



Clark's Triangle and Fiscal Incentives: Implications for Colleges*

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Abstract

For nearly 35 year's Burton Clark's triangle has been used as a paradigm for describing, assessing, and comparing systems of post-secondary education (Clark, 1998,2004). Two major developments in the fiscal management of post-secondary education occurred more or less contemporaneously: incentive or performance funding on the part of the state and incentive-based budgeting on the part of institutions. Both developments are based on fiscal incentives. Despite several inherent and inter-connected similarities, incentive funding and incentive-based budgeting have been viewed and appraised on parallel tracks. Nor have they been viewed within a paradigmatic context. This study investigates their convergence with particular regard to effect on the relationship between the state, the college or university, and the market as foreseen by Clark's Triangle. The study concludes that, although incentive funding and incentive-based budgeting are sometimes at cross-purposes, they are functionally so inter-connected, whether intentionally or coincidentally, that they can alter the zero-sum balance between the state authority, market and academic legs of the triangle. The study also concludes that the inter-connecting effects may be different for colleges, and may indicate a triangle with unequal legs.

Introduction

In 1983 Burton Clark introduced his "triangle of coordination" (**Figure 1**) model that explained the interplay of factors that explained the performance of systems of higher education. The three legs of the model were the state, "academe" by which he meant colleges and universities collectively, and the market. The triangle was not meant to be understood as a blueprint. It was really a model in the sense that as the factors changed and influenced one another the shape of the triangle would change, but would always remain a triangle. For example, if a state provided almost all the funding available to colleges, and did so to advance public or political policy, the state-academe leg would predominate in the sense that the length of that leg would be notionally shorter, and leg between the market and academe longer. Thus we should understand the legs of the triangle to be dynamic vectors that represent multi-directional forces that define the shape and performance of a system, while keeping centripetal and centrifugal forces in check (Kirp & Roberts, 2002).

Clark's model has been durable as a means of explaining and measuring the resilience of systems of post-secondary education. Although usually used to compare systems of higher education, the model also explains the behaviour of, for example, colleges within systems. In generic terms that describe why colleges and universities change, each vertex exerts a different and not necessarily equal force. The state's force could be labeled resource dependence (Birnbaum, 1983). The market promotes

change through competition (Ben-David, 1972; Clark 1983, 1994). Academic culture (Blau, 1994) best describes the basis of change instigated by the “academe” vertex.

Since the introduction of Clark’s triangle two practices in the financing of public colleges and universities that are based on incentives - performance funding and incentive-based budgeting - have evolved. Both are known by other names. Performance funding is variously identified, for example, as “incentive funding,” “set aside” funding, and “matching” funding. Incentive-based budgeting has been called “value centered management,” “responsibility centre budgeting,” and even “every tub on its own bottom.” Despite contemporary timing and similar nomenclature the two practices are not usually associated with one another.

Performance funding is an instrument of public policy that is exercised “top down” by government, and corresponds to the “state authority” leg of Clark’s triangle. Incentive- based budgeting (Figure 2) is a matter of institutional choice and strategy, and corresponds, at least approximately, to the leg variously described as “academic oligarchy,” “academe,” (Jongbloed, 2003), “managers,” (Salazar & Leihy, 2013), and “steering core” (Clark, 2004). The “steering core” second leg – which is Clark’s most recent terminology – intends to promote market behaviour, specifically entrepreneurial behaviour, by means of the “market” or third leg.

On closer examination, however, we see underlying organizational principles that are shared by both performance incentive funding and incentive-based budgeting. Both address principal-agent relationships. Both assume that resource dependence determines much institutional behaviour (Figure 3). The problem is that governments and colleges do not always share the same assumptions. This leads to an as yet unexamined question. Are they headed on a course that will lead to collision or to mutual benefit?

Incentive Funding

Performance incentive funding has several subsets, the most common of which are performance set-asides or earmarks that reserve small proportions of public subsidies for higher education to be paid out on the basis of pre-determined metric targets, hence “performance indicators.” Funding thus reserved is potentially open-ended. The public – “state” leg - policy objective is to influence institutional behaviour; — the “academe” leg - by means of financial incentives. The incentives are exactly that: they are fiscal inducements that only coincidentally correspond to institutional costs. In certain cases, primarily in Europe, this form of performance funding is called “payment for results.” The World Bank promotes a competitive version of performance funding in which funding not open-ended for countries with limited discretionary resources to direct to the development of universities (Salmi & Hauptman, 2006). As expressions of fiscal policy these two versions of performance funding serve different purposes. The first offers benefit advantages. The state promotes and, hopefully, secures institutional performances that are desirable as public policy. The second, because the funding is a fixed sum, offers cost advantages to government. As performances improve in response to the incentive within the fixed sum unit costs are, at least theoretically, either contained or reduced. The second factor that affects the effectiveness of performance funding in modifying institutional behaviour is the match between the amount of

funding that is set aside and the “performance” that any given incentive is put in place to engender. If the match is imperfect, performance funding will fail. For example, to improve rates of graduation a university might take several steps that involve additional expense: more academic counseling, writing labs, math labs, teaching assistants, and financial aid. The list could be longer, but the length of the list is not the point. The point is the cost of the list. If the amount of funding set aside does not reflect, at least approximately, the marginal cost of the institutional performance being sought, the incentive will be ignored, as it often is (El- Khawas, 1998; Rau, 1999; Schmidt, 2002; Schmidlein, 2002; McColm, 2002; Miao, 2012; Chan, 2014).

Matching performance funding is an arrangement similar to performance funding in which the funding is not all public. Governments seeking to leverage private funding – the “market” leg - offer to match charitable gifts that as de facto endowments are restricted to purposes designated by the state instead of donors. The consequent performance funding is thus a mixture of public and private funding. Matching funding fits the basic incentive definition because the public portion is never enough to meet total cost (Brooks, 2000). In Canada the federal government through the Canada Foundation for Innovation used matching funding as a device financing research infrastructure (Canada Foundation for Innovation, 2013).

None of these versions of performance incentive funding presupposes an autonomous market leg of Clark’s triangle. Government acts as a market surrogate. In the case of matching funding that is intended to leverage private subsidies the government uses its authority to determine what initiatives will be matched, not the other way around (Figure 4).

The track record of performance funding is chequered. There have been two iterations. The first began in the early 1980s and extended to a peak around 2006, and then began to decline. There are, however, signs of a “second iteration” increase of interest in performance funding, especially for colleges. (Dougherty & Reddy, 2013; McKeown-Moak, 2013; Ziskin, 2014). The Rockefeller Institute, in speculating about ebbs and flows in the use of performance funding in the United States, said that “the volatility of performance funding confirms the previous conclusion that its desirability in theory is matched by its difficulty in practice. It is easier to adopt than implement and easier to start than to sustain. (Burke, Rosen, Minassians, & Lessard, 2000)

What makes incentive funding volatile? One explanation has already been mentioned: the amounts of funding associated with specific performance indicators usually does not correspond with the cost structures of the performances that are being measured and putatively rewarded. For example, given the efforts that a college or university would have to exert in order to raise rates of graduation — smaller classes, enhanced academic services, supplementary financial aid, more sophisticated deployment instructional technology, intensive recruitment - the net costs that the institution would have to incur might be greater than the additional income that those efforts would generate. In this case, taking Clark’s triangle as a point of reference, the centre of gravity moves strongly, almost exclusively, to state authority. That is to say, the desired performance would have to be mandated by the state, which it more often is for colleges than for

universities. Here we find a noteworthy difference between effects on colleges and universities. That a government would use its regulatory authority to secure certain behaviours from institutions is not unexpected in the case of colleges. In the case of universities in many jurisdictions it is. In fact, as the deployment of incentive-based funding has ebbed and flowed since the early 1980s, overall it has been directed more often at colleges than universities ((Dougherty & Reddy, 2013; McKeown-Moak, 2013; Ziskin, 2014)).

Also in terms of cost structures, performance funding often fails to take into account the fact that universities have long production cycles and variable economies of scale. For example, the typical undergraduate program takes four years to complete; many programs take longer. The cycles are typically shorter for colleges, although for many Canadian colleges three and four years programs are becoming more numerous. In the case of “pathway” programs the overall cycle may become longer, for example in a 2-3 or 3-2 mode. For that reason universities and sometimes colleges are something like super-tankers: it takes a long time to change their direction, even when they are willing to change in response to financial incentives. Let us again take the rate of graduation as an example. First, the rate of graduation is not a simple sum of annual retention rates. Most graduation rate performance indicators are not calculated until one or two years after the normal program length, for example, after the sixth year for a four-year program (National Center for Education Statistics, 2013). This allows for the inclusion of students who “stop out” or temporarily switch from full-time to part-time status, but who nevertheless eventually graduate. Thus, even if a college or university makes every possible effort to increase its rate of graduation, the results of those efforts will not be seen until several years later. But performance funding universally operates annually. This means that an institution must respond to an incentive and incur its attendant costs long before it receives supplementary “performance” revenue to cover those costs, and even then usually partially instead of fully. Even the delayed recovery of costs is problematic. One of the reasons most often cited for the disinclination of some colleges and universities to take incentive funding seriously is uncertainty about the future. These concerns about stability are not unfounded (Burke & Modarresi, 2000; McColm, 2002; Callahan, 2006; Hearn, et al., 2006; Dougherty & Natow, 2010). In Ontario, for example, the performance funding cum performance indicators metric changed four times in eight years. This has a fundamental implication for the use of Clark’s triangle as a comparative device: its reliability rises longitudinally. When applied as a single annual event or tranche de temps, its use is very limited, perhaps even erroneous.

Performance funding so far has essentially been a system of incentives “bonuses.” The public policy “performance” objectives of the incentives have varied over time from jurisdiction to jurisdiction and from first iteration to second iteration, but the modality of an incentive has not changed. Incentives are not intended or expected to meet all the costs of the “performances” that they promote. In other words, to colleges and universities as “academe” or “managers” they are marginal revenue. To government as “state authority” they are the costs of leverage. This exposes a question with regard to Clark’s triangle: as percentages are the two - the marginal revenue and the cost - as arithmetic operations the same? The answer is either no or not necessarily. Unless a college or

university receives all its funding from the state – as Clark in 1998 recognized they do not - the conventional metric will always overstate the arithmetical leverage of performance funding as an instrument of state authority. For public universities that are approaching “public in name only” status, the arithmetic effect could be almost negligible. What is a cost to the state is not necessarily an equivalent incentive to a university president as “manager.”

This leads to a second question. Is the median percentage of performance funding revenue across a system the same as the mean? If it is not, as is often the case when funding formulas are based on averages (Lang, 2005), what in a unitary system may be an incentive to one institution in the system may be a disincentive to another. In a binary system the difference may be between colleges and universities. This may be why Clark’s triangle has been used as a means of comparing systems instead of institutions. But the statistical fact remains: a system compared on the basis of averages may not look the same as when compared on the basis of medians. For some institutions in a system the centre of triangular gravity may be “state authority” while for others it may be nearer to a “market” as other sources of revenue are sought by “managers” trying to balance budgets.

What lessons can we learn from trial and error? Efficiency, which underpins much of the “state authority” leg of the triangle is problematic in terms of the measurement of institutional cost as seen by “academe” and “managers.” Performance funding in the public sector is a monopsony: the only “buyer” is the state. When “state authorities” set aside public funds to finance performance funding the amounts are either added to the funds already available to institutions or supplant them by redirection or reduction. In the latter case the result for the institutions is a zero-sum game. Zero-sums in public finance are often assumed to be beneficial because they stimulate competition, which normally would be associated with the “market” leg of Clark’s triangle. When under-funding is cited as a cause of incentive failure the discussion does not go far enough to uncover a more basic problem. An inference is still possible that a zero-sum approach might be made to work if more funding was allocated on the basis of performance. That is not so. Monopsonies are always inefficient (Cooke & Lang, 2009). Consider, too, that virtually all the metrics of performance funding apply to government as a single financer or nominal buyer. No performance funding program has yet to differentiate incentives or invite competitive bidding for them (Lundsgaard, 2002). That is monopsony behaviour. It leaves out the competitive “market” leg of Clark’s multi-dimensional model.

There is a political as well as economic version of the triangular connection between “state authority” and the “market.” In some jurisdictions performance funding is becoming less attractive to government as they are beginning to realize that incentive funding can work in two directions. If a specific performance target is set, benchmarked, made visibly measurable by a metric, and financed by earmarked funding, the effects of inadequate funding on the part of “state authority” can be measured as well as the performance of “academe” and its “managers.” In other words, the performance of government as a funding agent becomes visibly measurable too, and may just as easily become a political liability as an

asset.

Incentive-based Budgeting

By the end of the 1980's, coincidentally at the same time that performance funding was being introduced and only shortly after Clark's "triangle of coordination" first appeared, a number of large, research intensive universities in North America began experimenting with an organizational and budgetary concept the principal objectives of which were to enhance responsibility for planning and budgeting. This is usually done by decentralization, and in turn improve institutional performance in the allocation and generation of resources, and the delivery of services. Three decades later between 50 and 60 universities in the United States and Canada, and a few in Europe, follow the practice, albeit using several different but similar names, but most commonly called Responsibility Center Budgeting/Responsibility Center Management or generically incentive-based budgeting. Incentive-based budgeting, even in universities, is rarely deployed in its entirety; it usually is integrated or otherwise coupled with traditional forms of planning and budgeting (Meshreky, 2008). This is closer to the college practice.

At this point it might be helpful as a matter of clarification to explain what incentive-based budgeting is not. It is neither Activity Based Costing (ABC), Zero-based Budgeting (ZBB), nor Program Planning and Budgeting (PPBS). Each of those methods deals only with cost. Each in the end results in a conventional expense-only budget albeit through a perhaps unconventional pathway. Incentive-based budgeting, alternatively, deals with income and cost and displays all revenue and all three categories of cost: direct, indirect, and overhead (and sometimes capital), thus resulting in "bottom line" net cost or revenue.

Whatever nomenclature is used it involves the total cost and total income attributable to a university academic budgetary unit. It gives a campus, faculty, or department an incentive to control the income that it generates and the expenses that it incurs, including indirect and overhead costs. Control over income may include the determination as well as the receipt of fees. Control over expense includes local options for securing goods and services that otherwise would be available only through central university service units. This has a highly decentralizing effect by locating many decisions involving the generation and management of resources at different locations in the university, locations at which, in theory, there is greater familiarity and knowledge about the connections between budgets and programs. This implicitly redefines the conventional understanding of "academic oligarchy," "academe," and "manager," depending on which view of Clark's triangle is taken. What it suggests is an institution and in turn a system that comprises a series of sub-triangles in which the centre of gravity among the three legs can vary (Musselin 2004; Maggio, 2012; Salazar & Leihy, 2013).

A major difference between the nomenclature of incentive funding and that of incentive-based budgeting is the meaning of "cost." Cost in terms of incentive funding means the cost to government, and means only the cost of inducing a particular performance on the part of institutions as a "market" otherwise would. Cost in terms of incentive budgeting means all costs – direct, indirect, and overhead or infrastructure – and, because of the

inclusion of all revenue, also means net revenue or cost to the college.

Incentive-based budgeting emphasizes and exposes costs that are often known but not recognized, or are deliberately not known because of their strategic implications (Gillen, Denhart, & Robe, 2011). While this demands a sound methodology for attributing costs, its ultimate purpose is not to account for costs. There are other reasons for an institution's wanting to know about its cost and income structures. The most obvious of these reasons are to account fully for the costs of research and to ensure that ancillary services or satellite campuses that are supposed to be self-funding, really are. Less obvious but perhaps ultimately more important is to understand better the dynamics of marginal costs and marginal revenues. This is exactly the type of decision that colleges have to make about responding to performance funding incentives. It is also the type of decision that governments, as designers and proponents of performance funding, often do not, in Scott's (1998) terms, "see." Said another way, the fact that Clark saw a triangle of coordination does not mean necessarily that each leg saw the other legs as being part of the triangle, or even that in terms of cost what each leg saw was the same, as Spence (2001) has said is typical of imperfect markets in higher education.

In terms of budget planning, incentive-based budgeting has a salutary but often upsetting "nowhere to hide" effect. When we consider that the basic political economy of any college or university is to optimize the intersection of quality and cost for every program we see a necessary and almost automatic connection to performance funding. The costs thus identified are the costs that the university "managers" can connect to the marginal income generated from "state authority" performance funding. Having made that connection the college can make an informed decision whether or not to respond to the performance funding incentive. There is evidence from Ontario that colleges do make this type of decision in response to "Key Performance Indicator" funding incentives (McColm, 2002; Callahan, 2006).

If we examine individual performance indicators carefully, we see that most of the "performances" that the indicators measure do not really operate at the institutional level. Here we learn an important lesson: although the momentum of incentive-based budgeting is in direction of decentralization, the effect of incentive funding is in the direction of centralization.

Challenges at the Interface between Incentives

What happens when the two forms of incentive bump into one another, as they are already beginning to do in some jurisdictions? Some challenging behaviour is endemic at the interface.

Finding the right level of aggregation is as essential as it is difficult. Porter said that "diversified companies do not compete; only their business units do." (Porter, 1996) This applies to universities and colleges. They are very diversified. Porter's proposition is fundamental to most forms of incentive-based budgeting, which in effect push planning and budgeting down to the level of faculties as "business units." If we examine individual performance indicators carefully, we see that most of the "performances" that the indicators measure do not really operate at the institutional level.

For example, the Ontario Graduate Survey (Ontario Universities Application Centre, 2009, 2010 2011, 2012), which has been in place for more than a decade, provides empirical examples of this. Rates of post-graduate employment among institutions vary by about five percentage points. Among programs the comparable variance is as much 40 percentage points. Rates of graduation show a similar range of variation between institutional and program performances. Here we learn an important lesson: although the momentum of incentive-based budgeting is in direction of decentralization, the effect of incentive funding is in the direction of centralization.

Is this a problem to be solved or a lesson to be learned? As a problem it is unsolvable, at least by any currently known form of performance funding. Programs are diversified for good reasons. When speaking about entrepreneurial universities, diversification is one of the reasons that Clark offers for a tri-lateral paradigm.

Let's say that the absence of institutional differentiation is an institutional behavioural problem that a system using its "state authority" could solve by offering incentives. Here we enter a problematic middle ground between system performance and institutional performance. Performance funding can have externalities that are a consequence of an activity between two parties – for example, a government and a university or system of universities– that has an unintended effect on other parties or "performances." (Lahr et al., 2014). In this case, using rate of graduation as an example, if program diversification were reversed by the incentive of performance funding students might end-up with less curricular and program delivery choice, and employers might end-up with graduates whom they regard as less prepared. This explains the need to insert "markets" and "users." Are they the same? In the case of professional programs, third-party regulators (of which government often is one) have powerful influences on the structure and content of programs. There is plenty of evidence that program structure and anticipated employment have strong effects on retention and graduation. (Angrist, Lang, & Oreopoulos, 2006; Adams & Becker, 1990; Lang et al., 2009). Professions and labour-intensive industries, such as those typically served by colleges, in this context users could be just as reasonably described as curbs to market behaviour as promoting market demand. In other words, they could belong to the "market" leg or to the "state authority" leg.

Performance funding as an incentive to change institutional behaviour works when performance funding matches, at least approximately, the cost of performing. That sounds like common sense, but it is the shoal on which performance funding most often founders. It founders for three reasons, the first of which is that governments confuse the outputs and outcomes that they hope performance funding will achieve. Let's take the graduation rate as an example again. There are three reasons for the state to desire higher rates of graduation. The economic objective is to expand the supply of human capital. The social objective is equity through access to higher wages and, in some countries, higher social standing. The budgetary or cost objective is to realize a cost advantage by producing graduates at a lower unit cost. Each of these objectives is legitimate as public policy but each requires a different match between metric or performance indicator and the value of the incentive.

Each of these objectives, using the rate of graduation as an example, illustrates the crucial importance of understanding the effect of an intervention – for example, a change in the ratio of faculty to students - and the cost of the intervention, the difference between them and their relationship to one another. The effect of intervention is the change in rate of graduation measured in percentage points. The cost of the intervention is the financial cost of one additional percentage point. The relationship between the two is essentially a cost-benefit ratio. Assuming universities may deploy more than one intervention to improve the rate of graduation, the ratio is the metric that should drive the value or cost of the fiscal incentive. Harris (2013) studied the empirical results of 17 different interventions that were aimed at improving the rate of graduation. The differences between them as cost benefit ratios varied by as much as 400 per cent. The central point here is not which interventions worked and which did not. The point instead is how essential it is to match a financial incentive with its metric.

More significantly, each requires a different amount of funding. “Mix and match” will not work. In some jurisdictions in which this problem is recognized governments rationalize the mix and match practice by assuming that institutional autonomy – the “academe” leg - will enable individual institutions to offset negative mismatches between performance and the cost of performing according to one performance indicator with a positive mismatch according to another indicator. This is a rationalization. It becomes even more so in undifferentiated systems. This is another example of Scott’s description of “seeing like a state” (1998). In terms of Clark’s triangle, the state knows that there is an “academe” leg, the behaviour of which it wishes to change, but does not see the mismatches that the “steering groups of academe” see. As for the “market” or “user” leg, the state acting as a surrogate does not see what the users see either because it does not believe it needs to or because it believes that in an imperfect market users would make bad choices. This is a position taken by the province of Ontario in the 1990s (Lang, (2005).

Until relatively recently, colleges and universities did not understand their costs fully. “State authority” was the trump card in the triangle. Incentive-based budgeting, which analyzes costs more systematically than previous practices was in wide practice, in public universities and some colleges by the latter half of the 1990s (Lang 2002: Dougherty & Reddy, 2013; Gillen, Denhart, & Robe, 2011). Thus when we now talk about the match between performance funding and the costs of performing, institutions know a lot more than they previously did about the costs of the various performances for which performance funding indicators call. In other words, they now can “do the math,” which in many if not most cases means a realization that marginal performance funding is less than the marginal cost of performing. When institutions “do the math” and in turn either respond or not to funding incentives they send a clear signal to the government leg of the triangle about the adequacy of the funding.

A reasonable case can be made that two legs of Clark’s triangle exemplify a principal-agent problem between states as principals and institutions as agents (Figure 5). Principal - agent relationships become problematic when the following conditions are present, either separately or collectively:

- Agent and principal have different objectives, or at least construe the same objectives in different ways.
- Principals have conflicting or incompatible objectives, as might occur when outcomes are confused with outputs
- Information is asymmetrical in which case the principal lacks information about the agent's behaviour or outcomes of that behaviour or the agent lacks information about the principal's objective.

When performance incentive funding was introduced much of the theory behind the principal-agent problem was theoretical insofar as higher education was concerned. Government, as a principal, provided or otherwise controlled nearly all funding received by public colleges and universities. Universities and colleges, as agents, were managed centrally or "top down." There was one principal and one agent (Van Vught, 1993). This explains well two of Clark's triangles three legs.

As governments cutback funding for higher education they become minor or at least smaller shareholders and create a financial vacuum into which other principals or "users" are drawn, sometimes as a matter of public policy that encourages universities to seek alternative sources of income. Different principals have different objectives. If they have different objectives they will, for good reason, expect different "performances" from their institutional agents, and devise different performance-funding incentives and indicators. Universities and colleges as agents either with "academic oligarchies" or with "managers" are forced to trade-off among principals or, more problematically, among their principals' performance indicators. This, of course, blunts the effect of performance funding. As performance funding becomes less powerful for these reasons, incentive-based budgeting becomes more powerful because it encourages and rewards efforts to diversify and expand revenue to replace reductions in public subsidies.

Universities and some colleges have also changed in ways they perform as agents. They have become de-centralized in budgeting and planning, and have brought more stakeholders into governance. Some stakeholders, for example fee-paying students, are in practical effect principals. As users, however, they belong to the "market" leg of the triangle. Agency as measured by several commonly used performance indicators has moved from the institutional level to the faculty level. Deans instead of presidents and provosts become the "academic oligarchs," and thus the real respondents to performance incentives. This behaviour is more prevalent in colleges than universities because there is less inter-disciplinary cross-registration among college programs than there is among university programs (College-University Consortium Council, 2007; Lang, 2009).

Donors are becoming more frequent principals, often with the encouragement of government. This in turn engenders further confusion. While institutions see donors as principals, governments may see them as agents whose private wealth may be leveraged to replace public subsidies as incentives. This is the public policy concept that underpins government "matching" programs that function as de facto performance funding.

Collision or Symbiosis: the Future of the Triangle

There are several possible scenarios of the relationships among the three legs of Clark's triangle. In the first "state authority" will not be able through performance funding to communicate sufficiently to influence the behaviour of "academe." "Managers" empowered by incentive-based budgeting, may respond more to "users" than to the state. In others, Van Vught's two dimensional paradigm moves symbiotically in the direction of Clark's multi-dimensional "triangle" as an entrepreneurial third leg develops. This is an evolution that Clark himself anticipated in his 1998 and 2004 discussions of entrepreneurial universities.

In another scenario we can draw some generalizations from the experience in Canada. In some respects this has already happened in two provinces. Performance funding in Alberta and Ontario is still in place, but each of those provinces in different ways has moved on to prescriptive measures that are more compliance sticks than incentive carrots. Additionally, in Alberta, as in Switzerland, the view seems to be that the most effective way to force universities to operate more efficiently – instead of replacing public funds without improving efficiency - is to reduce their funding (Barnetson, 1999; Barnetson & Boberg, 2000; Schenker-Wicki & Hurlimann, 2006). This coincides with Martin's (2012) view that as long as additive revenue is not available, institutions they will not reallocate existing resources in response to public policy preferences. In this – a collision scenario - Clark's triangle will "churn", as envisioned by Jongbloed (20, as government, acting on behalf of or in nominal response to market "users, "will in turn compel "academe" to modify its behaviour in conformity with government policy, which in Burke's (2004) view, may become more "political." This view coincides with Van Vught's (1993) schematic observation that strong state bureaucratic intervention renders Clark's (1983) three dimensional "triangle" model two dimensional by eliminating the entrepreneurial or "market" leg, and thus reinforcing monopsonistic behaviour. We see some evidence of this in Ontario where "strategic management agreements" between government and institutions, and on which some funding depends, dilutes the force of the entrepreneurial leg by, in practical effect, giving government all the trump cards in deciding to which market incentives colleges and to some degree universities should respond.

If declines in public funding for higher education further weaken the impact of public performance funding on university behaviour resource dependence will shift to other sectors: corporate and private philanthropy, students and parents, foundations, and "private partners" – all of whom will seek "performances" that advance their interests. Performance funding will cease to be a monopsony as there will be multiple "buyers" of performance. Some American states are beginning to include private philanthropy as a metric for performance funding (Jones, 2103). This fits Clark's "triangle of coordination" in the sense that philanthropy and other sources of private funding strengthen the third entrepreneurial leg and weaken the state and academic oligarchy legs. This is a transition that universities and colleges can better manage by incentive-based budgeting. In that case, the outcome will be symbiotic.

Transfer or "articulation" between colleges and universities is a policy priority in many North American jurisdictions, and is particularly so in several Canadian provinces. This is a policy that inherently assumes or at

least seeks symbiotic behaviour between colleges and universities. Will Clark's triangular paradigm have an application to articulated transfer? It will in binary systems in which boundaries between colleges and universities are definitively demarcated, as they are in some, but not all, Canadian provinces. Of the three legs of the triangle policy that which connects the "market" and "academe" intersections will be critical in promoting articulated transfer "pathways" between colleges and universities. Here the understanding of legs as dynamic vectors is essential. In terms of program delivery or, more to the point what students see, the "pathways" are bipartite, involving only the "market" and "academe" legs as dynamic forces that result in symbiotic behaviour along the single vector. The government or "state" uses incentive funding to promote the behaviour or "performance." The symbiosis, however, may break down and lead to conflict if the funding is not reflective of the cost. This, as discussed, is always a potential problem for incentive funding. But in the case of transfer "pathways" it is a particularly contentious problem when coupled with incentive-based budgeting. If both or even only one of the partners in a "pathway" knows that the marginal "incentive" revenue will be less than the marginal cost of the "performance," Peter will try to rob Paul, thus undermining the cooperation on which the "pathway" depends (Thompson, 2007; Boggs & Trick, 2009).

In the final scenario, as some voices are already beginning to argue, public systems of higher education may become too big, too centralized, and too complex to be managed "top-down" successfully (Callan, 1994; MacTaggart, 1996; Gaither, 1999; Berdahl, 2000). Clark himself points to this possibility in his analysis of entrepreneurial universities (Clark, 2004). There is considerable evidence that allowing greater autonomy may be a more powerful incentive than performance funding. (Clark, 1998; MacTaggart, 1998; Maxwell et al., 2000; Altbach, 2004). Governments may continue to use incentive funding, but will allow more permutations and combinations among performance indicators in order to promote diversity over isomorphism (Jones, 2013; Weingarten & Deller, 2014). This scenario will encourage incentive-based budgeting as "managers" and "steering groups" seek to optimize revenue among more numerous possibilities, such as those that Clark cited in his 1998 and 2004 studies of entrepreneurial universities. In Ontario we see some evidence of movement in this direction.

A new charter for colleges at least nominally promotes more diversity and invites college "managers" to respond to "market" incentives as well as "state" performance funding incentives. Two studies in Ontario (McColm, 2002; Callahan, 2006) indicate that colleges are responding selectively to funding incentives. This may not mean that colleges are deploying incentive-based budgeting as extensively as universities are, but it does mean that they are deploying it enough to inform decisions about the marginal effects of incentive funding. Colleges and polytechnics across Canada lobbied to have access to research funding. Now in Ontario, also as a result of the new charter, they do. Like universities which have for some time had to calculate the overhead costs of research, colleges are attracted to incentive-based budgeting because of its capacity to locate and display the net budgetary effect of conducting research.

Will the shape of the triangle change? Because colleges typically have

mandates instead of internally determined missions, the “state” vertex of the Clark’s triangle will, for colleges, continue to be the most dominant. However, it probably will become less dominant, partly because incentive-based budgeting will enable institutions to assess funding incentives more critically as well as more strategically. The “state” vertex itself might promote, either out of fiscal necessity or public policy, greater reliance on the “market” vertex, particularly through public-private partnerships, matching funds, and philanthropy.

References

Adams, J. & Becker, W. (1990). Course Withdrawals: A Probit Model and Policy Recommendations, *Research in Higher Education*, Vol. 31, No. 6, pp. 519-538.

Altbach, P. (June, 2004). The Costs and Benefits of World-Class Universities, *Academe*, pp. 1-5.

Angrist, J., Lang, D. & Oreopoulos, P. (2007). Incentives and Services for College Achievement: Evidence from a Randomized Trial, *Institute for the Study of Labor, Discussion Paper #3134*, Bonn, October 2007.

Barnetson, B., (1999). A Review of Alberta’s Performance-based Funding Mechanism, *Quality in Higher Education*, Vol. 5, No. 1, pp. 37-50.

Barnetson, B. & Boberg, A. (2000). Resource Allocation and Public Policy in Alberta’s post-secondary system, *The Canadian Journal of Higher Education*, Vol. 30, No. 3, pp. 57-86

Ben-David, J., (1972) *American Higher Education*. New York: McGraw-Hill.

Birnbaum, R. (1983). *Maintaining Diversity in Higher Education*. San Francisco: Jossey Bass.

Berdahl, R. (2000). A View from the Bridge: Higher Education at the Macro - Management Level, *The Review of Higher Education*, Vol. 24, No. 1, pp. 103-112.

Blau, P.M. (1994) *The Organization of Academic Work*, Second Edition. New Brunswick, New Jersey: Transactions.

Boggs, A. & Trick, D. (2009). *Making College- University Collaboration Work: Ontario in a National and International Context*, Toronto: Higher Education Quality Council of Ontario, 2009.

Brooks, A. (2000). Is There a Dark Side to Government Support for Nonprofits? *Public Administration Review*, Vol. 60, No. 3, pp. 211-218.

Burke, J., & Modarresi, S. (2000). To Keep or Not to Keep Performance Funding: Signals from Stakeholders, *The Journal of Higher Education*, Vol. 71, No. 4, pp. 432-453.

Callahan, M., (2006). *Achieving Government, Community, and Institutional Goals for Postsecondary Education through Measures of Performance*, Unpublished doctoral thesis, University of Toronto.

Callan, P., (1994/2013). *The Gauntlet for Multicampus Systems*, Trusteeship, May-June, 1994. Canada Foundation for Innovation, *Policy and Program Guide*, Ottawa, May, 2013.

Chan, V., (2014). *Efficacy and Impact of Key Performance Indicators as Perceived by Key Informants in Ontario Universities*, Unpublished doctoral thesis, University of Toronto.

Clark, B.R., (1998). *Creating Entrepreneurial Universities*. Oxford: Pergamon.

Clark, B. R. (2004). Delineating the Character of the Entrepreneurial University, *Higher Education Policy*, Vol. 17, pp. 355-370.

College-University Consortium Council, (March, 2007). *College-University Transferability Study*, Toronto.

Cooke, M. & Lang, D. (2009). The Effects of Monopsony in Higher Education, *Higher Education*. Vol. 57, No. 4, pp. 623-639.

Dougherty, K. et al., (2011). *The Politics of Performance Funding in Eight States: Origins, Demise, and Change*, New York: Community College Research Center, Columbia University.

Dougherty, K. & Natow, R.S., (2010). *Continuity and change in long-lasting state performance funding systems for higher education*, CCRC Working Paper No. 18, New York: Columbia University, Teachers College.

Dougherty, K. & Vikash R., (2013) *Performance Funding in Higher Education*, Hoboken, N.J.: Wiley.

El-Khawas, E. & Massy, W. (1996). "Britain's 'Performance-Based' System," in William Massy, *Resource Allocation in Higher Education*, Ann Arbor: University of Michigan Press, pp. 223-242.

Gaither, G., (1999). *The Multi-campus System: Perspectives on Practice and Prospects*, Sterling Virginia: Stylus.

Gillen, A., Denhart, M. & Robe, J. (2011). *Who Subsidizes Whom? An Analysis of Educational Costs and Revenues*, Center for College Affordability and Productivity, Washington.

Harris, D., (2013) *Stretching the Higher Education Dollar*, Special Report No. 2, Washington: American Enterprise Institute.

Hearn, J., et al., (2006). 'Incentives for Managed Growth': A Case Study of Incentives-based Planning and Budgeting in a Large Public Research University, *The Journal of Higher Education*, Vol. 77, No. 2, pp. 286-316.

Jones, D., (2013). *Outcomes-based Funding: The Wave of Implementation*, Washington: NCHEMS,

Jongbloed, B., (2003). Marketization in Higher Education, Clark's Triangle and the Essential Ingredients of Markets, *Higher Education Quarterly*, Vol. 57, No. 2, pp. 110-135.

Kirp, D. & Roberts, P. (Summer, 2002). Mr. Jefferson's university breaks up, *The Public Interest*, pp. 70-84.

Lahr, H., et al., (November, 2014). *Unintended Impacts of Performance Funding*, CCRC, Teachers College, Columbia University, Working Paper No. 78.

Lang, D., (2002). Responsibility Center Budgeting and Management at the University of Toronto, in Douglas Priest et al, *Responsibility-Centered Budgeting Systems in Public Universities*, Northampton: Edward Elgar, pp. 109-136.

Lang, D. (2005). Formulaic Approaches to the Funding of Colleges and Universities, in Nina Bascia et al., eds. *International Handbook on Educational Policy*, Manchester, U.K.: Springer.

Lang, D., (May, 2009). Does the Level of Tuition Fees Affect Student Retention and Graduation? Canadian Society for the Study of Higher Education Annual Conference.

Lundsgaard, J., (2002). Competition and Efficiency in Publicly Funded Services, *Economic Studies*, Vol. 35, No. 2, pp. 79-128.

MacTaggart, T., (1998). *Seeking Excellence Through Independence*, San Francisco: Jossey-Bass.

Maggio, Z., (2012). *Exploring Burton Clark's Triangle, A Symposium on Kerr's Life, Work and Legacy*, The Steinhardt Institute for Higher Education Policy, New York University, October 2012.

Martin, R., (2011). *The College Cost Disease: Higher Cost and Lower Quality*, Northampton, MA, Edward Elgar, Ltd.

McColm, M., (2002). *A Study of Performance Funding of Ontario CAATs*, Unpublished doctoral thesis, University of Toronto.

McKeown-Moak, M. P., (2013). The 'New' Performance Funding in Higher Education, *Educational Considerations*, Vol. 40, No. 2, pp. 3-12.

Maxwell et al., J., (December, 2000). State-Controlled or Market Driven? The Regulation of Private Universities in the Commonwealth, *CHEMS Paper No. 31*, CHEMS, Association of Commonwealth Universities.

Meshreky, M. (September, 2008). Beyond RCM-Innovative University Budget Models, Custom Research Brief, University Leadership Council, Washington, D.C., September.

Miao, K. (2012). *Performance-based Funding of Higher Education*, Center for American Progress, 2012.

Musselin, C. (2013). *The Long March of French Universities*, New York: Routledge-Falmer, 2004. National Center for Education Statistics, Institutional Retention and Graduation Rates for Undergraduate Students, *The Condition of Education 2013*, Washington: U.S. Department of Education.

Ontario Universities Application Centre, Ontario University Graduate Survey, September 2009.

Porter, M. (1999). "What is Strategy?" *Harvard Business Review*, Nov/Dec96, Vol. 74 Issue 6. Rau, E., Performance Funding in Higher Education: Everybody seems to love it but does anybody really know what it is? paper presented at the EAIR 21st Annual Forum, Lund University, Sweden.

Salazar, J. & Leihy, P. (2013). Keeping up with coordination: From Clark's Triangle to Microcosmographia, *Studies in Higher Education*, Vol. 38, No. 1, pp. 53-70

Salmi, J. & Hauptman, A. (2006). Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms, Education Working Paper No. 4, Washington, The World Bank.

Schenker, W. & Hurlimann, M. (2006). Performance funding of Swiss universities – Success or failure? An *ex post analysis*, *Higher Education Management and Policy*, Vol 18, No 1, pp. 45-61.

Schmidt, P. (February 22, 2002)., Most States Tie Aid to Performance, Despite Little Proof That It Works, *The Chronicle of Higher Education*, pp. 21-22.

Schmidlein, F. (1999). Assumptions Under lying Performance-based Budgeting, *Tertiary Education and Management*, Vol. 5, pp. 159-174.

Scott, J. (1998). *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven: Yale University Press.

Slaughter, S. (Sept/Oct 2001), Professional values and the allure of the market, *Academe*, Vol. 87, No.5, pp. 22-26.

Spence, M. (December, 2001). *Signaling in Retrospect and the Informational Structure of Markets*, Nobel Prize Lecture, Stockholm, Sweden.

Thompson, C. (2007). What Form of Collaboration is Best for Nursing? Unpublished doctoral thesis, University of Toronto, 2007.

Transfer, Choice, and Articulation in a Binary Post-secondary System, *Higher Education*, Vol. 57, No. 3, March 2009.

Van Vught, F., (1993). *Policy Models and Policy Instruments in Higher Education: The Effects of Governmental Policy-making on the Innovative Behaviour of Higher Education Institutions*, Center for Higher Education, University of Twente, 1993.

Ziskin, M., (March, 2014). *HEQCO Project on Outcomes-based Funding of Higher Education*, draft report, Indiana University Project on Academic Success.

End Note

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