulating that “maximum aggregate welfare” should be the goal of government policy, Pigou (1928, 59) did not extend his analysis to include welfare generated by public expenditure. He did, however, argue that “any transference of income, [from a richer to a poorer individual], since it enables more intense wants instead of less intense wants, must increase the aggregate sum of satisfaction [...] Any cause which increases the absolute share of real income in the hands of the poor, provided that it does not lead to contraction of the size of the national dividend, ... will, in general increase economic welfare.” (Pigou 1932, 89, 710; see also Aslanbeigui and Oakes 2015, 4, 59 ff.). Pigou, and Dalton after him, believed that great inequalities of wealth and income were detrimental to welfare (Takami 2014).

In contrast, Vilfredo Pareto argued that to make economics more scientific required divorcing it from ethics. Rather than the ill-defined and policy-focused concept of utility adopted by Pigou, Pareto imagined a purely economic measure of utility called *ophelimity*. It did not make sense to speak of the maximum of *ophelimity*

of the society, he argued, because such an assessment would imply comparing and weighting the *ophelimity* of different individuals. The government could try to maximise the *utility* of a society, but only from a more encompassing knowledge basis.³ Within the economic sphere, there was no logical basis for interpersonal utility comparisons; the noncomparability of individual well-being would become the fundamental positivistic tenet of the New Welfare Economics (Pareto 1916, §2133; see also, Steiner 1993).

Welfare debates gained steam in the interwar period. Robbins (1932) argued that for Pigou to assume that a redistribution from the rich to the poor would increase economic welfare, he had to implicitly compare the marginal utility of money of two individuals, something that the economist *qua* economist could not do. Robbins was worried that the positions taken to allow interpersonal utility comparison, such as those by J.A. Hobson, Ralph Hawtrey, and R.H. Tawney, would harm economics' reputation as a science. Further, such attempts to intertwine economic and ethical decisions undermined rationalism and liberalism and thus were attributed the potential to encourage dangerous totalitarian ideas (Backhouse 2009; Backhouse and Nishizawa 2010).

One suggested solution was Abram Bergson's social welfare function, making explicit comparisons (and choices) of common value judgments about community economic welfare represented as a mathematical function (Baujard 2016). In addition to being able to reflect Marshallian and Pigouvian strategies of welfare assessment as the sum of the utility functions of all individuals, Bergson was able to integrate a concern shared by Pareto, Lerner, and Enrico Barone, for whom the point of maximum welfare was such that "it is impossible to improve the situation of any one individual without rendering another worse off" (Bergson 1938, 320). The latter barred the possibility of judging the desirability of non-voluntary redistributions of income or wealth.

Samuelson's *Foundations* (1947) provided a general framework for dealing scientifically with value judgments (Samuelson 1947; Backhouse 2015). He defined the social welfare function in a way that it could be "individualistic," precluding interpersonal comparison, or "non-individualistic," allowing them. The choice depended on whose ethical belief the function was supposed to represent, "that of a benevolent despot, or a complete egoist, or 'all men of good will,' a misanthrope, the state, race, or group mind, God, etc." (Samuelson 1947, 221; see also, Backhouse 2021 and Samuelson 1956). While Samuelson was satisfied to abandon the problem of the actual choice of the specification of the social welfare function to others, Musgrave felt that, practically speaking, social choices inevitably required some level of interpersonal comparison and coercion (Desmarais-Tremblay 2021c). His *Theory of Public Finance* (1959) was an attempt to balance efficiency concerns in the allocation of resources, the need for redistribution to improve the condition of the poor, and political demands for stabilisation of the business cycle.

³ In practice, fiscal or political sociology of the state (a further topic not covered in this special issue) can hardly be expected to deliver such knowledge, since the state sector is subject to "laws" and forces not amenable to an analysis based on economic logic and rationality.

By the early 1950s, both political scientists and economists largely agreed that voting should form the cornerstone of collective choice analysis. The question was how to do so (Cherrier and Fleury 2017). One issue centred on the meaning of ‘the common good’ or whether there could be a social welfare position separate from that of individual voters. Subsidiary was how to address the intensity of voter preferences—for example, should voters with strong feelings hold equal weight to those who are nearly indifferent, as they do in majority-rule voting? As Dimand shows in his contribution to this issue, while at the Cowles Commission, Arrow became interested in problems of utility theory and macroeconomic aggregation. The result was an axiomatic proof of the non-existence of any type of aggregation procedure (e.g., voting system) capable of generating a consistent social preference ordering on the basis of individual orderings, unless the aggregation procedure violated seemingly weak axioms, mainly capturing mild demands of consistency, independence, individualism, and non-imposition in situations where voters have three or more distinct choices (Arrow 1951). His impossibility theorem, though formulated at a foundational level, abstracting from all specificities of economic environments, launched a heated discussion among economic theorists and public finance economists that would last for decades.

Various ways of “circumventing the impasse” were considered. In the end, it was widely recognised that economists needed to disentangle themselves from the methodological straitjacket created by a narrow focus on positive analysis associated with ordinalism. Some recognised that progress might only come from a collaboration with “ethics, political science, sociology and psychology” (Vickrey 1960, 535). Others sought to refine utility theory based on behavioural psychology. Anthony Downs (1957) illustrated how the introduction of uncertainty into the political process opened a space for political parties as secondary dealers in information. Drawing on Schumpeter’s (1942) concept of competitive politics, Downs meant for his model to provide an alternative solution to the problem of public goods separate from those offered by either Samuelson or Buchanan (Medema 2013; Jensen 2021).

Despite this ongoing engagement between social decision-making and welfare theory, it would have been difficult to anticipate the impact John Rawls would have on public economics. Rawls’ work bridged political philosophy and the economic ideas of Frank Knight, John R. Hicks, and John von Neumann and Oskar Morgenstern to imagine a rational, rules-based system for social organisation (Igersheim 2022; Jackson and Stemplowska 2021). Seeking to understand the American post-war consensus that accepted a larger role for the state in social affairs, Rawls worried about endorsing such paternalistic tendencies at the risk of individual freedom. By the end of the 1950s, he had most of the ideas for an institutional theory of justice as fairness (Forrester 2019). Through his conception of agency, which was rooted in associational life, Rawls envisaged society as a cooperative venture for mutual advantage—a “game” played by rational and self-interested individuals. When given a chance to deliberate, individuals would propose general principles that they considered fair, as if they were “designing a practice in which [their] enemy were to assign [them their] place” (Rawls 1958, 172). He suggested individuals would recognise the benefits of cooperation and respect the duty of “fair play,” for example by voluntarily paying

taxes instead of acting as “free riders” (Rawls 1958, 180–181, 183). Rawls was unconvinced by classical utilitarianism and its “counterpart in welfare economics” which considered “justice as a kind of efficiency” relying on a calculus that was not applicable in practice (Rawls 1958, 184; Guizzo and Paré Ogg this issue). Instead, he proposed two principles: first that everyone should have “an equal right to the most extensive liberty compatible with a like liberty for all;” second that “inequalities are arbitrary unless it is reasonable to expect that they will work out for everyone’s advantage” (Rawls 1958, 165).

Buchanan and Gordon Tullock were working out similar problems through their *Calculus of Consent* (1962). Believing simple majority voting generated systemic instabilities because voters would continuously realign to avoid being in the minority coalition, Buchanan and Tullock sought to devise an optimal voting rule or process that would guarantee Pareto improving policies. Their analysis was based on what they thought politics and democracy *should* look like. They concluded that majority voting was fundamentally flawed because it pushed society away from an ideal outcome in two ways. First, it failed to take the intensity of voter preferences into account; second, it assigned the cost of choices to both “yes” and “no” voters. These were fundamental problems that could not be resolved by simply tweaks of the system (e.g., extra-majority rules, logrolling, compensation) (see also Kuehn 2022). Rather, democracies needed to address rulemaking at the constitutional level. In this conceptualisation, the role of government was to offer and enforce impartial rules that would make it possible for individuals to reach agreement while simultaneously preserving freedom. Buchanan and Tullock (1962, 78–79) argued that the ideal choice setting would be Rawlsian, where individuals maximised their utility function faced with an uncertain prospect as to their actual positions in the resulting social order. Compared to the treatment of voting by Downs and Arrow, both rooted in mathematical models of social choice, Buchanan and Tullock added a distinct philosophical component (Grandjean 2023). Where the line should be drawn between what constituted positive versus normative analysis would become a point of friction between more traditional public finance scholars and these public choice theorists. So too would Buchanan’s distinctive (and challenging) definition of positive economics (Johnson 2006).

4. From public finance to public economics

By the 1970s, welfare analysis had penetrated most aspects of public finance-turned-economics. Mathematical exposition and the narrative of general equilibrium combined with new normative standards to reframe discussions of “fairness” and “justice.” The papers in this collection reflect this shift.

Medema traces the transition from public finance to public economics across English language field treatises and textbooks from the turn of the twentieth century into the 1980s. As such, his paper provides the contextual and chronological scaffolding for this special issue. In his assessment, treatises up to the 1920s demonstrated little advance beyond Adam Smith’s canons of taxation. During this decade, Hugh Dalton unsuccessfully pushed Anglo-American public finance to include expenditures

and consideration of inequality; Pigou provided new tools for normative welfare analysis. However, substantive changes to the scope of the field did not occur until the 1950s, when questions of public finance were combined with formal economic theorising. Medema demonstrates the pivotal role played by the fundamental welfare theorems of economics in this transition.⁴

The paper by Fèvre and Mueller illustrates an interesting and practical problem in the early application of the new welfare theory to the problem of pricing public services. This question of applied economics was not central to the English-language public finance tradition, but it became a core subject of public economics. We thus need to take a step back in time to understand the origins of this other seed of public economics. In France, technical expertise at the service of the state goes back a long way. In assisting public decision-making, French engineers combined advanced mathematical skills with discretionary power coming from their elite status to solve practical problems (Porter 1995). While they acknowledged a central role for the state in the construction and maintenance of natural monopolies, in the nineteenth century most of them were committed liberals promoting private property and market competition in other sectors of the economy. Their job often amounted to assessing whether a given infrastructure project was in the public interest, requiring them to quantify various concerns and benefits into monetary value. This turned many of them into practical economists. The most celebrated of them, Jules Dupuit, acknowledged in the 1840s the declining marginal costs of transport, but as a liberal he wanted revenues collected by tolls to cover the total costs, including capital investments (Mosca 1998). He thus proposed a price discrimination scheme where users would be charged the maximum sacrifice that they would be willing to accept to use the infrastructure.

Dupuit's ideas were not widely accepted amongst his engineer colleagues before the 1870s. Even then, French engineers did not have a universal method to connect individual utility to the *utilité publique* that was to guide political decisions. While they had a concrete notion of efficiency, and each proposed rational rules to guide public decision making (Ekelund and Hebert 1978; Silvant 2011), no standardised maximand emerged at the time that would have removed discretionary space in actual decisions. Still, at the turn of the century, Clément Colson professed the emerging engineer approach to economic questions at the *École des Ponts* and then at Polytechnique. By then a self-conscious French tradition of engineer-economists was continued in the first half of the twentieth century by his pupils François Divisia and René Roy who were also to become founding members of the Econometric Society. Dupuit's ideas only began to spread beyond the confines of French engineers with the spread of marginalism in the twentieth century and when it did, it was within core discussion of economic theory and not in the field of public finance. As a proud disciple of Divisia and Roy, Maurice Allais wanted to revive a French national tradition in economic theory and policy. With respect to industrial public utilities, Allais shifted the pricing strategy from Dupuit's focus on the consumer's willingness-to-pay to cost accounting (Fèvre and Mueller 2023b). In the post-war period, Allais

⁴ The two theorems guaranteed that competitive markets would generate Pareto efficient outcomes contingent on a series of basic assumptions; further any Pareto optimal equilibrium can be achieved via exchange, contingent on lumpsum (e.g., nondistortionary) transfers.

favoured ticket prices equal to average total costs in order to cover the large investments required to expand the French railway network.

In the United States, Harold Hotelling launched what Ronald Coase termed the modern “controversy” on marginal cost pricing that broke out amongst Anglo-American economists in the 1940s. Arguing that because “a railway rate is of essentially the same nature as a tax,” Hotelling demonstrated that marginal-cost pricing in a decreasing-cost industry would generate an efficient outcome (1938, 242). “The optimum of the general welfare corresponds to the sale of everything at marginal cost,” with large, fixed costs covered by general government revenue (Hotelling 1938; see also Gaspard, Missemer, and Mueller, *forthcoming*). However, because excise taxes would generate dead-weight loss, maximisation of social welfare along Paretian lines required the use of lump-sum taxes. The problems associated with implicit redistribution via lump-sum taxation, the weighing of first- versus second-best solutions, actual Pareto versus potential Pareto improvements, and the relevancy of the Second Welfare Theorem quickly generated a transatlantic debate that involved Samuelson, Buchanan, Lerner, Coase, James Meade, and William Vickrey (Coase 1946; Frischmann and Hogendorn 2015; Ruggles 1949; Vickrey 1948).⁵

Not familiar with Hotelling’s results, Allais set out to build a theory of competitive planning of national monopolies on the basis of Walrasian general equilibrium (Fèvre and Mueller 2023a). His students continued his project. Graduates in physics and mathematics of the *École Normale Supérieure*, Marcel Boiteux and Gérard Debreu assisted Allais. Together with Roger Hutter, they explored the intricacies of pricing electricity and train rides faced with saturation effects and demand fluctuations. As Fèvre and Mueller show, their work to provide a solution for the Callais-traveller paradox, that the marginal cost of an unforeseen traveller could vary widely due to the lumpiness of train car capacity, led these economists to an important reassessment of the treatment of investment costs and peak-load pricing strategies in economic theory. The emergence of post-war French public economics was tightly connected to the diffusion of neoclassical economics, acting as a guide for rational planning by coordinating individuals to act in the general interest. As Boiteux once put it: the “marginalist asks himself how, through the action of prices, he can induce the consumer to behave rationally, that is, to create as little waste as possible in the economy” (cited in Fèvre and Mueller 2023b). Fèvre and Mueller conclude that the search for optimal public-sector pricing strategies via formal mathematical theorising is what aligned the work of the French engineer-economists more closely with the new public economics than traditional French public finance practised by law professors. Indeed, their embrace of new welfare economics as a tool for better public sector management exhibits the same normativist approach as Samuelson’s (1954; 1955) solution for optimal public goods provision. Over the next decades, the new welfare approach to marginal-cost pricing would be incorporated into English-language

⁵ In the Anglo-American literature, Nancy Ruggles provided a definitive assessment by reconceiving the problem along general equilibrium lines. She explained that most taxes used to fund subsidies would violate some marginal conditions for equilibrium; further, the inevitable redistribution of income via lump-sum or other taxation would necessitate interpersonal utility comparisons unless taxes fell entirely on the consumer surplus of the users—an unlikely outcome. The analysis could only identify potential improvements; any actual improvement required the addition of a distributional judgement (Ruggles 1949).

public economics textbooks alongside cost-benefit analysis as evidence that government provision or subsidy of certain types of goods and services could generate socially optimal outcomes, thus expanding the potential range of justifiable interventions (Medema 2023).

Paolo Silvestri's synthesis of Einaudi provides a counterpoint to the French engineer-economists. More closely aligned with the Italian *scienza delle finanze* tradition of political economy, Einaudi offered an unapologetically normative study of good government that emphasised institutional design to promote the legitimacy and stability of the state. As such, Silvestri offers a case study of how traditional public finance, with its national characteristics, was marginalised in the post-war period. His paper also illustrates an important point about the normativity of public finance versus that of public economics: the historically prescriptive basis for public finance rooted in explicit shared social and economic principles is profoundly different from that of the optimal tax literature (see Desmarais-Tremblay, Johnson, and Sturn, 2023).

While decreasing-cost industries provided an early example of a market failure that legitimised government intervention in the economy, during the 1950s, public finance economists began to map out other situations, particularly those related to public expenditure and public goods (Medema 2023; see also Marciano and Medema 2015). Though the stabilisation of the term 'market failure' would take another decade, the rationale provided for government action by the problem of providing different types of public goods and allocating the associated costs quickly became central to the field. As such, Medema sees Musgrave (1959) as a midway point between traditional public finance and modern public economics. Musgrave's division of government obligations along three lines—allocation, distribution, and stabilisation—provided the basis for a “normative or optimal theory of the public household.” His presentation was “perhaps the most significant break from earlier works in the field,” notable for its melding of recent developments in welfare theory with European intellectual traditions that emphasised expenditures (Medema 2023).

In his review of Musgrave (1959), Buchanan (1960, 234) agreed that the growth of the public sector necessitated “some theory of collective choice, some pure theory of public finance.” However, he argued it was essential to distinguish between theories that “describe and explain” and theories, such as that offered by Musgrave, that go beyond “predicting what will emerge from fiscal activity” to “finding out what *should* emerge, given certain basic value postulates” (1960, 235). Drawing on earlier work (Buchanan 1949), Buchanan explained

Collective activity is viewed as a form of individual behaviour, and social wants are satisfied through individuals choosing to act collectively rather than privately in certain areas. This approach, by definition, cannot be normative in the same sense as the first [organistic theories of the state]. At best, it can examine the processes through which individual values may be translated into social decisions, and it can define the conditions which must be satisfied for 'equilibrium' to exist (Buchanan 1960, 236).⁶

⁶ Buchanan's definitions of positive and normative are not uncontested. Warren J. Samuels makes the argument that Buchanan's work was also fundamentally normative via its embrace of the status quo as the starting point for analysis and the role assigned to antecedent assumptions, particularly those regarding property rights (Buchanan and Samuels 1975; see also Desmarais-Tremblay 2014).

If one accepts this premise, the rational welfare criterion for an individualist (positive) public finance was Pareto efficiency. As Medema explains in this issue, much of Buchanan's work over the next decade served to establish public choice analysis as a bulwark against the kind of normativity entailed by Musgrave's normative public finance supporting a larger role for the state.

How and whether to interpret models as positive or normative is the subject of the paper by David Coker and Alain Marciano in this issue. They consider the specific case of Samuelson's social welfare concept and Buchanan's reaction. Under the shadow of Robbins's logical positivism, Samuelson emphasised his interest in the theoretical mechanics of determining an optimum as a function of a social welfare function (see also Igersheim 2023). The function itself was not within his purview; the responsibility of its specification was assigned to politicians, social planners, or voters. Neither Buchanan nor Samuelson were satisfied with this answer, as Coker and Marciano explain. In search of what Buchanan terms an "ethically neutral" solution, they both pursue theories with reduced scales—the family for Samuelson and clubs for Buchanan—that remove normative choices from the theorist and assign them instead to the participants. For example, while Samuelson criticised the meaning of social indifference curves, he argued that one had to find a way to aggregate the preferences of heterogenous agents coherent with the maximisation of social welfare. A social welfare function conceived as analogous to the decision structure of a family was one strategy. Like society, decisions in the family could follow a consensus, or be imposed in an authoritarian fashion. By appealing to social norms within the family to solve the problem of welfare maximisation, Samuelson avoided the more difficult and contentious position of endorsing the imposition of collective goods at the familial (*qua* national) level on individuals who might not want them. While instinctively appealing, Coker and Marciano demonstrate that the analogy fails due to its non-scalability. Buchanan's (1965) clubs suffered from the same problem. In the end, Coker and Marciano conclude that whether one adopts an outcome-based approach like Samuelson or a process-oriented approach like Buchanan, there is no escape from normativity in collective choice situations (see also Marciano 2021).

Despite such epistemological discussions, economists nonetheless remained drawn to making policy prescriptions. In contrast to the French marginal-cost discussion, which took place within public institutions (Fèvre and Mueller 2023b), in the United States, private organisations such as RAND and the Cowles Commission played an important role in supporting theoretical advances, including the proof of the existence of a general equilibrium (Amadae 2003; Düppe and Weintraub 2014; Takami 2019). Arrow was connected to both institutions; but as Dimand shows in his paper, it was at Cowles that Arrow began to work on the problem of how to aggregate ordinal utilities to derive a Bergsonian social welfare function that could serve as a guide for socially optimal decision-making in public policy. Dimand attributes the impetus of the research program to the socio-political atmosphere, whose defining feature was the defence of democracy—a response to the fascism of the Second World War and the newly emergent Cold War (see also Amadae 2003). He also traces how idiosyncratic institutional features of Cowles facilitated Arrow's work. Dimand characterises the feedback Arrow received at Cowles as "active, intense, and encouraging." In

contrast, Arrow's theorem sparked sharp pushback from both Buchanan and Samuelson, though for different reasons. Coker and Marciano argue that Samuelson's reaction was to retreat from his "casual acceptance of the necessity for normative concerns" into formal theorising. Buchanan took Arrow's theorem in combination with Samuelson's (1954, 1955) solution for public goods provision as motivation to sketch out his vision for a positive (pure) theory of public choice (Coker and Marciano 2023).

In her paper, Herrade Igersheim provides an alternative lens by which to explore the intersection of public economics and normative social theorising. If welfare economics was shaken by Arrow's theorem, Rawls provided a fresh approach to theorising equity concerns free from the positivist straightjacket of Paretian welfare economics. Rawls's central argument was that impartial collective choices made behind a veil of ignorance would yield a "just" outcome based on reasonably accepted principles for a fair society, thus avoiding the problems associated with either Pigouvian or Paretian welfarism. Pigouvian utilitarianism may run into problems regarding the sacrifice of liberty for some to increase the welfare of others; the utility principle was also deficient as a principle of justice due to the way it dealt with the distribution of welfare amongst individuals. Although a Paretian approach avoided violations of individualism, it could only provide a partial ordering of distributions, not a definitive outcome (Rawls 1967, 64). Rawls argued that consideration of the institutional design behind the market was necessary "since even a perfectly efficient price system has no tendency to determine just distributive shares when left to itself" (Rawls 1967, 79).

At the end of the 1960s, as the post-war enthusiasm for growth as a cure for poverty receded, economists came back to the study of poverty and the inequality of the distribution of income. Ignacio Hauser, in this issue, explores the tensions between economists' interest in inequality, economic measures of inequality, and economic methodology. While a positive statistical literature had originated with Pareto, Max Lorenz, and Corrado Gini at the turn of the twentieth century, Hauser argues that normative treatments of inequality were abandoned partly in response to Robbins's positivist push. The tradition was only resurrected simultaneously in the late 1960s by Atkinson and Kolm—part of an embrace of normativity that was also reflected in the optimal tax theory literature. The development of tools that allowed the explicit rendering of normative judgments as part of the optimisation problem was an important advance. In the case of Atkinson, although considering various statistical measures of inequality, he was more attracted to the normative approach of Dalton (see also Medema 2023). To create a metric that was sensitive to transfers at different levels of the income distribution, one had to make judgments about social welfare (Atkinson 1970, 257).

The publication of Rawls' *Theory of Justice* (1971) opened a new battlefield in the epistemological debates, no small part because he presented core aspects of his theory as "part of the theory of rational choice" (see Igersheim 2022 and references therein). Buchanan co-opted Rawlsian notions of justice to refine his contractarian constitutional political economy research program (Buchanan 1972). Many economists reacted to the *Theory of Justice*. Samuelson believed Rawls's maximin—that any system should be designed to maximise the position of the worst off—was inconsistent

with economics' commitment to individualist conceptions of welfarism. Though recognising these were fundamentally normative choices, Samuelson felt they were uncontroversial and effectively "ethics-free," at least within the realm of economic theory (Igersheim 2023). As Igersheim shows in her paper, Samuelson further complained that Rawls's maximin could lead to income distributions that would be rejected by all parties in the choice situation if they were concerned about the efficiency cost of redistribution. Rawls reacted with interest to economists' dissection of some chunks of his *Theory*, though he responded in private correspondence that he could not always follow their mathematics (Igersheim 2022; 2023; Walraevens 2023).

As Benoît Walraevens demonstrates in his paper, Rawls' work was also taken up by the next generation of economists, who borrowed the idea of the maximin as limit case of a redistributive social welfare function. In more than one respect, optimal tax theory represented the epitome of the transformation from public finance to public economics, combining aspects of welfare economics, general equilibrium theory, and public expenditure, with the longstanding traditional concern over the incidence of taxes (see also Desmarais-Tremblay, Johnson, and Sturn 2023). The theoretical approach originated with Frank Ramsey (1927), who demonstrated that tax rates should be set as to cause an equi-proportionate reduction in compensated demands across all goods. A second iteration can be found in the work of Hicks, Hotelling, and Marcel Boiteux in the 1940s, culminating in an unpublished memorandum written by Samuelson in 1951. These too failed to gain traction or capture the attention of public finance economists (Duarte 2009, 2010). Indeed, it was not until the early 1970s that optimal taxation broke into the public economics mainstream. As Walraevens shows, Rawls's maximin would become the social welfare function of choice to arbitrate the trade-off between efficiency and equality, chosen for its simplicity, tractability, and comparability.

Danielle Guizzo and Carles Paré Ogg argue in their paper that a fruitful interdisciplinary exchange took place between economics and philosophy, even if economists borrowed selectively from Rawls, adding only a few tools to their utilitarian framework. The new analytical political philosophy established in the wake of Rawls made possible a renewal of ethical discussion in economics, even if economists conceived of ethical issues mostly in an abstract economic style (see also Desmarais-Tremblay 2021c). The institutional implications of Rawls's ideas could lead to a level of redistribution far beyond what democratic governments ever achieved. Yet, his politics seemed moderate and so his ideas appealed to economists' concern for social justice while staying clear of the radical politics of the late 1960s and 1970s, as Guizzo and Paré Ogg argue.

5. Conclusions

Histories of public *finances* emphasise the fiscal challenges faced by governments in times of crisis (e.g., Brownlee 1996; Daunton 2002). In the twentieth century, the Second World War consolidated the state capacities to spend and to tax. Besides the soul-searching and political problems of stability and unity posed in defeated countries, allied nations also faced serious challenges of economic stability, including reconstruction and funding for new welfare needs. Economists reflected on these

challenges: from a positive perspective, trying to understand the impact of new taxes on the economy and how the new political configurations could change the possibilities for social consensus in democratic societies; but also from a normative perspective, advising governments at home and abroad on which public expenditure are appropriate in a mixed economy and what would a fair and efficient tax system look like.

In the post-war period, the pluralist field of public finance, coloured by national institutions and national intellectual traditions was slowly replaced by public economics, a global discourse fully integrated in the mainstream neoclassical approach, but often lacking institutional specificity. Histories of public *economics* stress changes in the methodology and exposition of the science of economics. Adoption of the neoclassical general equilibrium welfare apparatus cemented public finance firmly within the boundaries of the economics discipline—no longer was the “science of finance” considered a separate field (Adams 1898), nor was it partly a function of political science or studies of governance. The theorems of welfare economics set the benchmark for rigorous normative analysis as well as elevating market mechanism to an ideal position against which market failures were identified. It also constituted a universal window onto the social world on which mathematically trained economists from different nationalities could agree. Welfare economics lost its separate identity, but welfare analysis was incorporated in the nascent field of public economics, where the social welfare function thrived despite Arrow’s (1951) challenge. The old principles of taxation were replaced with new conceptions of justice embedded in social welfare function as we show in the concluding paper of this special issue.

However, the transition was neither smooth nor seamless (Medema 2023). Musgrave’s *Theory of Public Finance* (1959) reflected not only the uneasy balance between competing conceptions of the field, but also the tension between economists’ desire to be seen as scientific and the post-war demand for expert-informed policy (Berman 2022). Many economists no longer believed that markets would spontaneously bring about high employment and price-level stability. Instead, economic output and standards-of-living needed to be engineered through fiscal policies that were continuously fine-tuned to the state of the economy. Instead of a necessary evil to be minimised, taxes were re-envisioned as a tool to manipulate private consumption and moderate inflation (Hansen 1945). Musgrave’s (1959) tripartite characterisation of the economic role of government as allocation, distribution, and stabilisation marked the apex of the intersection of macroeconomic fiscal policy and public finance. The balance achieved between Musgrave’s three branches was undermined in the subsequent decade by an epistemological shift away from normative pluralism and by clearer theoretical specifications of market failure on the microeconomic foundations of individual utility and social welfare functions. In this context, stabilisation via fiscal policy (which had been integrated by Musgrave as one of the three “naves of the cathedral” of modern public finance) was no longer considered part of public economics; instead, it became part of macroeconomics as it emerged as a separate field of study.

Acknowledgment

This special issue has benefited from discussions at a workshop organised by Richard Sturn and Julia Wurzinger at the University of Graz in September 2022. We thank the contributors of the special issue, particularly Raphaël Fèvre and Steven G. Medema who provided feedback on this introduction. We also learned from the comments of referees on the various papers that compose this issue. Roger Backhouse, Pedro Duarte, Claire Silvant and Javier San Julian Arrupe have also given us useful advice at different stages of this paper.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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