



Performance-based funding for higher education: how well does neoliberal theory capture neoliberal practice?

Kevin J. Dougherty¹ · Rebecca S. Natow²

Published online: 23 December 2019
© Springer Nature B.V. 2019

Abstract

Neoliberal theories—whether the new public management, principal-agent theory, or performance management—have provided the rationale for sweeping reforms in the governance and operation of higher education. This paper expands our understanding of neoliberal theory and practice by examining a leading neoliberal reform: performance-based funding (PBF) for higher education in the USA, Europe, Canada, Australia, and elsewhere. Our analysis of PBF examines not only its impacts but also its origins and implementation. Neoliberal theory has been used not only *prospectively* to design and argue for certain public policies but also *retrospectively* to analyse the origins and implementation of neoliberal policy. Hence, this paper examines this retrospective neoliberal analysis in order to determine how well neoliberal theory helps us understand the origins and implementation of neoliberal policy: in this case, the socio-political forces that gave rise to PBF; and the political and organizational features of the processes by which PBF was implemented.

Keywords Performance-based funding · Performance funding · Neoliberalism · Accountability · Principal-agent theory · New public management

Neoliberalism has been a longstanding concern of higher education policymakers and scholars, with as many championing it as decrying it. This concern has largely been due to the fact that neoliberal theory has provided the rationale for sweeping reforms in the governance and operation of higher education and other public services (Brown 2011, 2013; Cribb and Gewirtz

✉ Kevin J. Dougherty
dougherty@tc.edu

Rebecca S. Natow
Rebecca.S.Natow@hofstra.edu

¹ Department of Education Policy and Social Analysis, Teachers College, Columbia University, Box 11, 525 W. 120th St., New York, NY 10027, USA

² Department of Specialized Programs in Education, School of Education, Hofstra University, 291 Hagedorn Hall, Hempstead, NY 11549, USA

2013; Giroux 2002; Kelchen 2018b; Kivisto 2007; Marginson 2009; Newfield 2018; Olssen and Peters 2005; Rhoades and Sporn 2002; Slaughter and Rhoades 2004). The aim of this paper is to examine and critique the application of neoliberal precepts to higher education via the examination of a notable neoliberal policy: performance funding for higher education.

As used here, “neoliberalism” refers to a variety of theories of public administration that, while varying in specifics, have certain common claims. These theories include the new public management (NPM), new managerialism, principal-agent theory (or agency theory), and, less directly, performance management (Bleiklie 1998; Broucker and DeWit 2015; Deem and Brehony 2005; Ferlie et al. 2008; Hood 1991; Kivisto 2007; Lane and Kivisto 2008; Marginson 2009; Moynihan 2008; Olssen and Peters 2005; Pollitt and Dan 2011). They share certain key intellectual precursors, particularly the economics of organizations, in the form of public-choice theory, transaction-cost theory, and the work of Hayek (1978) and Friedman (1962). Because of this, neoliberal theories emphasize in common the role of self-interested individuals and organizations and the role of material incentives in motivating them. Moreover, these theories tend to follow Hayek and Friedman in arguing for the primacy of social organization through the market and the need to restrict the state largely to supporting market relations (Ball 2012; Brown 2019; Harvey 2005; Moe 1984; Olssen and Peters 2005).

In elucidating neoliberal theory, it is useful to distinguish between its more macro-level or structural arguments (which have been the focus of the NPM) and its more micro-level or behavioural arguments (which have been the focus of principal-agent theory). At the more macro level, neoliberalism is particularly focused on arguing for making public agencies more effective and economically efficient, with less concern about (and in many cases strong opposition to) using them as instruments of greater equality or social solidarity (Brown 2019; Ferlie et al. 2008; Harvey 2005; Hood 1991; Marginson 1997; Olssen and Peters 2005; Pollitt and Dan 2011). According to neoliberal theory, human well-being is best ensured by encouraging individual responsibility, private enterprise, and competitive markets (Brown 2019; Harvey 2005; Olssen and Peters 2005). The primary role of the neoliberal state is to foster these conditions and to withdraw from attempting to reform society in the name of equality and social justice (Brown 2019; Harvey 2005; Slaughter and Cantwell 2012; Slaughter and Rhoades 2004). In this neoliberal state, government operations should be privatized and made market responsive as much as possible by selling public holdings and services to private entrepreneurs (Broucker and DeWit 2015; Feigenbaum et al. 1998; Harvey 2005; Hood 1991; Olssen and Peters 2005). But, when this is not possible, governments should enmesh public agencies in “quasi-markets” by creating fiscal incentives for those agencies to compete with each other to become more efficient (Hood 1991; Le Grand 2007; Marginson 2009; Olssen and Peters 2005; Naidoo et al. 2011; Pollitt and Dan 2011; Slaughter and Rhoades 2004). As Connell et al. (2009) note, for NPM and neoliberal theory more generally, “each part of an organization functions like a profit-making firm, with its managers held accountable for the income/expenditure balance ... Both organizations and individuals are required to *make themselves accountable* in terms of competition” (emphasis in original).

At the more microscopic level, neoliberal theory (particularly principal-agent theory) conceptualizes government agencies and individuals within them as fundamentally self-interested “agents,” whose interests often run counter to those of the “principals” they serve. Most scholars regard these principals to be high government officials (whether

public executives, legislators, or state higher education board members), although sometimes they are conceived as the citizenry those officials represent. The agents are individuals and organizations such as public agencies designated to carry out a policy by the principals. Principals and their agents largely diverge in interests, with agents either wishing to pursue goals different from those of the principals or wishing to put in less effort (“shirking”) than principals’ desire. This interest divergence is particularly likely if there is, as is often the case, “information asymmetry” in which agents know more about their activities than do the principals. Neoliberal theory argues that explicit contracts, monetary incentives, and performance monitoring are needed to align the self-interests of agent with those of principals and prevent “shirking” (Broucker and DeWit 2015; Connell et al. 2009; Ferlie et al. 2008; Kivisto 2007; Lane and Kivisto 2008; Olssen and Peters 2005; Pollitt and Dan 2011; Renmans et al. 2016).

These neoliberal ideas have profoundly shaped higher education policymaking worldwide. Private higher education has been encouraged and public higher education institutions have been pushed to become market actors actively pursuing new revenue streams and new “customers” (Altbach and Levy 2005; Brown 2013; Cantwell and Kauppinen 2014; Marginson and Considine 2000; Slaughter and Rhoades 2004; Slaughter and Cantwell 2012; Teixeira and Dill 2011). Moreover, public higher education institutions have become subject to strong accountability pressures in such forms as intrusive audits, extensive data reporting, and funding on the basis of performance (Kelchen 2018b; Stensaker and Harvey 2011). Because of these strong impacts, neoliberal policy has been subjected to sustained analysis and critique by higher education scholars (Brown 2011, 2013; Cantwell and Kauppinen 2014; Dougherty and Natow 2015; Dougherty et al. 2016; Kelchen 2018b; Frølich et al. 2010; Guthrie and Neumann 2007; Huisman and Currie 2004; Jones 2004; Marginson 2009, 2016; Slaughter and Rhoades 2004).

This paper contributes to the analysis and critique of neoliberal policy by examining an important example: performance-based funding (PBF) for higher education in the USA, Europe, Canada, Australia, and elsewhere. Such funding has been repeatedly identified as a major example of neoliberal policymaking (Broucker and DeWit 2015; Ferlie et al. 2008; Hillman et al. 2018; Kelchen 2018b; Lane and Kivisto 2008; Schulze-Cleven and Olson 2017). PBF for higher education is widespread. In the USA, the National Conference of State Legislatures estimated that as of 2015, 33 US states had PBF programmes in place rewarding higher education institutions for such outcomes as student retention, completion of courses or programmes and job placement (National Conference of State Legislatures 2015; see also Dougherty and Natow 2015). PBF is also quite common outside the USA. Many European countries (19 as of 2010), Canada, Australia, New Zealand, and Hong Kong have funded their higher education system at least in part on the basis of output-related criteria such as degrees produced, credits earned, or research effort and quality (Center for Higher Education Policy Studies 2010; de Boer et al. 2015; Dougherty and Natow 2015; Gauthier 2004; Hicks 2012).¹

Our analysis of PBF examines not only its impacts but also its origins and implementation. The analysis of impacts will add to the numerous studies that have been conducted on the impacts of neoliberal policies—such as those encouraging academic capitalism in higher education, performance management in public agencies, and so forth—by adding another neoliberal policy that only now is getting sufficient attention. But this paper also aims to make

¹ We include performance agreements in which governments advance funding to institutions in return for promised performance outcomes (Jongbloed et al. 2018).

another contribution. Neoliberal theory has been used not only *prospectively* to design and argue for certain public policies² but also *retrospectively* to analyse the origins and implementation of neoliberal policy (Hillman et al. 2018; Kelchen 2018b; Renmans et al. 2016). Hence, this paper is also an examination of this retrospective neoliberal analysis. It will examine how well neoliberal theory helps us understand the socio-political forces that gave rise to PBF and the political and organizational features of the processes by which PBF was implemented. As we show below, neoliberal theory both illuminates and misses key features of the origins, implementation, and impacts of PBF. Regarding origins, neoliberal theory emphasizes that top government officials are the key champions of neoliberal reforms (Hood 2006; Le Grand 2007; Olssen and Peters 2005; Naidoo et al. 2011), but this ignores other important actors such as business, higher education institutions, and inter-state associations and policy networks. Regarding implementation, neoliberal theory stresses that neoliberal policies motivate public agencies and their personnel through contracts, financial incentives, and the monitoring of performance (Broucker and DeWit 2015; Ferlie et al. 2008; Kivisto 2007; Lane and Kivisto 2008; Olssen and Peters 2005; Pollitt and Dan 2011), but it fails to anticipate other policy instruments that have been used to implement PBF. Finally, regarding outcomes, neoliberal theory addresses certain unintended impacts of PBF, such as reductions in programme quality, but ignores other unintended impacts such as reduced intake of less advantaged clients.

Our analysis and critique of neoliberal policy and theory via an examination of PBF draws on original research we conducted on the origins, implementation, and impacts of PBF in the USA (Dougherty et al. 2016; Dougherty and Natow 2015). It also draws on our review of the research literature on performance-based funding in the USA and other countries (e.g., Bell et al. 2018; de Boer et al. 2015; Kelchen 2018b; Kivisto and Kohtamaki 2016; Ness et al. 2015; Jones et al. 2017). Finally, our paper also draws on the research literature on neoliberal reforms in higher education that do not specifically involve PBF but do involve analogous policies, including academic capitalism, performance management, and quality assurance (e.g., Broucker and DeWit 2015; Cantwell and Kauppinen 2014; Levin et al. 2017; Marginson 2009, 2016; Rhoades and Sporn 2002; Slaughter and Rhoades 2004; Slaughter and Cantwell 2012). We will cite these works when they report findings about neoliberal policy that parallel findings about performance funding specifically.

The origins of performance-based funding

Neoliberal theory emphasizes that top government officials are key agents of neoliberal reforms. They are the ones motivated to reduce government funding and secure greater efficiency from public agencies, including higher education institutions. To do this, top government officials try to create quasi-markets for those institutions by using market incentives to encourage competition for clients and public support (Hood 2006; Le Grand 2007; Olssen and Peters 2005; Naidoo et al. 2011). As we

² Economic theories and their derivatives, such as neoliberal theory, are often used not just as descriptive generalizations or causal explanations but also as guides to policy action. The economic theories may be applicable only to certain cases in certain ways but not infrequently they are treated, particularly by policy entrepreneurs or policy makers, as fully encompassing the phenomenon being addressed and as general prescriptions for action. In that case, the theory is often no longer seen as subject to empirical test and refutation and as needing to be complemented by other theoretical understandings of the phenomenon in question. Particularly at that point, economic theories and their derivatives are sliding toward becoming belief systems or ideologies.

will show below, the PBF experience does justify this emphasis on the leading role of top government officials pursuing neoliberal aims but that experience also gives testimony to the important role of other actors ignored by neoliberal theory, including business, higher education institutions, and inter-state associations and policy networks.

Evidence aligning with neoliberal conceptualizations of policy actors

In the USA, top government officials—including governors, legislators, and officials of state higher education boards—certainly played a key role in the development of PBF, as neoliberal theory would predict (Dougherty and Natow 2015; Gorbunov 2013; McLendon et al. 2006; also see Pusser 2008 and Slaughter and Rhoades 2004 regarding other neoliberal reforms). These actors were driven in good part by views of public administration consonant with neoliberal ideas (Dougherty and Natow 2015; Hillman et al. 2018; Kelchen 2018b). For example, a state-level official in the USA described sentiments among legislators that fit well with the claims of neoliberal theory³:

They were believers in accountability in general. Not solely in higher education but across the spectrum of governmental activities and funding. They were proponents of smaller government and fiscal restraint. And I think they were also believers in the notion that ... what is incentivized and measured and funded, we tend to get more of and less of other things. (Quoted in Dougherty and Natow 2015, p. 64).

Studies of PBF origins in Europe, Canada, and Australia also point to the leading role of government officials pursuing neoliberal aims (Barnetson and Boberg 2000; de Boer et al. 2015; Frølich et al. 2010; Guthrie and Neumann 2007; Huisman and Currie 2004; Jones 2004; Marginson 1997; Rhoades and Sporn 2002; and Woelert and Yates 2015; see also Slaughter and Cantwell 2012). In Ontario, Canada, for example,

The [1995] election of a new Progressive Conservative government under Premier Mike Harris signalled the beginning of the “Common Sense Revolution” ... Privatization and marketization were key elements of many of the new policy initiatives ... signalling a change in direction in higher education policy. Key Performance Indicators were introduced in both the university and college sectors, and KPIs now determine a modest component of each institution’s operating grant. (Jones 2004, pp. 40, 46).

Regarding Germany, Rhoades and Sporn (2002) found:

[U]nder the title “Zielvereinbarungen” (goal contracts) and “Finanzautonomie” (financial autonomy), contracted and performance-based budgeting together with institutional autonomy have been implemented at increasing numbers of German universities. The aim has been to increase quality (measured as efficiency and effectiveness), accountability, and self-regulation through effective leadership.... What models have been used in this reform process? Basically, we find the principles of “New Public Management (NPM)” ... it involves strengthening market-orientation and competition, management concepts from private industry, decentralized structures with increased freedom for individuals and units, and output control and assessment. (Rhoades and Sporn 2002, p. 374).

³ This quotation and others that cite Dougherty and Natow (2015) appear in *The Politics of Performance Funding*. © 2015 Johns Hopkins University Press.

Evidence deviating from neoliberal conceptualizations of policy actors

Studies of the origins of PBF also point to other key actors that neoliberal theory fails to anticipate. Specifically, the theory misses the central roles of business, higher education institutions, and inter-state actors and policy networks in the establishment of performance funding.

The role of business

Despite its emphasis on spreading business methods and motives to government agencies, neoliberal theory says little about the role of business in the enactment of neoliberal policies (see, e.g., Broucker and DeWit 2015; Hood 2006; Lane and Kivisto 2008; Miller 2005; Moe 1984). Yet the origins of PBF in the USA give ample testimony to the major role of business in the enactment of state-level PBF (Dougherty and Natow 2015; Opoczynski 2016). This business role has taken both direct and indirect forms.⁴

In some states, business leaders directly lobbied for PBF, working with state government officials to secure and even design the PBF system. For example, in Indiana, state Chamber of Commerce leaders testified publicly in favour of PBF and sent messages to Chamber members supporting it (Dougherty and Natow 2015).

But business also worked indirectly, by shaping the climate of ideas in which policymakers operated and by affecting the incentives government officials faced. By pushing neoliberal ideas about improving government efficiency through privatizing governmental services and making government agencies use business-like methods and be subjected to market-like constraints, business made it more likely that state officials would view PBF as a desirable and politically attractive policy for higher education. This ideological influence allowed business to exert considerable power over the genesis of PBF, even when it was not directly involved (Dougherty and Natow 2015). Business also influenced the incentives faced by government officials. Because of the systemic power of business within a capitalist economy and the only relative autonomy of the state, government officials are attracted to policies that would be helpful to business even when business people do not lobby for such policies. State officials recognize that securing “business confidence”—often bought through pro-business public policies—is often key to getting business to invest and generate jobs and tax revenues, all of which politically benefit government officials (Block 1987; Carruthers 1994; Dougherty 1994; Lindblom 1977; Skocpol and Amenta 1986). This indirect power exercised by business was noted by a prominent state legislator in Missouri: “You’ve got [a] group of people looking for money... You’ve got this maybe coincidental group of conservative business entities who act as a resistance to additional funding... [T]hey want to talk about things like accountability... So you know, performance-based funding was just kind of brought to us by consultants as a way to pacify various conservative groups” (quoted in Dougherty and Natow 2015, p. 66).

Studies of the origins of PBF outside the USA also do not mention of the role of business in the development of PBF. However, such a role might be there, given the importance placed on closer connections to business and the labour market in PBF programmes in Australia, Austria, Denmark, Germany, Ireland, and Scotland and the rise of European business organizations such as European Round Table of Industrialists that promote a narrative of the societal need for

⁴ Our arguments here draw on critical, postpluralist theories of political power (Lukes 2005) and the theory of the state (Block 1987; Carruthers 1994; Skocpol and Amenta 1986).

human capital development and improved industrial competitiveness (de Boer et al. 2015; Guthrie and Neumann 2007; Slaughter and Cantwell 2012).

The role of higher education institutions

Other proponents of neoliberal policy who go unmentioned in neoliberal theory are agents who implement government policies. They are viewed by neoliberal theory as objects—and resistant objects at that—to neoliberal policies, often pursuing interests inimical to those of the principals (Broucker and DeWit 2015; Kivisto 2007; Kivisto and Zyalevska 2015; Lane and Kivisto 2008; Olssen and Peters 2005).

However, research on the origins of PBF finds that higher education institutions are often key *supporters* of neoliberal reform, with motives converging with those of high government officials. In the USA, many higher education institutions supported PBF, even if many others were opposed (Dougherty and Natow 2015; Rabovsky 2014a; Slaughter and Rhoades 2004). Similarly, studies of PBF in Europe, while finding evidence of misgivings or opposition, also find evidence of substantial university support (Braun 1993; de Boer et al. 2015; Frølich et al. 2010; Kauppinen and Kaidesoja 2014; see also Slaughter and Cantwell 2012).

This support for PBF on the part of higher education institutions stems from two main motives. First, some US higher education personnel and institutions support PBF because they share the belief of government officials that PBF will improve higher education outcomes (Dougherty and Natow 2015; Li 2017b; Ness et al. 2015; Rabovsky 2014a). For example, a state community college leader in Florida declared: “I think the philosophy of performance funding is just a basic concept that should be embraced by everybody. I honestly believe that whether they [higher education institutions] get more money or not, that they should be out there trying to get the best performance that they possibly can” (quoted in Dougherty and Natow 2015, p. 71). Moreover, there is evidence that this sentiment was also present in Norway and the Netherlands (de Boer et al. 2015; Frølich 2011). Drawing on surveys of Norwegian higher education leaders, Frølich (2011) concluded, “The HEI leaders support PBF—if not uncritically—mainly due to the belief that PBF increases downward, inward and outward accountability” (p. 847). Secondly, many higher education personnel and institutions believe that PBF provides them with a new way to legitimate themselves in the eyes of government officials and the public. When government funding is tight, institutions can make a case for more or at least stable funding by highlighting favourable performance indicators (Dougherty and Natow 2015; Frølich 2011; Frølich et al. 2010; Rabovsky 2014a, b; see also Pollitt and Dan 2011 for a similar finding regarding New Public Management more generally).⁵

The role of inter-state actors, policy diffusion, and institutional isomorphism

Inter-state actors and associated processes of policy diffusion and borrowing have also played a role in the origins of PBF (Dougherty et al. 2016; Kivisto et al. 2019; Miller and Morphew 2017). A US state or a European nation often will borrow the idea of PBF from another state or

⁵ These sentiments of higher education officials can be seen as instances of the softer version of DiMaggio and Powell’s (1983) “coercive isomorphism.” Faced with resource dependencies, higher educational official align their beliefs with those of their funders. There is no explicit mandate but there are “informal pressures exerted on organizations by other organizations upon which they are dependent” (DiMaggio and Powell 1983).

nation that is similar in governmental structure and political culture or is regarded as a policy leader (Dougherty et al. 2016; Kivisto et al. 2019; Li 2017a; McLendon et al. 2006). This national and international diffusion has been furthered by national and supranational organizations that have trumpeted the virtues and even necessity of PBF. The apostles of PBF in the USA have included the Gates and Lumina Foundations, the National Center for Higher Education Management Systems, Complete College America, the Education Commission of the States, the Southern Regional Education Board, the Western Interstate Compact for Higher Education, and the federal government (Dougherty and Natow 2015; Gandara 2019; Gandara et al. 2017; Miller and Morphey 2017; see also Slaughter and Cantwell 2012 on the role of the Business-Higher Education Forum in championing academic-capitalist policies). Meanwhile, outside the USA, the PBF evangelists have included the European Commission, OECD, UNESCO, World Bank, and World Trade Organization (Ball 2012; Kauppinen and Kaidesoja 2014; Kivisto et al. 2019).

These external supporters have exerted their influence through both coercive isomorphism and normative isomorphism (DiMaggio and Powell 1983). Within the USA, organizations such as Complete College America exercised coercive isomorphism by using financial incentives and shaming to prod US states to adopt PBF (Gandara et al. 2017). Meanwhile, both in the USA and elsewhere, various governmental associations and public policy organizations exerted normative isomorphism by identifying PBF as a “best practice” that is purported to be based on solid evidence (Dougherty and Natow 2015; Gandara et al. 2017).

Implementation of performance-based funding

As with the origins of PBF, neoliberal theory provides an incomplete analysis of how PBF was implemented. With regard to policy instruments, neoliberal theory stresses financial incentives and performance monitoring, yet the implementation of PBF relied on other policy instruments as well. When considering the obstacles that those policy instruments encounter, neoliberal theory focuses on gaming and resistance, missing other important obstacles.

Policy instruments

Neoliberal theory focuses on the use of monetary incentives and performance monitoring as the main motivators to move agents in the directions desired by principals. Because agents are conceptualized as having interests often running counter to those of their principals, material incentives and monitoring via performance metrics are seen as necessary to align agents’ motives with those of the principals (Broucker and DeWit 2015; Ferlie et al. 2008; Kivisto 2007; Lane and Kivisto 2008; Olssen and Peters 2005; Pollitt and Dan 2011).

The implementation of PBF certainly gives testimony to the primacy placed by policymakers on monetary incentives (Dougherty et al. 2016). As a state policymaker in Indiana stated⁶:

The state wants higher graduation rates, the state wants more research dollars coming in, the state wants a more efficient higher ed. system, and so they would

⁶ This and other quotations that cite Dougherty et al. (2016) appear in *Performance Funding for Higher Education*. © 2016 Johns Hopkins University Press.

say, “If you do these things that align with our policies, then we will try and get you some more money for doing that.” It’s a simple financial incentive model. (Quoted in Dougherty et al. 2016, p. 43).

But the implementation of PBF also testifies to the important role of other policy instruments—including status shaping, persuasive communication, and capacity building—that are largely ignored by neoliberal theory (Dougherty et al. 2016; Jones et al. 2017; Li 2017b). Status shaping is a corollary of the funding flows and performance rankings that are a central feature of PBF. Even if the funds involved are small, institutions and individuals within them strongly desire the prestige associated with being viewed as winners or losers, leaders or laggards in the metrics that drive PBF (Dougherty and Reddy 2013; Hicks 2012; Jimenez-Contreras et al. 2003; see also Espeland and Sauder 2007 regarding non-PBF forms of performance accountability).

Persuasive communication involves the principal communicating to the agent why a certain policy is important, with the hope of aligning their values (Dougherty et al. 2016). This strategy fits with the strain in principal–agent theory, rooted more in political science than economics that emphasizes how deviant action by agents is more a matter of “slippage” due to conflicting and inadequate communication and less a matter of self-interested “shirking” (Lane and Kivisto 2008).

Capacity building involves expanding the resources that agencies have available to produce the outcomes desired by policy makers. These resources could be money, skilled staff, technical knowledge, etc. For example, US states have facilitated PBF by enhancing the organizational capacities of higher education institutions by such means as holding workshops where institutions can inform each other about organizational obstacles encountered in responding to PBF demands and promising solutions they have developed to meet those demands (Dougherty et al. 2016; see also Brinkerhoff 2010).

Obstacles

Aligning with its analysis of policy origins, neoliberal theory’s analysis of the obstacles to policy implementation focuses on conflicting self-interests between principals and agents. Those conflicting self-interests make it likely that agents will be tempted to go their own way to the detriment of the principal’s interests, particularly if there is significant “information asymmetry” in which agents are more aware than principals about how well they are carrying out the principal’s desires. Principals will try to combat this threatened divergence by providing agents with monetary incentives to behave and by monitoring their actions (see above). But agents can defeat that monitoring by “gaming” it in ways that obscures their deviance (Kivisto 2007; Lane 2012; Lane and Kivisto 2008). Research on obstacles to the implementation of PBF for higher education both buttresses these claims of neoliberal theory and points to much that it misses.

Evidence in keeping with neoliberal theory

Research on the implementation of PBF finds extensive evidence of resistance and gaming on the part of higher education institutions. US institutions and their staffers frequently resist the demands of state governments that they wholeheartedly pursue certain outcomes standards (Dougherty et al. 2016; Li 2017a, b). They attempt to disguise this resistance by such devices as reducing course and programme demands so students can more easily pass courses and

institutions therefore can more easily meet government officials' desire for higher graduation numbers without having to make substantial changes in their organizational practices (Dougherty et al. 2016).

Studies of PBF in England and Australia have found gaming as well in the operation of their performance-based systems for funding research (Butler 2010; Frølich 2011; Glaser et al. 2002; Kivisto 2007; Sharp 2004; Talib and Steele 2000; Woelert and Yates 2015; also see Van Thiel and Leeuw 2002). Woelert and Yates (2015) conclude from their interview study of Australia's PBF of research:

[T]here is also a wide range of evidence, both historical and recent, that the same performance measurement regimes can stimulate a range of strategic adaptations commonly referred to as 'gaming', which may ultimately have a detrimental effect on the actual outcomes achieved.... our project interviews produced a number of unsolicited comments of such 'gaming' practices being learnt or observed today in Australia. There are indications that in Australian higher education, such 'gaming' of performance measures has also occurred on the level of whole universities and their reporting to government. (Woelert and Yates 2015, p. 185).

Among the signs of gaming are researchers slicing up their publications into numerous units and boosting their citation counts by frequent self-citation and trading of citations with colleagues (Butler 2010; McNay 1997; Weingart 2005).

Evidence going beyond neoliberal theory

Research on PBF points to several obstacles to effective implementation that neoliberal theory ignores. These include client composition, lack of organizational resources, unstable funding, and a poor fit between PBF indicators and organizational missions.

Several studies of US PBF have pointed to the fact that a major impediment to the ability of higher education institutions to meet performance demands is the character of their student bodies. Colleges and universities find it difficult to produce as many graduates or job placements as demanded if many of the students entering those colleges are not well prepared academically or face other disadvantages (Dougherty et al. 2016; Jones et al. 2017; McKinney and Hagedorn 2017; Ness et al. 2015; see also Pollitt and Dan 2011). For example, a university administrator in Tennessee explained: "it may be harder to move a first-generation student who is working three jobs through the program as effectively as someone ... who's not a first-generation college student and who has the financial means to attend college by working one part-time job" (quoted in Dougherty et al. 2016, p. 152).

Higher education institutions are also hindered by the fact that the outcomes desired by policymakers often take a long while to occur. The median four-year college student takes six years to graduate so it takes a long time for institutions to demonstrate the effects that their political principals seek (Hillman et al. 2018; Kelchen 2018b).

Relatedly, studies of US PBF indicate that higher education institutions often encounter difficulties in meeting performance demands if they lack the organizational capacity to mount an effective response. Universities and colleges with poorly financed institutional research offices find it difficult to isolate the causes of poor institutional performance and devise reliable solutions. Even if they surmount these hurdles, those institutions often lack the funds to invest in effective solutions (Dougherty et al. 2016; Jenkins et al. 2009; Jones et al. 2017; see also Moynihan 2008; Pollitt and Dan 2011).

Institutional responses to PBF are also obstructed if performance indicators frequently change and institutions have difficulty predicting how much funding they will receive under the PBF programme. Both sources of volatility make it hard for organizations to plan their responses to PBF (Dougherty et al. 2016; Li and Zumeta 2016).

Finally, higher education institutions are hindered in responding if they find that PBF indicators do not fit well with their diverse organizational missions. They may therefore appear to be performing poorly according to the government's standards but not according to institutions' own lights. This shows up in studies of PBF in the USA (Dougherty et al. 2016) and in Europe and Australia (Frølich et al. 2010; Guthrie and Neumann 2007). This indicates that higher education institutions may behave in ways different from those intended by policy principals not so much because there is a difference in self-interests, as neoliberal theory claims, but a difference in *values*. This point about value conflict is consonant with the bottom-up perspective in implementation studies, which notes that the “street level bureaucrats” applying policies may act in ways different from those intended by policy principals because they diverge in values and in understandings of the demands of local contexts (Lipsky 1980; Matland 1995; Sabatier 1986).

Impacts of performance-based funding

Neoliberal discourse on policymaking has focused on the intended impacts of greater effectiveness and efficiency (Ferlie et al. 2008; Harvey 2005; Hood 1991; Kivisto 2007; Pollitt and Dan 2011; Slaughter and Cantwell 2012; Slaughter and Rhoades 2004). Yet, neoliberal reforms may have difficulty producing those intended impacts. Meanwhile, there may also be substantial *unintended* impacts, which are only partially acknowledged by neoliberal theory.

Intended impacts

Neoliberal theory has focused on how public organizations can be made more effective and efficient (Ferlie et al. 2008; Hood 1991; Marginson 1997; Olssen and Peters 2005; Pollitt and Dan 2011). In the case of PBF, these intended goals have been concretized as improved instructional, student-support, and research-administration efforts and, ultimately, improved student outcomes (particularly degree completion) and faculty research productivity (de Boer et al. 2015; Dougherty and Natow 2015; Hicks 2012).

With regard to instructional and student-support efforts, several studies find that US higher education institutions subject to PBF do make improvements in their instructional programmes and student services (Dougherty et al. 2016; Jenkins et al. 2009; Ness et al. 2015; Rabovsky 2012; but see Kelchen and Stedrak 2016). The most common campus-level changes include improved advising and counselling services, revamped developmental education, and strengthened inter-institutional transfer processes (Dougherty et al. 2016; Jenkins et al. 2009; Ness et al. 2015). Looking abroad, similar findings appear in Denmark, where PBF is reported as leading to closer faculty-student contact and increased teacher feedback on written work (Frølich 2011; Jongbloed and Vossensteyn 2016).

Do these instructional and student-support changes result in improved student outcomes? In the case of graduation numbers, the effects of PBF are weak to even nonexistent (Bell et al. 2018; Birdsall 2018; Boland 2018; Dougherty et al. 2016; Favero and Rutherford 2019; Hillman et al. 2018; Kivisto and Kohtamaki 2016; Rutherford and Rabovsky 2014;

Umbricht et al. 2017). In their meta-analysis of 12 US studies, Bell et al. (2018) found that the average impact on degree completion is not distinguishable from zero. Similarly, in a difference-in-differences study of the trailblazing PBF programmes in Ohio and Tennessee, Hillman and colleagues found no effect on baccalaureate and associate degree production. They did find a significant impact on certificate production but argued that it came at the expense of greater effort to raise baccalaureate and associate completion (Hillman et al. 2018).⁷ Studies of PBF in Europe also fail to find any significant impact of PBF on student completion in the case of Denmark (Claeys-Kulik and Estermann 2015; Jongbloed and Vossensteyn 2016).

With regard to the impact of PBF on research productivity, the evidence is positive although not entirely conclusive. Because US PBF systems have largely ignored faculty research outcomes (Dougherty and Natow 2015), we instead focus on studies of PBF in other countries. Several studies found evidence that PBF has led to changes in university research administration and higher rates of faculty research productivity in Australia, Denmark, Hong Kong, the Netherlands, New Zealand, Norway, Spain, Switzerland, and the UK. The changes in research administration include creating incentives and performance metrics designed to encourage faculty to produce research that will be rewarded by the performance-based research funding programmes of government (Glaser et al. 2002; Marginson and Considine 2000; McNay 1997; Woelert and McKenzie 2018). Moreover, studies find that PBF for research is associated with increases in publication numbers and (with reservations noted below) in publication quality, as marked by research citations, appearances in highly ranked journals, and peer reviews of academic quality (Aagaard et al. 2015; Butler 2010; de Boer et al. 2015; Huisman and Currie 2004; Jimenez-Contreras et al. 2003; McNay 1998; Moed 2008; Morgan 2004; Smart 2009; but see Frølich 2011). This increased research productivity is attributed not just to direct financial impacts of PBF on researchers and institutions but also to the fact that research productivity ratings play an increasing role in tenure and promotion decisions (Aagaard et al. 2015; Butler 2010; de Boer et al. 2015; Jimenez-Contreras et al. 2003).

Unintended impacts

As with almost every policy intervention, PBF is likely to produce unintended consequences (Dougherty et al. 2016; Guthrie and Neumann 2007; Li and Zumeta 2016; see also Portes 2000). Neoliberal theory has anticipated some of the unintended impacts of implementing PBF, but it has missed several others.

Evidence in keeping with neoliberal theory

Neoliberal theory has devoted attention to how neoliberal policy can impose considerable compliance costs, involving additional management and administration, on the institutional agents carrying out those policies (Kivisto 2007). In fact, rising compliance costs are a frequent side effect of the application of PBF in the USA (Dougherty et al. 2016; Gray et al. 2001) and in Europe and Australia (de Boer et al. 2015; Guthrie and Neumann 2007; Hicks 2012).

⁷ These general impacts obscure more localized effects. PBF is associated with larger impacts on degree production, graduation rates, and retention rates in the case of institutions that are more highly resourced and less dependent on state support (Birdsall 2018) and more selective in admissions (Favero and Rutherford 2019).

Another unintended impact noted by neoliberal theory is that its proposed reforms may result in reductions in the quality of public services as agencies respond to heightened competition and declining revenues by cheapening the quality of the services they provide (Kivisto 2007). Studies of US PBF have noted how higher education institutions subject to pressures to improve graduation rates resort to such devices as weakening academic demands through inflating grades and reducing the number of difficult courses required for graduation (Dougherty et al. 2016; Jenkins et al. 2009). For example, a community college dean in Tennessee stated: “The push is to get students to graduate... There’s concern among faculty [that] that’s going to become the overriding goal and they’re going to be forced to water down the curriculum” (quoted in Dougherty et al. 2016, p. 186). Meanwhile, studies of PBF outside the US have noted unintended impacts in both instruction and research. In the case of instruction, institutions may reduce their academic demands and churn out graduates (Claeys-Kulik and Estermann 2015; Frølich 2011; Frølich et al. 2010). In the case of research, PBF has been associated with faculty avoiding less conventional research questions that may be groundbreaking but also have a lower probability of timely success (Butler 2010; de Boer et al. 2015; Marginson and Considine 2000; McNay 1997; Talib and Steele 2000).

Evidence going beyond neoliberal theory

Neoliberal theory ignores many important unintended impacts of the policies it espouses. The implementation of PBF has produced such unintended impacts as reduced intake of less advantaged students, narrowing of institutional missions, heightened stratification of institutions and the creation of vicious-cycle mechanisms, growing stratification of the academic labour force, and damaged motivation on the part of higher education personnel.

Many US studies of PBF find that it has led institutions to reduce their intake of less advantaged students in order to improve performance (Birdsall 2018; Dougherty et al. 2016; Jones et al. 2017; Kelchen, 2018a; Kelchen and Stedrak 2016; Li and Zumeta 2016; McKinney and Hagedorn 2017; Ness et al. 2015; Umbricht et al. 2017; see also Espeland and Sauder 2007; Moynihan 2008). For example, a senior administrator from an Indiana four-year institution said that, because of the pressure from performance funding, the institution is less likely to offer admission to “weaker” students “because if they are weaker... there is a chance they will bring down your performance numbers” (quoted in Dougherty et al. 2016, p. 177). Higher education institutions became more restrictive in admissions by such means as raising their academic requirements, focusing their recruitment activities on secondary schools with better prepared and more socially advantaged students, and targeting institutional financial aid on such students via “merit” as versus need-based aid (Dougherty et al. 2016). Studies of PBF outside the USA also raise this possibility of reduced equity in higher education access. However, they do not cite local evidence to back up that it has indeed occurred (de Boer et al. 2015; Santiago et al., 2008).

By financially rewarding some higher education activities more than others, PBF can reduce the diversity of missions and activities that institutions pursue. This has been identified as a problem in studies of US PBF (Dougherty et al. 2016; Jenkins et al. 2009) and of PBF in Europe, Canada, and Australia (Barnetson and Cutright 2000; Claeys-Kulik and Estermann 2015; de Boer et al. 2015; Gauthier 2004; Guthrie and Neumann 2007; Sporn 2018). In the case of PBF for research, there is some evidence that it has led a significant number of faculty

to avoid applied and policy research and place less emphasis on teaching (European Commission 2010; McNay 1998).⁸

Studies of PBF have identified the danger that it can increase inequality of institutional performance by financially penalizing poorer performing institutions, thus hindering their ability to improve their performance. This problem of a vicious cycle has been identified in both US and European research (Claeys-Kulik and Estermann 2015; de Boer et al. 2015; Dougherty et al. 2016; Hagood 2019; Hillman and Corral 2017; Jones et al. 2017; Morgan 2004; Zumeta and Li 2016; see also Espeland and Sauder 2007; Renmans et al. 2016; Slaughter and Cantwell 2012). For example, studies of the Research Assessment Exercise in England have found that it has led to research funding being more concentrated on Oxford, Cambridge, and the top Russell Group institutions, making it harder for other institutions to compete (Adams & Gurney, 2010; Butler 2010; Morgan 2004).

Even as PBF can lead to more stratification among institutions, there is also evidence that it leads to greater stratification of the academic labour force. PBF has been found to increase the power of administrators at the expense of faculty in the USA and Australia (Dougherty et al. 2016; Dougherty and Reddy 2013; Guthrie and Neumann 2007; see also Rosinger et al. 2016; Slaughter and Cantwell 2012; Slaughter and Rhoades 2004 for a similar finding regarding the impacts of academic capitalism). Moreover, it has been argued that PBF for research strengthens the hand of the professional elites who tend to dominate peer review committees that evaluate the research output of universities subject to research assessment (Hicks 2012).

Finally, PBF has been found to erode the motivation of the agents to which it is applied. The assumption of principal-agent theory that agents are not committed to the goals of their principals and often shirk their duties leads to carrot and stick policies that can damage the morale and organizational commitment of employees who are substantially oriented by intrinsic motives (Andersen & Pallesen, 2008; Dougherty et al. 2016). As a US faculty member noted: “[It is] completely demoralizing.... The implication from this type of funding is that we’re not working hard enough, we’re not willing to change, and we’re not willing to improve” (quoted in Dougherty et al. 2016, p. 192). Similarly, Danish research indicates that economic incentives to publish can actually depress faculty productivity, especially when academics view those incentives as controlling rather than supporting their work (Andersen & Pallesen, 2008; see also Kallio and Kallio 2014). These findings accord with more general evidence from research in social psychology and experimental economics that, in many different contexts, the provision of monetary rewards “crowds out” intrinsic motivation, reducing individuals’ compliance with public policy goals (Frey 2012).

Conclusions

We have examined performance-based funding (PBF) for higher education both to examine its impacts and to shed light on the strengths and weaknesses of neoliberal theory as an analysis of the origins, implementation, and impacts of neoliberal policy such as PBF. With regard to policy origins, neoliberal theory correctly anticipates the key role that top government officials play in the development of PBF. However, neoliberal theory misses the important role as well of business, higher education institutions, and inter-state actors and policy networks.

⁸ These findings largely come from surveys of faculty members’ perceptions and have not been conclusively corroborated by studies of actual behavioural patterns (Butler 2010; Glaser et al. 2002).

Regarding policy implementation, neoliberal theory properly predicts the central role of monetary incentives and performance monitoring as PBF policy instruments and the implementation obstacle posed by gaming on the part of agents. However, the PBF experience also points to the important use of other policy instruments that neoliberal theory fails to acknowledge: shaping the social prestige of agencies, persuasive communication between principals and agents, and building the organizational capacity of agents. The PBF experience also points to a host of obstacles beyond gaming to the effectiveness of PBF, including unfavourable client composition, lack of organizational resources, unstable funding, and a poor fit between PBF indicators and organizational missions.

With regard to outcomes of neoliberal policymaking, the PBF experience also raises many questions about the explanatory usefulness of neoliberal theory. Although PBF appears to produce improvements in instructional and student-support practices, research administration, and faculty research productivity, there is little evidence that on the whole it produces better student retention and graduation rates. Moreover, PBF produces many unintended impacts that neoliberal theory largely ignores. The theory properly points to compliance costs and drops in output quality but fails to anticipate such other unintended impacts as reduced admission of less advantaged students, narrowing of institutional missions, rising inequality among higher education institutions, growing stratification of the academic labour force, and damaged motivation of higher education personnel.

Table 1 summarizes the claims made by neoliberal theory and how well they are validated by research on PBF. It also lists features of the origins, implementation, and impacts of PBF that research has discovered but are not anticipated by neoliberal theory.

Neoliberal theory undoubtedly has made a contribution to understanding how public agencies can be made more effective and efficient. However, as illustrated by the case of PBF for higher education, neoliberal theory is also deficient in many regards. It is therefore unsurprising that the last two decades have seen the appearance of widespread critique of neoliberal “market fundamentalism” in social theory, social policy, and social practice (Broucker et al. 2017a; Brown 2011, 2013; Callender and Dougherty 2018; Cantwell and Kauppinen 2014; Cribb and Gewirtz 2013; Giroux 2002; Gledhill 2004; Greenhouse 2010; Harvey 2005; Milkman et al. 2014; Panitch and Gindin 2018; Slaughter and Rhoades 2004; Stiglitz 2018).

Given the deficiencies in neoliberal theory that we have found, PBF is unlikely to make any substantial contribution unless it outgrows its neoliberal husk. Whatever promise PBF might have, it can only be realized if efforts are made to systematically address the many obstacles it encounters in realizing its intended impacts and the many unintended impacts it produces that go unanalyzed by neoliberal theory. The design of PBF must be shaped in the light of perspectives from sociology, political science, anthropology, and social and organizational psychology that provide a richer analysis of policy design and implementation than the economic formulations on which neoliberal theory relies. The design of PBF programmes should be firmly grounded in awareness of how organizational goals and performance are shaped and should be shaped by a host of organizational and environmental factors typically ignored by neoliberal theory: the varied needs, interests, goals, and power resources of multiple stakeholders; how higher educational institutions are shaped by their clientele, workforce, leadership, culture, organizational resources and processes, and enviroing society, economy, and polity (Broucker et al. 2017b; Davis et al. 1997; Ferlie et al. 2008; Hernandez 2012; Kezar 2014; Marginson 2016; Moynihan 2008; Pusser 2008; Rabovsky 2014b; Valimaa and Nokkala 2014). Moreover, the implementation of PBF should emphasize organizational

Table 1 Summary assessment of the claims of neoliberal theory

Neoliberal theory	PBF research findings
<i>Policy origins</i>	
Top government officials are key proponents of neoliberal policy reform.	Confirmed Major role of business, exercising both direct and indirect power. Major role of inter-state actors, policy networks, and policy diffusion.
Agents typically resist policies because their interests often diverge from those of policy principals.	Substantially disconfirmed. Many higher education institutions supported PBF. Their interests and values were often convergent with those of government official.
<i>Policy implementation</i>	
<i>Policy instruments</i>	
Financial incentives	Confirmed
Monitoring and accountability processes	Confirmed Status shaping Persuasive communication Capacity building
<i>Obstacles</i>	
Resistance and gaming	Confirmed Client composition Difficulty in quickly changing institution Lack of organizational resources Unstable funding Poor fit between performance-funding indicators and organizational missions
<i>Policy impacts—intended</i>	
Improvements in organizational processes	Confirmed. Changes in instruction and student support and research administration
Improvements in organizational outcomes	Only partially confirmed. Improved research quantity (although not always quality) but limited impacts on student outcomes
<i>Policy impacts—unintended</i>	
Compliance costs	Confirmed
Quality reduction	Confirmed Reduced admission of disadvantaged students Narrowing of organizational missions Growing stratification of institutions Growing stratification of higher education labour force Damaged motivation of institutional personnel

improvement via organizational learning based on the systematic gathering and consideration of information on organizational performance through decentralized, egalitarian, and well-funded learning forums that bring together a wide range of internal and external stakeholders differing by class, race, gender, and other standpoints (Bensimon et al. 2012; Dougherty et al. 2016; Moynihan 2008). This diversity of participation makes more likely PBF implementation will give proper consideration to “efficiency for whom and for what?” Are gains in organizational efficiency and social functionality coming at the cost of harming those disadvantaged by

systems of class, racial, gender, and other inequality (see Fisman et al. 2015; Jones et al. 2017)? Furthermore, are gains in efficiency and functionality being purchased at the expense of other important goals of higher education such as promoting social equality and social mobility, cultivating critical citizenship, and building commitment to class, racial, gender, and other equalization (Gewirtz 2000; Giroux 2002; Marginson 2009, 2016; Newfield 2018; Slaughter and Cantwell 2012)?

Acknowledgements This paper draws on a working paper issued by the Centre for Global Higher Education at the UCL Institute of Education (Dougherty and Natow 2019). We wish to thank Steven Brint, Floyd Hammack, Stephanie Mignot-Gerard, Thomas Rabovsky, Barbara Sporn, and two anonymous reviewers for the Centre on Global Higher Education for their very helpful comments on earlier versions of this paper. All remaining errors are ours alone.

References

- Aagaard, K., Bloch, C., & Schneider, J. W. (2015). Impacts of performance-based research funding systems: The case of the Norwegian publication indicator. *Research Evaluation*, 24, 106–117.
- Adams, J., & Gurney, K. (2010). *Funding selectivity, concentration and excellence – How good is the UK's research?* Oxford: Higher Education Policy Institute (HEPI).
- Altbach, P. A., & Levy, D. C. (Eds.). (2005). *Private higher education: A global revolution*. Rotterdam: Sense Publishers.
- Andersen, L. B., & Pallesen, T. 2008. "Not just for the money?" how financial incentives affect the number of publications at Danish research institutions. *International Public Management Journal*, 11(1), 28–47.
- Ball, S. J. (2012). *Global education, inc.: New policy networks and the neoliberal imaginary*. Abingdon: Routledge.
- Barnetson, B., & Boberg, A. (2000). Resource allocation and public policy in Alberta's system of postsecondary system. *The Canadian Journal of Higher Education/La revue canadienne d'enseignement supérieur*, 30(2), 57–86.
- Barnetson, B., & Cutright, M. (2000). Performance indicators as conceptual technologies. *Higher Education*, 40(3), 277–292.
- Bell, E., Fryar, A. H., & Hillman, N. W. (2018). When intuition misfires: A meta-analysis of research on performance-based funding in higher education. In E. Hazelkorn et al. (Eds.), *Research handbook on quality, performance and accountability in higher education* (pp. 108–124). London: Edward Elgar.
- Bensimon, E. M., Dowd, A. C., Longanecker, D., & Witham, K. (2012). We have goals. Now what? *Change: The Magazine of Higher Learning*, 44(6), 15–25.
- Birdsall, C. (2018). Performance management in public higher education: Unintended consequences and the implications of organizational diversity. *Public Performance and Management Review*, 41(4), 669–695.
- Bleiklie, I. (1998). Justifying the evaluative state: New public management ideals in higher education. *European Journal of Education*, 33(3), 299–315.
- Block, F. (1987). *Revising state theory*. Philadelphia: Temple University Press.
- Boland, W. C. (2018). Performance funding and historically black colleges and universities: An assessment of financial incentives and baccalaureate degree production. *Educational Policy* <https://doi.org/10.1177/0895904818802118>.
- Braun, D. (1993). Who governs intermediary agencies? Principal-agent relations in research policy-making. *Journal of Public Policy*, 13(2), 135–162.
- Brinkerhoff, D. W. (2010). Capacity and capacity development: Coping with complexity. *Public Administration and Development*, 30(1), 2–10.
- Broucker, B., & DeWit, K. (2015). New public management in higher education. In J. Huisman et al. (Eds.), *The Palgrave international handbook of higher education policy and governance* (pp. 57–75). London: Palgrave Macmillan.
- Broucker, B., DeWit, K., & Verhoeven, J. C. (2017a). Higher education for public value: Taking the debate beyond new public management. *Higher Education Research and Development*, 37(2), 227–240.
- Broucker, B., DeWit, K., & Verhoeven, J. C. (2017b). Higher education research looking beyond new public management. *Theory and Method in Higher Education Research*, 3, 21–38.
- Brown, R. (Ed.). (2011). *Higher education and the market*. New York and London: Routledge.

- Brown, R. (2013). *Everything for sale? The marketisation of UK higher education*. London: Routledge.
- Brown, W. (2019). *In the ruins of neoliberalism: The rise of antidemocratic politics in the west*. New York: Columbia University Press.
- Butler, L. (2010). Impacts of performance-based research funding systems: A review of the concerns and the evidence. In OECD, *Performance-based funding for public research in tertiary education institutions: Workshop proceedings* (pp. 127–165). Paris: OECD.
- Callender, C., & Dougherty, K. J. (2018). Student choice in higher education—Reducing or reproducing social inequalities? *Social Sciences (Basel)*, 7(10), 1–28 Available from: <https://www.mdpi.com/2076-0760/7/8/131>. Accessed 20 Dec 2019
- Cantwell, B., & Kauppinen, I. (2014). *Academic capitalism in the age of globalization*. New York: Routledge.
- Carruthers, B. G. (1994). When is the state autonomous? Culture, organization theory, and the political sociology of the state. *Sociological Theory*, 12(March), 19–44.
- Center for Higher Education Policy Studies (CHEPS) and the University of London. (2010). *Progress in higher education reform across Europe* (Vol. 3 vols). Enschede: University of Twente.
- Claeys-Kulik, A.-L., & Estermann, T. (2015). *Define thematic report: Performance-based funding of universities in Europe*. Brussels: European University Association Retrieved from <https://www.eua.eu/resources/publications/361:define-thematic-report-performance-based-funding-of-universities-in-europe.html>. Accessed 20 Dec 2019
- Connell, R., Fawcett, B., & Meagher, G. (2009). Neoliberalism, new public management and the human service professions: Introduction to the special issue. *Journal of Sociology*, 45(4), 331–338.
- Cribb, A., & Gewirtz, S. (2013). The hollowed out university? A critical analysis of changing institutional and academic norms in UK higher education. *Discourse: Studies in the Cultural Politics of Education*, 34(3), 338–350.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22(1), 20–47.
- de Boer, H., Jongbloed, B., Bennenworth, P., Cremonini, L., Kolster, R., Kottmann, A., Lemmens-Krug, K., & Vossensteyn, H. (2015). *Performance-based funding and performance agreements in fourteen higher education systems*. Enschede: University of Twente, Centre for Higher Education Policy Studies.
- Deem, R., & Brehony, K. J. (2005). Management as ideology: The case of “new managerialism” in higher education. *Oxford Review of Education*, 37(2), 217–235.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(1), 147–160. <https://doi.org/10.2307/2095101>.
- Dougherty, K. J. (1994). *The contradictory college: The conflicting origins, impacts, and futures of the community colleges*. Albany: State University of New York Press.
- Dougherty, K. J., & Natow, R. S. (2015). *The politics of performance funding*. Baltimore: Johns Hopkins University Press.
- Dougherty, K. J., & Natow, R. S. (2019). *Analyzing neoliberalism in theory and practice: The case of performance-based funding for higher education*. (Working paper #44). London: UCL Institute of Education, Centre for Global Higher Education.
- Dougherty, K. J., & Reddy, V. (2013). *Performance funding for higher education: What are the mechanisms? What are the impacts?* ASHE Higher Education Report 39(2). San Francisco: Jossey-Bass.
- Dougherty, K. J., Jones, S., Lahr, H., Natow, R. S., Pheatt, L., & Reddy, V. (2016). *Performance funding for higher education*. Baltimore: Johns Hopkins University Press.
- Espeland, W. N., & Sauder, M. (2007). Rankings and reactivity: How public measures recreate social worlds. *American Journal of Sociology*, 113(1), 1–40.
- European Commission. (2010). *Assessing Europe's university-based research*. Brussels: European Commission.
- Favero, N., & Rutherford, A. (2019). Will the tide lift all boats? Examining the equity effects of performance funding policies in U.S. higher education. *Research in Higher Education*.
- Feigenbaum, H., Henig, J., & Hamnett, C. (1998). *Shrinking the state: The political underpinnings of privatization*. New York: Cambridge University Press.
- Ferlie, E., Musselin, C., & Andresani, G. (2008). The steering of higher education systems: A public management perspective. *Higher Education*, 56, 325–348.
- Fisman, R., Jakiela, P., Kariv, S., & Markovits, D. (2015). The distributional preferences of an elite. *Science*, 349(6254), aab0096-1–aab0096-7.
- Frey, B. S. (2012). Crowding effects on intrinsic motivation. *Renewal*, 20(2/3), 91–98.
- Friedman, M. (1962). *Capitalism and freedom*. Chicago: University of Chicago Press.
- Frølich, N. (2011). Multi-layered accountability: Performance-based funding of universities. *Public Administration*, 89(3), 840–859.

- Frølich, N., Schmidt, E. K., & Rosa, M. J. (2010). Funding systems for higher education and their impacts on institutional strategies and academia: A comparative perspective. *International Journal of Educational Management*, 24(1), 7–21.
- Gandara, D. (2019). Does evidence matter? An analysis of evidence use in performance-funding policy design. *Review of Higher Education*, 42(3), 991–1022.
- Gandara, D., Rippner, J. A., & Ness, E. C. (2017). Exploring the “how” in policy diffusion: National intermediary organizations’ roles in facilitating the spread of performance-based funding policies in the state. *Journal of Higher Education*, 88(5), 701–725.
- Gauthier, M. (2004). Incentives and accountability: The Canadian context. *Higher Education Management and Policy*, 16(2), 95–107.
- Gewirtz, S. (2000). Bringing the politics back in: A critical analysis of quality discourses in education. *British Journal of Educational Studies*, 48(4), 352–370.
- Giroux, H. (2002). Neoliberalism, corporate culture, and the promise of higher education: The university as a democratic public sphere. *Harvard Educational Review*, 72(4), 425–463.
- Glaser, J., Laudel, G., Hinze, S., & Butler, L. (2002). *Impact of evaluation-based funding on the production of scientific knowledge: What to worry about, and how to find out*. Expertise for the German Ministry for Education and Research.
- Gledhill, J. (2004). Neoliberalism. In D. Nugent & J. Vincent (Eds.), *A companion to the anthropology of politics* (pp. 332–348). Oxford: Blackwell.
- Gorbunov, A. V. (2013). *Performance funding in public higher education: Determinants of policy shifts*. (Unpublished doctoral dissertation). Vanderbilt University, Nashville, TN.
- Gray, D., Harkreader, S., & Wagar, D. (2001). *Program review: Workforce development education program*. Tallahassee: Florida Legislature, Office of Program Policy Analysis and Government Accountability.
- Greenhouse, C. J. (Ed.). (2010). *Ethnographies of neoliberalism*. Philadelphia: University of Pennsylvania Press.
- Guthrie, J., & Neumann, R. (2007). Economic and non-financial performance indicators in universities. *Policy Management Review*, 9(2), 231–252.
- Hagood, L. P. (2019). The financial benefits and burdens of performance funding in higher education. *Educational Evaluation and Policy Analysis*, 41(2), 189–213.
- Harvey, D. (2005). *A brief history of neoliberalism*. Oxford: Oxford University Press.
- Hayek, F. A. (1978). *The constitution of liberty*. Chicago: University of Chicago Press.
- Hemandez, M. (2012). Toward an understanding of the psychology of management. *Academy of Management Review*, 37(2), 172–193.
- Hicks, D. (2012). Performance-based university research funding systems. *Research Policy*, 41, 251–261.
- Hillman, N., & Corral, D. (2017). The equity implications of paying for performance in higher education. *American Behavioral Scientist*, 61(14), 1757–1772.
- Hillman, N. W., Fryar, A. H., & Crespin-Trujillo, V. (2018). Evaluating the impact of performance funding in Ohio and Tennessee. *American Educational Research Journal*, 55(1), 144–170.
- Hood, C. (1991). A public management for all seasons? *Public Administration*, 69(Spring), 3–19.
- Hood, C. (2006). Gaming in targetworld: The targets approach to managing British public services. *Public Administration Review*, 66(4), 515–521.
- Huisman, J., & Currie, J. (2004). Accountability in higher education: Bridge over troubled water? *Higher Education*, 48(4), 529–551.
- Jenkins, D., Ellwein, T., & Boswell, K. (2009). *Formative evaluation of the Student Achievement Initiative “learning year”*. New York: Columbia University, Teachers College, Community College Research Center Retrieved from <https://ccrc.tc.columbia.edu/publications/student-achievement-initiative-learning-year.html>. 20 Dec 2019
- Jimenez-Contreras, E., Anegón, F., & Lopez-Cozar, E. (2003). The evolution of research activity in Spain - the impact of the National Commission for the evaluation of research activity (CNEAI). *Research Policy*, 32(1), 123–142.
- Jones, G. A. (2004). Ontario higher education reform, 1995–2003: From modest modifications to policy reform. *Canadian Journal of Higher Education/Revue Canadienne d’Enseignement Supérieure*, 34(3), 39–54.
- Jones, T., Jones, S., Elliott, K. C., Owens, L. R., Assalone, A. E., & Gandara, D. (2017). *Outcomes-based funding and race in higher education: Can equity be bought?* New York: PalgraveMacmillan.
- Jongbloed, B., & Vossensteyn, H. (2016). University funding and student funding: International comparisons. *Oxford Review of Economic Policy*, 32(4), 576–595.
- Jongbloed, B., Kaiser, F., van Vught, F., & Westerheijden, D. F. (2018). Performance agreements in higher education: A new approach to higher education funding. In A. Curaj, L. Deca, & R. Pricopie (Eds.), *European higher education area: The impact of past and future policies* (pp. 671–687). Dordrecht: Springer.
- Kallio, K.-M., & Kallio, T. J. (2014). Management-by-results and performance measurement in universities – Implications for work motivation. *Studies in Higher Education*, 39(4), 574–589.

- Kauppinen, I., & Kaidesoja, T. (2014). A shift toward academic capitalism in Finland. *Higher Education Policy*, 27, 23–43.
- Kelchen, R. (2018a). Do performance-based funding policies affect underrepresented student enrollment? *Journal of Higher Education*, 89(5), 702–727.
- Kelchen, R. (2018b). *Higher education accountability*. Baltimore: Johns Hopkins University Press.
- Kelchen, R., & Stedrak, L. J. (2016). Does performance-based funding affect colleges' financial priorities? *Journal of Education Finance*, 41(3), 302–321.
- Kezar, A. (2014). *How colleges change: Understanding, leading, and enacting change*. New York: Routledge.
- Kivisto, J. A. (2007). *Agency theory as a framework for the government-university relationship*. Tampere: University of Tampere Available from: <http://tampub.uta.fi/bitstream/handle/10024/67724/978-951-44-6969-5.pdf;sequence=1>. 20 Dec 2019
- Kivisto, J. A., & Kohtamaki, V. (2016). Does performance-based funding work? In R. M. O. Pritchard et al. (Eds.), *Positioning higher education institutions* (pp. 215–226). Rotterdam: Sense Publishers.
- Kivisto, J. A., & Zyallevska, I. (2015). Agency theory as a framework for higher education governance. In J. Huisman, H. de Boer, D. D. Dill, & M. Souto-Otero (Eds.), *The Palgrave international handbook of higher education policy and governance* (pp. 132–151). London: Palgrave Macmillan.
- Kivisto, J. A., Pekkola, E., Berg, L. N., Hansen, H. F., Geschwind, L., & Lytinen, A. (2019). Performance in higher education institutions and its variations in Nordic policy. In R. Pinheiro, L. Geschwind, H. F. Hansen, & K. Pulkkinen (Eds.), *Reforms, organizational change and performance in higher education*. PalgraveMacmillan: London.
- Lane, J. E. (2012). c. In J. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XX, pp. 279–303). Dordrecht: Springer.
- Lane, J. E., & Kivisto, J. (2008). Interests, information, and incentives in higher education: Principal-agent theory and its potential applications to the study of higher education governance. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XX, pp. 141–179). Dordrecht: Springer.
- Le Grand, J. (2007). *The other invisible hand: Delivering public services through choice and competition*. Princeton: Princeton University Press.
- Levin, J. S., López-Damián, A. I., Martin, M. C., & Hoggatt, M. J. (2017). The US community college after globalization. In L. T. Tran & K. Dempsey (Eds.), *Internationalization in vocational education and training* (pp. 19–40). New York: Springer.
- Li, A. Y. (2017a). Covet thy neighbor or “reverse policy diffusion”? State adoption of performance funding 2.0. *Research in Higher Education*, 58, 746–771.
- Li, A. Y. (2017b). The point of the point: Washington’s student achievement initiative through the looking glass of a community college. *Community College Journal of Research and Practice*, 41(3), 183–202.
- Li, A. Y., & Zumeta, W. (2016). Performance funding on the ground: Campus responses and perspectives in two states. In *TIAA Institute Research Dialogue #128*. New York: Author.
- Lindblom, C. E. (1977). *Politics and markets*. New York: Basic Books.
- Lipsky, M. (1980). *Street-level bureaucracy: Dilemmas of the individual in public services*. New York: Russell Sage Foundation.
- Lukes, S. (2005). *Power: A radical view* (2nd ed.). New York: Palgrave Macmillan.
- Marginson, S. (1997). Competition and contestability in Australian higher education, 1987–1997. *Australian Universities Review* 40(1), 5–14.
- Marginson, S. (2009). *The limits of market reform in higher education*. Research Institute for Higher Education, Hiroshima University. Melbourne: University of Melbourne. Available from: https://melbournecshe.unimelb.edu.au/_data/assets/pdf_file/0009/1491660/RIHE_HigherEducationForum_Marginson_0909.pdf. Accessed 20 Dec 2019.
- Marginson, S. (2016). *Higher education and the common good*. Melbourne: Melbourne University Press.
- Marginson, S., & Considine, M. (2000). *The enterprise university: Power, governance, and reinvention in Australia*. Cambridge: Cambridge University Press.
- Matland, R. (1995). Synthesizing the implementation literature: The ambiguity-conflict model of implementation. *Journal of Public Administration Research and Theory*, 5(2), 145–174.
- McKinney, L., & Hagedorn, L. S. (2017). Performance-based funding for community colleges in Texas: Are colleges disadvantaged by serving the most disadvantaged students? *Journal of Higher Education*, 88(2), 159–182.
- McLendon, M. K., Hearn, J. C., & Deaton, R. (2006). Called to account: Analyzing the origins and spread of state performance-accountability policies for higher education. *Educational Evaluation and Policy Analysis*, 28(1), 1–24.
- McNay, I. (1997). *The impact of the 1992 research assessment exercise on individual and institutional behaviour in English higher education: Summary report and commentary*. Chelmsford: Anglia Polytechnic University.

- McNay, I. (1998). The Research Assessment Exercise (RAE) and after: 'You never know how it will all turn out'. *Perspectives: Policy and Practice in Higher Education*, 2(1), 19–22.
- Milkman, R., Luce, S., & Lewis, P. (2014). Occupy wall street. In J. Goodwin & J. M. Jasper (Eds.), *The social movements reader* (3rd ed., pp. 30–44). Chichester: Wiley.
- Miller, G. J. (2005). The political evolution of principal-agent models. *Annual Review of Political Science*, 8, 205–225.
- Miller, G. N. S., & Morphew, C. C. (2017). Merchants of optimism: Agenda-setting organizations and the framing of performance-based funding for higher education. *Journal of Higher Education*, 88(5), 754–784.
- Moe, T. M. (1984). The new economics of organization. *American Journal of Political Science*, 28(4), 739–777.
- Moed, H. F. (2008). UK research assessment exercises: Informed judgments on research quality or quantity? *Scientometrics*, 74(1), 153–161.
- Morgan, K. J. (2004). The research assessment exercise in English universities, 2001. *Higher Education*, 48, 461–482.
- Moynihan, D. P. (2008). *The dynamics of performance management: Constructing information and reform*. Washington, DC: Georgetown University Press.
- Naidoo, R., Shankar, A., & Veer, E. (2011). The consumerist turn in higher education policy: Policy aspirations and outcomes. *Journal of Marketing Management*, 27(11–12), 1142–1162.
- National Conference of State Legislatures. (2015). *Performance-based funding for higher education*. Denver.
- Ness, E. C., Deupree, M. M., & Gándara, D. (2015). *Campus responses to outcomes-based funding in Tennessee: Robust, aligned, and contested*. Nashville: Tennessee Higher Education Coordinating Board Retrieved from https://www.tn.gov/content/dam/tn/thec/bureau/fiscal_admin/fiscal_pol/obff/research/Campus_Responses_to_OBF_in_Tennessee_-_Ford_Foundation.pdf. Accessed 20 Dec 2019.
- Newfield, C. (2018). Have we wrecked public universities? *British Journal of Sociology*, 69(2), 484–493.
- Olssen, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism. *Journal of Education Policy*, 20(3), 313–345.
- Opoczynski, R. (2016). The creation of performance funding in Michigan: Partnerships, promotion, and points. *Education Policy Analysis Archives*, 24(122), 1–22.
- Panitch, L., & Gindin, S. (2018). *The socialist challenge today: Syriza, Sanders, Corbyn*. London: Merlin Press.
- Pollitt, C., & Dan, S. (2011). *The impact of the new public management in Europe: A meta-analysis*. Brussels: European Commission, Coordinating for Cohesion in the Public Sector of the Future Available from: http://www.cocops.eu/wp-content/uploads/2012/03/WP1_Deliverable1_Meta-analysis_Final.pdf.
- Portes, A. (2000). The hidden abode: Sociology as the analysis of the unexpected. *American Sociological Review*, 65(1), 1–18.
- Posner, B. (2008). The state, the market and the institutional estate: Revisiting contemporary authority relations in higher education. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 23, pp. 105–139). Dordrecht: Springer.
- Rabovsky, T. (2012). Accountability in higher education: Exploring impacts on state budgets and institutional spending patterns. *Journal of Public Administration Research and Theory*, 22(4), 675–700.
- Rabovsky, T. M. (2014a). Support for performance-based funding: The role of political ideology, performance, and dysfunctional information environments. *Public Administration Review*, 74(6), 761–774.
- Rabovsky, T. M. (2014b). Using data to manage for performance at public universities. *Public Administration Review*, 74(2), 260–272.
- Renmans, D., Paul, E., & Dujardin, B. (2016). *Analysing performance-based financing through the lenses of the principal-agent theory*. Antwerp: University of Antwerp, Institute of Development Policy and Management.
- Rhoades, G., & Sporn, B. (2002). Quality assurance in Europe and U.S.: Professional and political economic framing of higher education policy. *Higher Education*, 43(3), 355–390.
- Rosinger, K. O., Taylor, B. J., Coco, L., & Slaughter, S. (2016). Organizational segmentation and the prestige economy: Deprofessionalization in high- and low-resource departments. *Journal of Higher Education*, 87(1), 27–54.
- Rutherford, A., & Rabovsky, T. (2014). Evaluating impacts of performance funding policies on student outcomes in higher education. *The Annals of the American Academy of Political and Social Science*, 655(1), 185–206.
- Sabatier, P. A. (1986). Top-down and bottom-up approaches to implementation research: A critical analysis and suggested synthesis. *Journal of Public Policy*, 6(1), 21–48.
- Schulze-Cleven, T., & Olson, J. R. (2017). Worlds of higher education transformed: Toward varieties of academic capitalism. *Higher Education*, 73(6), 813–831.
- Sharp, S. (2004). The research assessment exercises 1992–2001: Patterns across time and subjects. *Studies in Higher Education*, 29(2), 201–218.
- Skocpol, T., & Amenta, E. (1986). States and social policies. *Annual Review of Sociology*, 12, 131–157.
- Slaughter, S., & Cantwell, B. (2012). Transatlantic moves to the market: The United States and the European Union. *Higher Education*, 63, 583–606.

- Slaughter, S., & Rhoades, G. (2004). *Academic capitalism and the new economy: Markets, states, and higher education*. Baltimore: Johns Hopkins University Press.
- Smart, W. (2009). The impact of the performance-based research fund on the research productivity of New Zealand universities. *Social Policy Journal of New Zealand*, 34, 136–151.
- Santiago, P., Tremblay, K., Basri, E., & Arnal, E. (2008). *Tertiary education for the knowledge society*. Paris: Organization for Economic Cooperation and Development.
- Sporn, B. (2018). Competition in higher education. In J. C. Shin & P. Texeira (Eds.), *Encyclopedia of international higher education: Systems and institutions*. Dordrecht: Springer. https://doi.org/10.1007/978-94-017-9553-1_95.1.
- Stensaker, B., & Harvey, L. (Eds.). (2011). *Accountability in higher education: Global perspectives on trust and power*. New York: Routledge.
- Stiglitz, J. (2018). *Globalization and its discontents* (2nd ed.). New York: Norton.
- Talib, A., & Steele, A. (2000). The UK research assessment exercise: Strategies and tradeoffs. *Higher Education Quarterly*, 54(1), 68–87.
- Teixeira, P., & Dill, D. D. (2011). *Public vices, private virtues? Assessing the effects of marketization in higher education*. Rotterdam: Sense Publishers.
- Umbricht, M. R., Fernandez, F., & Ortagus, J. C. (2017). An examination of the (un)intended consequences of performance funding in higher education. *Educational Policy*, 31(5), 643–673.
- Valimaa, J., & Nokkala, T. (2014). The dimensions of social dynamics in comparative studies of higher education. *Higher Education*, 67, 423–427.
- Van Thiel, S., & Leeuw, F. L. (2002). The performance paradox in the public sector. *Public Performance and Management Review*, 25(3), 267–281.
- Weingart, P. (2005). Impact of bibliometrics upon the science system: Inadvertent consequences? *Scientometrics*, 62(1), 117–131.
- Woelert, P., & McKenzie, L. (2018). Follow the money? How Australian universities replicate national performance-based funding mechanisms. *Research Evaluation*, 27(3), 184–195.
- Woelert, P., & Yates, L. (2015). Too little and too much trust: Performance measurement in Australian higher education. *Critical Studies in Education*, 56(2), 175–189.
- Zumeta, W., & Li, A. (2016). *Assessing the underpinnings of performance funding 2.0: Will this dog hunt?* New York: TIAA Institute.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.