

Reflection and constitution of “new” public service and “new” university education in and through curricular accounting

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Abstract

Purpose – Credit, credit points, course weights, levels of learning, level descriptors, learning outcomes, and related characteristics of course catalogues, qualification frameworks, resource allocation practices, credit transfer systems and student records, transcripts and diploma supplements comprise curricular accounting, a form of accounting whose practices have become more obvious in recent times as a means to specify, record and control learning in higher education. These times have also been ones over which universities, ancient and modern, have been influenced by such policy movements as “‘New’ Higher Education”, “‘New’ Public Management” and “Structural Adjustment”. This study considers the inter-relatedness of these two series of changes, addressing the questions of how curricular accounting has come to reflect these policy movements; and how curricular accounting has influenced or helped constitute them.

Design/Methodology/Approach – The subject is addressed in the context of accounting in organisations and society. In a broader, longitudinal study of the phenomenon of curricular accounting, the former University of New Zealand and its affiliate in Christchurch, New Zealand, and the successor of that affiliate, *Te Whare Wānanga o Waitahā* /the University of Canterbury, were used for archival study and participant-observation. The credit system used at the University of Canterbury in 2010 was analysed retrospectively and genealogically, through antecedent arrangements back to the founding of Canterbury College in 1873. Ideas were used of representational schemes of and negotiated orders among parties associated with the case institution, and of changes in these being path-dependent. In the present paper, particular attention is paid to how and why, in the years since about 1984, curricular accounting evolved alongside revolutionary changes to New Zealand public services and associated changes to New Zealand’s universities and its higher education system.

Findings – The retrospective analysis illuminates how and why changes to public services and universities re-shaped and re-formed curricular accounting, and how and why curricular accounting came to enable and further fuel the university and higher education policy system changes. Of particular significance are how, within institutions, curricular accounting has come to figure in steering and controlling academics at a distance; and how, within the public policy area of higher education, similar applies to university institutions and other levels of the policy system through to the core of the Government of New Zealand.

Research limitations/ implications – Curricular accounting has multifarious consequences for students, academics, alumni, universities and similar institutions, higher education, governments and others. The findings are derived from an accounting perspective and there is scope for adding other perspectives. There is much scope for further research, including into similarities and differences in higher education policy systems in other jurisdictions.

Practical Implications – The paper may improve understanding of curricular accounting, including among those practicing it and controlled by it; and it raises issues that are likely to condition further developments.

Originality Value – Curricular accounting is now in the accounting literature.

Keywords Accounting for learning, Regulation of university qualifications, Steering and controlling at a distance, Credit accumulation and transfer, Social and institutional accounting, Path dependence, Genealogical analysis, Retrospective analysis

Paper type Research paper

Introduction

New Higher Education, New Public Management (as distinct from *Old Public Administration*) and *Structural Adjustment* are terms coined for policy movements that have had a variety of political, economic, social and institutional consequences for higher education, public services and the private-public dichotomy of economies (de Boer, Enders and Leisyte, 2007; Deem and Brehoney, 2005; Pollitt and Bouckaert, 2004; Trowler, 2001). In higher education also, a further set of social and institutional transformations have occurred and been characterised by such terms as *massification*, *diversification* and *differentiation* (e.g. see Altbach, Reisberg and Rumbley, 2009; Demeulemeester, 2009). Generally speaking, they have entailed enlargement, and trans-institutional and transnational networking. Although not coterminous with *New Higher Education*, these have overlapped it significantly in timing, philosophies, means and effects, as can be induced from reading Deem's (2004) account of Great Britain and Northern Ireland, and are considered in this paper as part of the policy movements.

The various policy movements and transformations in higher education, or as they have affected higher education, can be identified with propositions made in a seminal paper by Burchell, Clubb, Hopwood, Hughes and Nahapiet (1980) about the emergence of organisational forms with many interdependencies that make them increasingly complex. Burchell *et al.* made these propositions in discussing significant actual and projected extensions of accounting in the functioning of modern industrial (and now global) societies. These extensions have come to be equally rampant in new public services, having played a significant part in their emergence from public sector bodies (see Broadbent and Guthrie, 2008, and studies reviewed therein), including in higher education (see Coy, Dixon, Buchanan and Tower, 1997; Dixon and Coy, 2007; Lord, Robb and Shanahan, 1998; Pettersen and Solstad, 2007).

Following Burchell *et al.* (1980), many have shown that these extensions of accounting have been both reflective of and constitutive of the policy movements and transformations (Broadbent and Guthrie, 2008; Larner and Le Heron, 2005; Nagy and Robb, 2008; Newberry and Jacobs, 2008; Pallot, 1998). The accounting in question has made it possible for operating information to be relayed around the networks that characterise these organisational forms; for some people to measure evaluate and otherwise subjugate other people, and so steer and control them, at a distance, according to expectations and priorities they have for service, divisional and organisational performance; and for reports and such like to be distributed according to legal and regulatory requirements, administrative needs and public expectations. Patterns of organisational visibility have been changed, in turn affecting organisational participants' perceptions of the problematic and the possible in wide ranging matters of managerial, organisational and, by inference, service practice, giving rise to changes in these (e.g. see Jacobs, 1995). New accounting practices have emerged during these changes creating further possibilities for change (e.g. DRG-based accounting, as analysed and criticised by Chua, 1995).

In the midst of two higher education organisations caught up in these policy movements and transformations, namely, the Open University and the University of Canterbury (UC)/*te Whare Wānanga o Waitahā*, the researcher has been participating in developments involving some increasingly taken for granted "administrative" devices, and associated processes and records. These include credit, levels of learning, level descriptors, learning outcomes, graduate profiles and related characteristics of course catalogues, qualification frameworks, credit transfer systems and student records, transcripts and diploma supplements, and of quality processes such as assurance of learning (e.g. see European Commission, 2009a,

2009b). Seizing on the possibility of these developments being a new form of accounting, one actually referred to as *curricular accounting* by Theodossin (1986) in analysing their antecedents, the researcher studied their growth in importance in higher education and their consequences. This study was conducted at a particular institution, namely UC, but in the context of its national New Zealand setting and its international dealings. The researcher quickly established that in recent decades, in the Pacific-Asia region and elsewhere, various numbers, and associated inscriptions and calculative practices, have featured increasingly in the devices being studied. One set of numbers is that given to levels of learning, which, along with narrative level descriptors and learning outcomes, purport to indicate qualities of learning[1]. More obvious and elaborate, however, is the use of credit points, a set of numbers that are purported to quantify volumes of learning entailed in courses and qualifications.

These two sets of numbers are now important within individual institutions, across institutions within the same national higher (or tertiary) education jurisdiction, and across several such jurisdictions. Examples of the latter include the Credit Accumulation and Transfer Scheme/System (CATS), which originated in Scotland; the European Credit Transfer Scheme (ECTS), which having been developed to aid international credit transfer within Europe (see Adam, 2001; “ECTS user guide”, 2009; European Commission, 2009a), has been gradually displacing individual country systems of credit accumulation; and the Student Credit hour System, which is in wide use in North American higher education jurisdictions and pre-dates CATS and ECTS by at least several decades (Butler and Hope, 2000). Worth reiterating and exemplifying is how these numbers are evident in national qualification frameworks, such as the New Zealand National Qualifications Framework (New Zealand Qualifications Authority (NZQA), 2007), and transnational qualification frameworks, such as the European Qualifications Framework (Bologna Working Group on Qualifications Frameworks, 2005). It is claimed that the latter framework, “acts as a translation device to make national qualifications more readable across Europe, promoting workers' and learners' mobility between countries and facilitating their lifelong learning” (European Commission, 2010).

Whether these numbers, inscriptions and practices represent a new accounting is a moot question. Without prejudice to this question, the shorthand *curricular accounting* is used to refer to them below. Moreover, the researcher treated this inquiry as accounting research and took an approach suited to dealing with possibilities of new forms of accounting, as suggested by Burchell *et al.* (1980, see p. 23 especially) and elaborated in the method section, but not reported anywhere as having been used since. This approach resulted in a study that was retrospective, genealogical and longitudinal, tracing modern day *curricular accounting* back to how and why the institution that is now UC was founded in 1873 as the Canterbury College of the University of New Zealand. The study data were organised using ideas of negotiated orders and representational schemes among parties associated with the case institution, and of changes in these being path-dependent.

The present paper is drawn from this near 140-year study, and particular attention is paid here to how and why, in the years since 1984[2], curricular accounting has been evolving alongside the policy movements referred to at the start of the paper as affecting the private-public dichotomy of economies and the nature, philosophy and financing/funding, among other things, of public services (including higher education), which in New Zealand have been widely reported as revolutionary (see Boston, Martin, Pallot and Walsh, 1996; Coy, Tower and Dixon, 1991; Erenstrom, 1997; Francis, 1997; Halligan, 2007; Jacobs, 1997; Kelsey, 1997; Newberry and Jacobs, 2008; Pallot, 1998; Scott, 2001). The paper is focused on the inter-relatedness of these two series of changes. The researcher's purpose is

illumination, not only at the case study site but across tertiary education in many countries. The questions addressed are:

- how has curricular accounting been reflective of these policy movements and transformations?
- how has curricular accounting influenced or helped constitute them?

Various issues are analysed, including those that are contentious now. Compared with the several education administration and related discipline studies already conducted of credit systems (e.g. Adam, 2001; Allen, 1995; Bekhradnia, 2004; Butler and Hope, 2000; Restrepo, 2008; Theodossin, 1986; Trowler, 1998), a great deal more heed is taken of the numbers and calculations they now involve. Thus, even if curricular accounting is not accounting, the researcher fills a significant gap in the literature about the devices and so on comprising credit systems by illuminating the calculative practices they entail.

In the next section, more information is provided about methodology and method. That is followed by a review of literature used in the subsequent analysis and interpretation section, in which the two questions above are addressed. The conclusions at the end are accompanied by suggestions for further research.

Methodology and method

As foreshadowed above, the present paper is drawn from a study of a near 140-year period, as it has turned out. Taking a constructivist approach (see Jacobs and Manzi, 2000), crafting the study (including deciding what period should be studied to advantage), generating and analysing data and theorising were done side-by-side and with purposes of illumination and reconstruction. The researcher followed lines of inquiry adapted from Burchell *et al.* (1980, see p. 23 especially) suited to dealing with possibilities of new forms of accounting. These lines of inquiry were settled on early in the study, as follows:

- How does what might arguably be labelled *curricular accounting* function officially in and around UC in 2010?
- How has *curricular accounting* emerged and developed and who has been involved and what issues shaped it?
- How has *curricular accounting* become intertwined with other aspects of life; and what consequences have arisen?

The purpose was to enlighten those to whom knowledge about this barely identified form of accounting (or not-accounting) would be significant, by analysing and interpreting the ideas and practices it entails from their beginnings through to current practices. Among the target audience would probably be practitioners of curricular accounting and those affected by its practice, and those who are called on to extend or change this accounting, and those considering how this accounting might or should change in future. This purpose is one for which retrospective analyses of extant social orders are suited. Such analyses are about informing social orders of the present and future by investigating temporal processes associated with their emergence up to the present day. They are predicated on the idea that “Placing politics in time – systematically situating particular moments (including the present) in a temporal sequence of events and processes – can greatly enrich our understanding of complex social dynamics” (Pierson, 2000, p. 72), and are often associated with the underlying methodological principle captured by the maxim *History Matters*.

Regarding the researcher’s immediate reasons for feeling the need to inform about curricular accounting, since 2007 he had been a participant-observer at UC during much debate, manoeuvring, conflict and negotiation over credit points, learning outcomes and similar

among staff and representatives of students, including on faculty and university level academic committees. For example, proposals were approved in 2008 for all courses at UC to be of a common size of 15 points or multiple of 15 points (UC, 2009b); and in 2009 for there to be a common graduate profile for all majors of the bachelor of commerce degree, and this profile became the basis of improving systems of assurance of learning in 2010. During these debates, he gleaned much ad hoc evidence that among the various participants there were significant variations in the meanings being read into the concepts of credit points, course weights, levels of learning, learning outcomes, teaching and assessment. There were further variations between these various participants' meanings and those that could be found in official pronouncements such as UC (2008b) and literature such as Dillon, Reuben, Coats and Hodgkinson (2007). In turn, these variations gave rise to significant disparities among these participants in how important they regarded the concepts, how inter-related or otherwise they saw them, and how they invoked them or were influenced by them in their behaviours as academics, administrators and members of collegial governance bodies.

Regarding process, guided by the above purpose, the researcher pursued the above lines of inquiry simultaneously. In effect, he set out to deconstruct curricular accounting into its present-day components and to analyse their origins and development, as they played parts in how *curricular accounting* has functioned up to the present day in and around the institution that is now UC. Illuminating historical social conditions as being significant in the beginnings of *curricular accounting* through to how it is practiced currently entailed considering the various people involved in the institution over its entire life, and the issues with which these people were involved or concerned. After quickly establishing that the institution's entire life predates UC's formal inception in 1958 by some 75 years, in which it was known as Canterbury University College of the University of New Zealand (1933-1957) and, before that, Canterbury College of the University of New Zealand (1873-1932), the researcher also ascertained that examining people and events over the entire 140 years (i.e. from 1870 to 2010) is relevant to matters that are still current. Indeed, some aspects of the 2010 system trace back to how the founding and early years of Canterbury College was influenced by laymen and professors who looked to and had experience of Oxbridge and the Ancient Scottish Universities (Gardner, Beardsley and Carter, 1973; Hight and Candy, 1927).

The researcher drew on various official sources of evidence held as documents or in electronic form. They included the Calendars of UC and of its forerunners, published annually since 1873[3], and the equivalent for the University of New Zealand (est. c.1870); specimens of student records held at UC and dating back to 1873; records of proceedings of meetings of university and college committees; and reviews of the New Zealand university system carried out by agencies of the Government of New Zealand (hereafter "the Government") (e.g. University Grants Committee Review Committee, 1982). Conventional histories of the University of New Zealand (Parton, 1979) and to mark the 50th anniversary (1923) (Hight and Candy, 1927) and centennial (1973) of the founding of Canterbury College (Gardner *et al.*, 1973) also proved valuable, not only for contextual background but also in prompting detailed inquiries. Editions of *Canta*, the newspaper of the Students' Association, were also consulted. Several academic-managers and officials of UC, Committee on University Academic Programmes (CUAP) and NZQA responded to questions and made comments about the analysis, and an academic staff seminar was held about credit points.

As the researcher collected data he gradually composed a working description and interpretation of extant *curricular accounting* practices and how they had come about chronologically. Then, he carried out a further, genealogical analysis in order to understand present curricular accounting practices as an accumulation of various contingent turns of history (re this mode of analysis, see Foucault, 1975, 1994; Kearins and Hooper, 2002; Miller

and Napier, 1993). The researcher sought out these turns, the details and accidents associated with how and why present practices developed; the conditions arising from time to time that made the changes possible, and the social interactions, negotiations and constrictions that were entailed among actors involved in or influencing UC practices. Specific interest was taken in the often disputed meanings that various protagonists ascribed to the circumstances from which elements of curricular accounting emerged. In keeping with the purpose of the study, these turns were expected to illuminate how practices changed and could change again.

While genealogical modes of analysis are usually ascribed to Foucault, using his modes of analysis does not necessarily mean using his theories. Instead, the study data were organised using ideas of representational schemes of and negotiated orders among parties associated with the case institution, and of changes in these schemes and orders being path-dependent. Having espied the possibility early on in the study of regarding curricular accounting as having emerged alongside changes to patterns of visibility in higher education, the researcher pursued the second line of inquiry above, of how *curricular accounting* has emerged and developed and who has been involved and what issues shaped it? This particular line is in keeping with Pierson's (2000) argument that, in performing a retrospective analysis of an extant social order, answers to the questions of why, where and when are vital. Furthermore, by tracing how structures, processes and related matters evolve and influence each other over time, one should be able to induce a pattern of dependence of that order on previous orders. Expectations are that emergent alternatives will be incorporated into existing structures if they do not generate much conflict between actors with vested interests in various alternatives; and that emergent alternatives, if adopted effectively, become more consistent with established practices, and so manifest an apparent tendency of path dependent change.

As to social order itself, Rahaman and Lawrence (2001) are relevant in this respect. In relation to studying accounting in the Pacific-Asia region, they adopted the idea of negotiated order: that is, social order among organisational participants is the consequence of recent negotiations, which are themselves dependant on previous social orders and past negotiations among participants. They attribute the idea to how participative mechanisms of social change were incorporated in the structure of democratic societies as they came to be known in various places during the 20th century. Negotiations in organisational settings became a central element in organising and controlling behaviour occurring in these settings. As just outlined, such was the case at UC in relation to curricular accounting developments from 2007 to 2010, and earlier, as the researcher discovered.

As for organising the data, by recording a negotiated order, or several of them, as result of his early inquiries, a further theoretical frame the researcher adopted was the idea of representational logics or schemes (see Dillard, Brown and Marshall, 2005; Dillard, Rigsby and Goodman, 2004). This idea is also predicated on premises associated with negotiations and other interactions and with order. The interactions arise within an organisation's legally demarcated boundary and outside it; and at any one time, the extant order is both internal and external to the organisation. Changes in order comprise the organisation's history, during which it is an arena of cooperation and conflict. The changes are of various magnitudes and derive from negotiations conducted among all the social actors and their groupings[4] albeit on unequal footings. How and why interactions transpire reflect both the interests that these social actors have across time in the organisation and other organisations and social units, and the differences in knowledge and influence of these actors, which will vary as a result of previous negotiations and the social order arising out of them. The structural contexts within which interactions occur are a product of the negotiated order, and so are as inconstant and transient as other aspects of the socially constructed organisations. So too are the rules and procedures of organisational functioning.

Having recognised these various matters, possibilities arise not only of mapping each order as a representational scheme of activities, events, behaviour and values, but also of showing each order/scheme on a trajectory from a previous negotiated order, through the present order and to a next order. In particular, starting from a situation when most participants find the extant version of the representational scheme that they are experiencing sufficient for going about their activities, and any who do not are expected to work with it anyway, one can try to identify internal and external participants (or aspiring participants) who are prepared to dispute the status quo and campaign for social, economic, technological and political changes. One can then examine some routine activities during the subsequent period looking for modifications they have precipitated to anything ranging from how some basic idea has been applied to revisions so major that a replacement representational scheme has transpired. An example of a collection of routine activities that have gone through a series of changes within the representational schemes in and around the institution that is now UC are the systems and related paraphernalia that are referred to in this paper as curricular accounting.

Further to what is said above on the matter of path dependence, the researcher was soon aware that while interactions and negotiations in the organisational setting he was observing historically and currently could have led to potential inconstancy and transience, that they were usually carried out by persons whose involvement in the setting was usually medium to long term had given rise to whatever transpired at particular moments having had major lasting influence. This last point resonates with path dependence theory for analysing changes, which Jacobs, Jones and Modell (2007) applied in relation to influences of New Public Management on parliamentary financial oversight in New Zealand and neighbouring places. They theorised that as changes are made, participants' perceptions of existing structures, processes and related matters condition the choices that are inherent in the changes that are made, and so past structures, processes and related matters have a major and lasting influence on those that follow from time to time. Thus, the new derives from and in part incorporates what went beforehand; and what went beforehand constrains how and why structures, processes and the like develop, and in doing so other possible and probably more radical trajectories are precluded. Change analysed from a path dependence stance therefore tends to be more evolutionary than revolutionary; and it tends to be more muddled with mixes of the desired and the compromised, not to mention the intended and unintended. As Jacobs *et al.* point out, path dependent change is more likely to occur if existing structures, processes and related matters have a tendency to determine individual and collective expectations and adaptations. There is a greater likelihood of existing ones being retained than there is of completely new alternatives being put in their place, but the retained ones are likely to be in a modified form, so as to obtain the advantages sought from making changes in the first place (e.g. to reduce occurrences that are problematic). Modified existing forms will be especially preferred over new alternatives if the latter are matters of dispute and their success is uncertain (see also Greener, 2005; Kay, 2005; Mahoney, 2000).

Having carried out the study to the point where the data were in provisionally organised, analysed and partly interpreted, the researcher used three themes of longstanding significance he had discerned and used these to try to bring the study to fruition as published articles. It is one of these themes with which this particular paper is concerned, namely, the reflection and constitution of "new" public service and "new" university education in and through curricular accounting. The other two themes were around the setting, policing, evaluating and raising of standards/qualities of university-student learning and assessing the equivalence of such learning; and university enlargement. These are dealt with in detail in other papers (see Dixon, 2010a, 2010b), but in so far as they are relevant to this paper, they are reviewed with other literature in the next section.

Literature review

The several ideas reviewed comprise universities as organisations and their place in society; the *Rogernomics* and subsequent New Public Management and New Higher Education reforms in New Zealand and elsewhere, and accounting issues pertaining to these New movements; and credit systems and qualifications frameworks. The relevance of these ideas to this paper was discerned by the researcher as he proceeded to carry out the constructivist study described in the previous section.

Universities as organisations and their place in society

To analyse genealogically how and why curricular accounting has come about in universities is in some ways to analyse universities as organisations and their place in society. The literature on this is extensive. In a review of English-language literature mainly from the United States of America (USA) and Britain, Patterson (1990) concludes that how theorists portray universities varies widely, in attempts to understand their idiosyncrasies and complexities[5]. These include political control theories, of which two (i.e. theories of negotiated order and of path-dependence) are signalled above as having been identified during the study as being suitable to inform method and analysis. In general, political control functions through knowledge structures and negotiation processes (Rahaman and Lawrence, 2001). These theories are usually associated with attempts to explain such conditions and behaviour as intermittent engagement in decision processes, fragmentation into interest groups with different goals and values, lobbying, stratagems, subterfuge, tactics, coalition forming, inconsistency, and competition for resources. However, political control is a constant in situations where conflicting values exist alongside exercising subjectivity, among other things, to distribute scarce resources (Hofstede, 1981).

In reiterating these points, Patterson (1990) also reviews the more structured political model induced by Becher and Kogan (1980) in attempting to depict higher education in the 1970s in England. Given the close historical ties between English universities and UC and other New Zealand universities (see Dixon, 2010a, 2010b), it is unsurprising that that the classification of actors and other aspects of the model led the researcher to belief that it is of relevance in this paper, hence the adapted version shown in Figure 1. Usefully, Patterson enumerates a series of criticisms of the model, notably that it implies a hierarchical process of judgements, it seems to suggest that only adjacent cells interact and that the tension between levels is endemic, the individual and basic unit levels pursuing autonomy, fragmentation and differentiation, the central authority levels seeking to impose order through bureaucratic controls, and the institution trying to mediate between the two. These criticisms throw up ideas that are vital to understanding the usage of curricular accounting in the changing political system of higher education.

[INSERT FIGURE 1 ABOUT HERE]

Turning to the accounting literature, Coy and Pratt (1998) provide a New Zealand example of the inherent political nature of universities being apparent in times of crises of legitimacy for disciplines/subjects, departments and other units, entire universities or entire higher education jurisdictions, when disagreements about purposes, objectives and actions must be dealt with. However, this nature is equally present at other times, when university participants exhibit cooperation, compromise, negotiation, bargaining and exchange, coalition forming, fluidity, diffusion of authority, decisions and actions, and coordination based on interaction, consensus and beliefs. Through these means, ambiguity of purposes, objectives and actions is dealt with in less conflictual and more collegial ways. Thus, political theories explain their more usual state, and so explain their general dynamic state, as encompassing negotiated

order, founded on organisations being constructed socially through interactions of social actors, during which conflict arises sporadically, as can be induced from Deem (2004), as well as UC's official centennial history by Gardner *et al.* (1973).

Coy and Pratt (1998) and Deem (2004) are also useful in recognising the increasing public accountability and societal responsibilities that have been vested in universities over the last 70 years. In New Zealand they date from the reconstruction period after World War II and the curriculum reforms and enlargement in the 1960s and 1970s, which Dixon (2010a) links to curricular accounting. Incidentally, Becher and Kogan (1992) revised their model to reflect the 1980s in England, to take into consideration greater external influence on operations at all levels of the system and on the professional values at its individual and basic unit levels. Internationally, these increasing responsibilities tie in with the social and institutional transformations mentioned already and characterised by such terms as *massification*, *diversification* and *differentiation* (e.g. see Altbach *et al.*, 2009; Demeulemeester, 2009).

Social and institutional transformations

The terms italicised in the previous paragraph have been invoked to characterise these transformations in higher education occurring in many countries, including New Zealand, the most obvious of consequences of which have included the following. Numbers of students have risen significantly and participation rates are several-fold greater than even a generation or so ago. Numbers of institutions providing higher education have also risen, and there are far more institutions calling themselves universities, or otherwise having degree-granting powers, or that have been accredited to teach and examine students for degrees conferred by other degree-granting institutions or bodies. Huge branching out has occurred in disciplines and subjects. Degree and other awards have broadened and have become more modular and accommodating of student choices. This has led to customisation in knowledge and skills coverage. There has been some national and international integration of qualifications, making it more possible for students to gain a qualification through study with more than one institution and in more than one country. Consequently, students have become more mobile and more knowledgeable of higher education as a market. Fees levied on domestic students entitled to subsidised study have increased relative to government grants and as a proportion of the revenues of universities and other tertiary institutions. Those fees, the equivalent charged by institutions to foreign and other students whose fees are calculated to recover full costs, and significant proportions of grants that institutions receive from governments are linked more closely to an individual student enrolling for a specified course (e.g. re Colombia, see Restrepo (2008); re New Zealand, see Boston (1988, 1996), Dixon (2010a); Larner and Le Heron (2005), and McLaughlin (2003); re Norway, see Pettersen and Solstad (2007); re United Kingdom, see Deem (2004), and Deem and Brehoney (2005)).

New Public Management and New Higher Education, and related accounting issues

It is well established that there was something close to a revolution in New Zealand in the 1980s as to how and why the economy was structured, government was conducted nationally, regionally and locally, and public services were constituted and provided. Macro-level changes, which attracted such labels as *Rogernomics*, *Structural Reforms* and *New Public Management*, were implemented under neo-liberal and related rhetorics of increasing individual choice and business freedoms, providing incentives for enterprise, reducing restrictive practices in capital, labour and other markets, reducing dependency on the state, rolling back the state, getting the Crown (i.e. the Government) out of the red and into the black, eradicating bureaucracy, reducing professional or producer capture, and increasing efficiency, effectiveness, responsiveness, transparency and accountability. They encompassed such changes as reduced fiscal policy style interventions (e.g. subsidies, tariffs, progressive

taxes); greater reliance on monetary policy and delegation of same to the Reserve Bank; deregulation of industry, commerce and government; privatisation of state activities; separation of responsibilities for policy about from delivery of public services; distinctions between inputs, outputs and outcomes in public service delivery; improved autonomy for delivering bodies but greater accountability of their (new) chief executive officers and other managers to the Government as purchasers of services; steering and controlling at a distance using plans and reports; use of business metrics such as return on investment; charging higher prices to users of public services already being charged for; and extending the number of public services that users were charged for (Boston *et al.*, 1996; Halligan, 2007; Kelsey, 1997; Norman and Gill, 2009; Scott, 2001).

These changes were expected to and did permeate to meso- and micro-levels of existing public sector bodies (e.g. see Jacobs, 1997; Norman, 2007; Tooley and Guthrie, 2007), arguably changing the focus of analysis from public sector bodies to public services (Broadbent and Guthrie, 2008). However, they were not all of the same ilk, as demonstrated by Pallot (1998), who separated them and used the resulting classification to suggest that having emerged from a period up to 1978 that she refers to as the traditional phase, there were three main phases to the reforms in New Zealand: the managerialist phase (1978-85), the marketisation phase (1986-91) and the strategic phase (since 1992). The researcher concurs with this classification, but as alluded to above, finds the periods are each a few years earlier than his recollection of the years 1987 to 1997, when he was teaching and researching public sector finance and accounting at Massey University.

The universities were caught up in some of the across-the-board changes during the 1980s and although changes peculiar to tertiary education did not really start being implemented until the 1990s, they were being discussed heatedly in the 1980s. For blow by blow accounts during the 1980s, see Butterworth and Tarling (1994) and Patterson (1996), and for an analysis of the issues arising during this period and that have been addressed subsequently, see Boston (1988). Significantly, under the State Sector Act 1988, the roles, responsibilities, accountabilities and conditions of appointment of vice-chancellors were changed, officially at least, in legislation that applied across the whole of the Government and establishing that government departments and agencies should each have a chief executive officer. These officials were all vested with the said roles, responsibilities, accountabilities and conditions of appointment, and became the employers of all staff in their organisations, allegedly so that these officials were freed to manage (Boston, 1992; Newberry and Jacobs, 2008). Among other broad changes within the Government to impact on the universities were accrual accounting and its financial implications, and changes to other financial controls exercised by the Treasury, Audit Office and others over tax-funded spending organisations. These accompanied reductions in government grants that universities were able to negotiate through the University Grants Committee (UGC). Alongside this reduction, the Government introduced a nationally set tertiary student fee in 1989, reflecting its views about users paying for public services and about education comprising much more of a private good, compared with a public good, than had been previously recognised.

Then, in 1990 and 1991, changes were made that at the time were referred to as *Learning for Life* educational reforms. They affected primary and secondary education (see Tooley and Guthrie, 2007) at least as much as tertiary education. Among other things, a Ministry of Education was established with a significantly different role, leadership, set of functions and staff complement from the old Department of Education, which along with the UGC was abolished. The NZQA was also established and given responsibility for quality of programmes and for performing education quality audits. Among the first things the new Ministry did with regard to tertiary education were to specify how and why universities and

other tertiary education institutions were to publish annual reports, ones that were far more comprehensive than hitherto as to objectives, targets, budgets, educational and financial performance, resources, assets, liabilities and trends; and to introduce the Equivalent Full-Time Students (EFTSs) Funding System, including how much funding was to be provided based on each student enrolment by type of course (i.e. the funding category the course is classified within (see Funding Category Review Project Group, 2005; TEC, 2010c)) and how funding was to be agreed by the Ministry with each university (Coy *et al.*, 1991). Under this new system, each university continued receiving an annual general grant but it now came directly from the Ministry of Education and not through an intermediary (i.e. the UGC), and it was said to be in return for planning to deliver and actually delivering student and research outputs, mostly up to limits negotiated annually in advance between the Ministry and the recipient, so as to contain the total of the grants that would be met out of the Government's Vote Education. The grants were intended to finance capital and undertake research, as well as to teach students, but as most of the money shared was done so on the basis of the quantity and mix of EFTSs[6], the system was much more market-oriented and student demand driven than the previous system[7].

Alongside introducing the EFTSs Funding System, the Government abolished the nationally set, one-amount-applies-to-all tertiary student fee introduced in 1989 and put the onus on each tertiary provider to set fees for its courses. These were initially set at close to the previous nationally set rate, and mostly were applied without regard to the discipline of courses, but soon they were differentiated by discipline (or more precisely by funding category) and have increased several fold in the two decades since, albeit that frequently the Government has restricted the rate at which universities could increase them.

In terms of Pallot's (1998) classification, the 1991 reforms were largely of the marketisation variety, being characterised by the combination of managerialist ideas with economic theories that emphasise individualistic self-interest, competitive markets and contracts. Faced with these changes, which were sudden in their details if not in their principles, while on each university campus the responses were various (see below), collectively, the universities tried absorbing some of the changes. In particular, the New Zealand Vice-Chancellors' Committee (NZVCC) (now called Universities New Zealand (UNZ)) (est. c.1960) took advantage of being vested with some of UGC's statutory duties and resources. Wary of the Ministry and NZQA, in 1991, NZVCC set up CUAP to oversee qualifications awarded by the universities and to liaise with NZQA, which fulfils this function statutorily and for other tertiary education institutions (UNZ:CUAP, 2010)[8]; and, in 1993, NZVCC set up the New Zealand Universities Academic Audit Unit (NZUAAU), also as a buffer to NZQA intervening in universities via the means of educational audits, or so it would seem (Larner and Le Heron, 2005).

Many further changes since have gradually ushered in what Pallot (1998) refers to as the strategic phase, being characterised by an emphasis on "whole-of-government" strategising in the longer-term and efforts to overcome the fragmentation of the tertiary education sector encouraged during the marketisation phase. Of significance has been that the capital financing and funding mechanisms have been changed incrementally, and strategic planning documents, enumerating outputs and targets, have become the basis of funding agreements between each institution and the responsible government agency (e.g. see UC, 2002, 2007b). The latter term is used because of a significant change in 2003, namely the Tertiary Education Commission (TEC) was established and vested with responsibilities that the Ministry of Education had had in regard to administering the funding system and related matters. Envisaged as a buffer body between the Government and the universities, NZVCC supported the concept "as a source of independent advice with some similarities to the former

University Grants Committee” (‘Questions raised over HEFCE’s future’, 2008).

Subsequently, the funding system was altered such that there is now a distinction between the Student Achievement Component, which comprises (the majority of) funding allocated using EFTSs, almost as before, and the *tertiary education organisation component*, which comprises funds allocated to finance new investments[9] and funds allocated on the basis of research performance, the so-called Performance-Based Research Fund or PBRF (TEC, 2010b). In 2006, TEC took in the Tertiary Advisory and Monitoring Unit, which had emerged a few years earlier in the Ministry as a means of monitoring how tertiary education institutions were performing compared with their strategic plans, a significant emphasis being on financial performance and position (see TEC, 2010a).

These various changes have been met with a range of responses from staff and students on the various university campuses, including enthusiasm, acceptance, acquiescence, absorption, and active and passive resistance, UC in particular being slower than most other universities in accepting or acquiescing to ideas of business management and reporting (e.g. see Coy and Dixon, 2004). However, like most of these others, it has, since at least 2003, delegated financial responsibility and budgets to divisional and departmental managers, and requires divisions to produce strategic plans and engage in some strategic planning (e.g. see UC College of Business and Economics, 2009). Juxtaposing this with the Government’s penchant for publishing strategic plans (e.g. *Tertiary education strategy 2010-2015* (Office of the Minister for Tertiary Education, 2010)), one can understand how Pallot (1998) induced the idea of the reforms in New Zealand taking on a strategic phase from the 1990s.

These trends, entailing concerns about the Government interfering and infringing on institutional autonomy and academic freedom, have prompted several studies variously critical of events and involving accounting and accountability but only in more conventional senses, including funding, financial reporting and stretching to performance measurement and reporting, and in the contexts of institutional governance and management (e.g. Blakeman and Boston, 2000; Boston, 1996; Erenstrom, 1997; Francis, 1997; Larner and Le Heron, 2005; Nagy and Robb, 2008) and without touching on curricular accounting matters. Similar is true of accounting studies elsewhere (e.g. Lawrence and Sharma, 2002; Pettersen and Solstad, 2007).

Credit systems and qualifications frameworks

Concurrent with the studies referred to in the previous paragraph, there have been several studies outside accounting and primarily outside New Zealand that have examined curricular accounting matters in the context of reforms in the domains in which they are set. For example, Berkhout and Wielemans (2001), dealing with qualifications as part of the discourse of free markets, express concern about “the increasing propagation . . . of the idea of valid, dependable, fair and authentic evaluation of (learning) achievement in terms of criteria or expected outcomes” (p. 28). Young (2008) argues that qualifications framework, including the national one covering New Zealand (NZQA, 2007), have been developed partly in pursuit of neo-liberal economic aspirations. Trowler (2001) juxtaposes the rise of the CATS version of credit frameworks and the nature of managerialism. He induces that, “education, knowledge and learning are conceived as being atomistic, mechanistic and explicit in character” (p. 185) according to managerialist beliefs and values, thus taking on the nature of commodities (see Lawrence and Sharma, 2002); and shows that credit frameworks are attractive to those professing such beliefs, including that such frameworks provide “considerable administrative advantage managerially” (p. 190). Restrepo (2008) illuminates how the introduction of credit systems can transform the governance and management of a university, change environmental relationships, and inspire “radical changes in terms of

curriculum design, educational structure and content, provision (delivery) of education, the learning process and its assessment” (p. 11), the actual changes possibly being more extensive than those planned.

The studies just cited have paid little heed if any to calculative practices or to accounting in a conventional sense, which is how the present paper adds to the extant literature on this topic. Elsewhere, the researcher reviews the limited usage in the extant literature of the term curricular accounting and similar (see Dixon, 2009). Points worth reiterating here are that Theodossin (1986) associated the popularity modular/credit courses in his American homeland since the second half of the 19th century with attempts at “breaking the stranglehold of the [Oxbridge-inspired] classical curriculum” (p. 5) but had had the significant consequence of a “curricular free-for-all” (p. 5), which was thought to undermine standards, and so was eventually checked by introduction of “a system of ‘concentration and distribution’” (p. 7) involving majors and minors. When coining the name *curricular accounting*, he was discussing the credit system as it was developing in Britain in the 1970s and early 1980s. However, that he used this name in 1986 is probably surprising because, although under development, CATS then was still some way from the CATS that Trowler (1998) reports as being widely used in British higher education, most significantly that the arithmetic of the system’s credit points did not materialise and gain widespread acceptance until the late 1980s and 1990s (Allen, 1995). Indeed, it is worth mentioning that the use of numbers, arithmetic and related calculative practices and bookkeeping records of learning at UC and a few of the other New Zealand universities pre-dates the same in CATS by over 10 years, Vice-chancellor Phillips having implemented a system mostly referred to in official UC documents as the *new degree structure* in 1975, primarily as means of revising its teaching arrangements internally in order to respond to social and academic challenges presented by rapid growths in knowledge and to a demand for persons knowledgeable in multi-disciplinary ways (Dixon, 2009, 2010a).

Two things that the arithmetic introduced into CATS facilitated are student study being recorded not only by module, as Theodossin discusses, but also in a common currency of points and levels within and across higher education institutions; and the value of each person’s study being accumulated over an extended period, to provide what Adam (2001) refers to as “lifelong learning accounts” (p. 302). In seeming to imply that Theodossin (1986) saw CATS merely as bookkeeping among higher education institutions and then taking issue with that, Raban (1990) elaborates on potential ramifications of this and schemes like it and on meanings that they can inspire, considering issues around valuation as well as accumulation and exchange, and noting that CATS has been “a powerful catalyst for change in higher education (in England)” (p. 26), for example, aiding “the (English) Government’s attack on elitism and restrictive practices of the universities” (p. 26).

Journey to the present paper

Through the paper thus far the researcher attempts to cover three things. First, he covers what the present paper is about, setting out, for example, that the questions the researcher is concerned with here are:

- how has curricular accounting been reflective of the policy movements and transformations referred to and reviewed above?
- how has curricular accounting influenced or helped constitute them?

Second, he covers the attitudes and perspectives he brought to the study from which the paper is drawn and relates how he carried out the study. Third, he covers links between, on the one hand, the content and method of the study and of this particular paper, and, on the other hand,

the extant literature on relevant matters. This fourth section attempts to link these things with the fifth section.

As the study journey proceeded, the researcher became increasingly aware that curricular accounting's emergence and development in the domain he was studying has been shaped by various people, and educational, economic, political and social occurrences and issues with which they were concerned, both within the institution and in the dynamics between institutional participants, individually and collectively, and the outside world. Well into the journey, he discerned that three issues have been of particular significance to curricular accounting in its various guises in that each of the three has been the ascendant issue for particular periods. This section enumerates all three issues in order to contextualise and organicise the third issue, which is then dealt with in detail in the fifth section.

Standards, equivalence and quality, as compared with ancient institutions and emerging others in England, Scotland and other European countries, and British-settler countries, is the first issue in terms of being ascendant earliest (c. 1870-1950). The laymen and academics who established or were otherwise involved in Canterbury College (and the University of New Zealand) were concerned recreate in the Colony and Province a great deal of what they saw as good about the places whence they and their ancestors and sponsors came. Their idea for a university was a mix of providing access to education, bringing about the educated population that would be important to the settlement's development; and replicating institution(s) of the Oxbridge and Ancient Scottish universities variety, which would be a matter of Provincial pride. They were cognisant of the shortcomings in secondary education, resulting in students being poorly prepared for tertiary study. But they were also desirous for the standards of qualifications to be raised to those of British universities. From experience of the universities just mentioned and others of similar antiquity (as reviewed by Francis, 1997), they knew basic ideas, structures, processes, practices and the like; and, as notions of path dependency, and indeed mimicry, would lead one to expect, they applied these, as was evident not only in matters of appearance (e.g. ancient stone buildings, formal academic dress) but also structure and process. For example, they recruited staff from Britain, established one university for New Zealand (i.e. the University of New Zealand), and used examiners in Britain to set and mark examinations for degree subjects (Gardner *et al.*, 1973; Hight and Candy, 1927; Parton, 1979). Despite long running criticisms (e.g. see Hunter, Laby and von Zediltz, 1911), those in power were satisfied that these arrangements would establish, maintain and improve standards so that they would gradually align with those in said universities in these mother countries, other Dominions and other mainly-English-speaking countries.

The second issue, in the sense of the next to be ascendant (c. 1950-1985), was that successive Governments wanted institutions to enlarge and to improve quality, and provided means to do this, including a legislative and regulatory framework, capital finance and operating grants. They were pressed in this policy by various societal interest groups, including employers, and political parties leaning to liberalism or leaning leftwards towards emancipation. Enlargement occurred in every sense almost, including in the range of disciplines and course subjects. The latter was also wanted by academics in the newer disciplines, many of which were breakaway disciplines from already established ones. As distinct from quality as some abstract academic notion of learning and educational equivalence to august institutions elsewhere, as per the first issue, the meaning of quality in this second issue extended to responsiveness to economic and other needs of New Zealand society.

The third issue, which has been ascendant since the latter half of the 1980s is that dealt with in this paper. Meanwhile, the first issue is dealt with in Dixon (2010b) and the second one in

Dixon (2010a), both of them continuing today and being important but not ascendant, in the researcher's considered opinion, although as the three are intertwined and often discoursed together, this opinion is debatable. Even so, the third issue is still one worthy of analysis and interpretation. And in order to report this analysis and interpretation, it is useful to add a little more about the periods when first two issues were ascendant and associated matters.

Some aspects of curricular accounting were introduced from England and Scotland in the 1870s. The most obvious examples are how study is separated into disciplines and then into courses, in which students enrol, participate and are assessed, giving rise to such artefacts as a course catalogue, course records and student records; and how study leads to the award of bachelor and master degrees to students, giving rise to specifying degree regulations in terms of courses to study and to using student records to evaluate whether students are eligible to graduate. For specific periods during its emergence and development, this accounting has taken particular forms. Working backwards in time, it has comprised the *360 point degree system* (2006-), the *new degree structure system* (1975-2005), the *unit system* (1926-1974) and system(s) before that, which although lacking a name Dixon (2010b) identifies and locates in terms of their elements and provisions. Growth of the numbers of qualifications, subjects, courses and university-system participants (e.g. students, academics, examiners, administrators, and academic and administrative governors) have been ever present in shaping the different forms, for reasons ranging from basic student administration to opening up study of the new disciplines that proliferated in the second half of the 20th century.

Notwithstanding this growth and these different forms, how curricular accounting has functioned over the 140 years of the institution (including the University of New Zealand from the 1870s to the 1960s) has been bound up with awarding degrees and other qualifications to students, and providing them with courses of study that have led to these awards. Students have studied towards qualifications under the tutelage of academics. Study has been separated into subjects, and then into examination papers and courses of lectures/study. Qualifications have been distinguished into levels (e.g. *bachelor, honours, master*); and bachelor degree qualifications have further distinguished into stage-based levels (e.g. *pass, advanced*). Graduates have used their learning and qualifications to enrich their lives, including to secure employment as teachers, in other professions and other work to which they were suited, and/or to go on to further study.

As mentioned above, and elaborated by Dixon (2010a), the use of numbers to denote credit at UC dates from the *new degree structure* introduced in the 1970s. The *new degree structure* points system was a melding of the idea of credit points and many features of the precursor, University of New Zealand systems. The most recent of these (1926-1974) was known as the *unit* system and required students to complete nine units in five or so subjects to obtain most of the three-year, full-time bachelor degrees on offer. In the *new degree structure*, 12 points were used instead of a *unit*, and so a bachelor degree of nine *units* became a bachelor degree of 9 courses x 12 points = 108 points; and in subsequent practice, a bachelor degree of some mix of 3, 4, 6, 8, 9, 12 and even higher quantities of individual course points that summed to 108 points.

Use of numbers to denote credit has continued ever since but in took on a different form in 2006 when a system was introduced called the *360 point degree system*. The name arose because from its inception the regulations for a bachelor degree of three years' full-time duration (e.g. Bachelor of Arts (BA), Bachelor of Commerce (BCom.)) stipulate that to graduate a student must complete courses whose total credit is at least 360 points (see UC, 2004, Minute 7). Now, it is widely referred to as just the *points system*. How it functions within UC and in its educational and administrative environs is elaborated by Dixon (2009).

At base is that credit is awarded at levels that correspond with Level 5 and above in the New Zealand National Qualifications Framework (see Figure 2, which comprises 10 levels in all).

[INSERT FIGURE 2 ABOUT HERE]

As with the *new degree structure*, students enrol on courses, which each have a level and points value. These particulars appear on student records, which accumulate from when they first enrol. Its additional features are that course design is claimed to reflect and be reflected in point values and levels, and in turn these have some meaning in academic audit and quality assurance procedures. The tuition fees that students pay themselves or have paid for them by the Government through StudyLink depend on the subject of the course, and on the level and points values (StudyLink, 2010); the same applies to the Government grant received through Student Achievement Component funding, which is calculated from numbers of EFTSs studying courses towards qualifications (TEC, 2010c). Entitlements of domestic students to allowances and loans from StudyLink depend on the numbers of points being studied, in particular to distinguish full-time students from part-time students and to distinguish whether sufficient study is being undertaken to qualify at all for financial assistance.

Analysis

In this analysis, the levels of the higher education system induced by Becher and Kogan (1980), namely the central authority, institution, basic unit and individual levels (see Figure 1), are sometimes used. Referred to also are reforms-oriented change and principles that have underlain the reforms. Examples of these include the allocation of resources by purchasers to providers in financial forms based on performance metrics (thus constituting and reflecting a purchaser provider split); the commodification of learning as another valuable product, with its own metrics, out there in the market place for private goods and services; recognising and augmenting the consumer rights of individual students vis-à-vis public institutions; the use of metrics to value learning as a personal asset; the use of metrics to set control boundaries for individual academic staff, basic units and institutions; the use of metrics to measure university services and performance; and the publication of some of these metrics, purportedly to increase transparency.

The basis of this analysis is the series of changes to curricular accounting since the *Rogernomics* reforms were instigated in 1984, through the marketisation phase and then the strategic phase changes, up to the present. Juxtaposing the situation as it was in 1984 with the situation in 2010 is a suitable starting point, and is attempted in Table 1. This is followed by a series of sub-analyses, each showing how some aspect(s) of curricular accounting have been reflective of the policy movements and transformations referred to and reviewed above, and how those same aspect(s) of curricular accounting have influenced or helped constitute said policy movements and transformations. These sub-analyses are synthesised at the end.

[INSERT TABLE 1 HERE]

Credit points as the basis of curricular accounting

The use of credit points, being a set of numbers that are purported to quantify volumes of learning entailed in courses and qualifications, is as basic to curricular accounting as money units are to modern-day conventional accounting for capital, assets, liabilities and so on. As explained above and included in Table 1, UC has used two points systems successively since the 1970s. The *new degree structure* was introduced to facilitate better internal workings at UC to cope with growth and facilitation of cross-faculty course choice, and seems to have fulfilled that and related internal purposes quite well. Despite its concern with facilitating internal processes, it was introduced because UC's Vice-chancellor Phillips was concerned that UC should respond to societal changes and curricular changes that were making

university enlargement and quality, in the sense of socio-economic responsiveness, at least as important as educational standards and equivalence. UC and the three other universities that emerged from long-established colleges on the dissolution of the University of New Zealand were expected to cope with the consequences for tertiary education of a growth in the population who were expecting to go to university, general expectations that universities would broaden their intake and be more responsive and accountable, and increased demand for well-educated persons across New Zealand and further afield (e.g. Britain, Australia) (Gardner *et al.*, 1973; Parton, 1979; University Grants Committee Review Committee, 1982). The much larger site at Ilam that UC has occupied since c.1970 created the possibility of UC throwing off its previous character as an affiliated college of the University of New Zealand, with a provincial outlook and teaching responsibilities, to become a university with national responsibilities and an international outlook (Gardner *et al.*, 1973). In view of this possibility, perhaps it is more than coincidence that the move to Ilam took place in tandem with the implementation of the *new degree structure* designed to facilitate greater student and academic choice, on the one hand, and to provide greater administrative capacity in terms of student and course records, on the other.

In contrast, the *360 point degree system* was introduced at UC in 2006 primarily to facilitate external processes, interactions and similar. It is based on a points currency in widespread use in the New Zealand tertiary education system, including at the other seven universities, and has some transnational standing because of close resemblances to CATS. In common with its predecessors, the *360 point degree system* is bound up with awarding qualifications, and staging courses and programmes of study. It helps specify a representational scheme among such matters as regulating and awarding qualifications, designing and controlling learning and teaching, providing order and control among students and academics, and regularising policy and financial relations between UC and external agencies, including the NZQA, CUAP, UNZ and TEC. Both the *new degree structure* and the *360 point degree systems* are based on notions of education, knowledge and learning being atomistic, mechanistic and explicit in character, and so capable of commodification, as per the orientation of the reforms (Lawrence and Sharma, 2002; Trowler, 2001), although the latter had not started when the *new degree structure* was introduced.

University revenue and curricular accounting

The EFTSs Funding System and the provision for university-set tuition fees implemented in 1991 were more than a change to how universities obtained funds to meet operating costs, or to how universities generated revenue, they were a major, reforms-oriented change to tertiary education. In contrast to the system it replaced, the funding system was transparent and purchaser-provider split oriented, and involved methods that were more quantitative and metricated, including actually to calculate the number of EFTSs and the cost of providing a place at a university for an EFTS. Depending on how one sees an enrolled student, it could also be characterised as either activity based in the context of university operations (e.g. with the students as a raw material in the teaching process leading to a finished graduate), or achievement based in the context of university outputs (e.g. with the students as customers of an organisation producing courses and certifying attainment in the form of qualifications). The tuition fees embodied the idea of users paying for the product they were receiving, and these fees too involved quantitative methods, including pricing at the course level, as fees came to be assessed for each separate course in which a student enrolled.

At UC, Vice-Chancellor Brownlie opined that these reforms, coupled with pressure on resources, made 1991 a difficult year (UC, 1992). More was to come, however, as during the 1990s the Ministry made the calculations of EFTSs more specific, so that an EFTS at UC was

calculated in the same way as an EFTS at every other institution. UC accorded each course a course weight, according to its level and its points value under the *new degree structure* system. A 6-point, 100-level course was allotted a course weight of 0.1550 EFTS, compared with a 6-point, 200-level course allotted a course weight of 0.1850 EFTS, and a 6-point, 300-level course allotted a course weight of 0.2550 EFTS. Courses of other points values at these differing levels were allotted course weights in proportion to these, so for example, a 9-point, 100-level course was allotted a course weight of 0.2325 EFTS, and a 4-point, 300-level course allotted a course weight of 0.1700 EFTS. As even these basic numbers intimate, the ramifications could be perplexing to many UC staff wishing to figure out what was going on[10].

These weights were also significant in setting tuition fees. As well as fees for courses being differentiated by EFTS funding category (e.g. Science Faculty courses were generally priced higher than Arts Faculty courses), they were set in proportion to their course weights, and so fees for courses in the same funding category were differentiated according to their undergraduate level. However, while their point values had been part of the entry for each course in the UC Calendar, course weights were not until 2004, and so in the meantime how fees were calculated was obscure to many UC students and other interested participants. Indeed, it seems that publishing course weights from 2004 did not clarify matters much as far as fees or other matters were concerned.

The general circumstances after 1991 of the amount of this revenue being based on numbers and discipline- and level-mixes of EFTSs precipitated an increase in consciousness at the institution level of student enrolment numbers, and numbers and appeal to the market of courses and qualifications. Admittedly, this consciousness was not new, but it did become more focused, particularly as other considerations entering into resource attraction diminished. Basic units and individual staff had also long been conscious of the numbers of students and EFTSs they were teaching, as shown by longstanding use, among other things, of staff-student ratio metrics to argue about the increasing inadequacy of resources and for more resources. However, the post 1991 circumstances made it much clearer and less disputable how much revenue was being received at the institution level because of the activities of the different basic units and individual staff, compared to the costs of the resources the institution level was allocating to each of these.

This new level of clarity precipitated further calculations of EFTSs taught by staff in each basic unit figuring increasingly in discussions about resource allocations within UC. Indeed, during the 1990s, the EFTS funding system processes resulted in planned and actual EFTSs in each subject becoming much sought after matters of public record (see Coy *et al.*, 1997). These data added to data that were already in use politically in these negotiations, making it possible to make rough calculations of revenues, costs, surpluses (deficits) and cross subsidies between subjects, departments and faculties, thus fuelling grievances about resource allocations and remuneration. However, formally, mainly under Vice-chancellor Brownlie, resources continued for some years to be mostly allocated in physical terms and through political, economic and educational negotiations and similar, and divisional units continued to have to argue for their corner.

Then, in 2003, after two changes of vice-chancellor, formal changes were made, including the establishment of an additional set of basic units, alongside the structure of faculties and departments initiated in the 1930s. Called colleges, these more recent units are managerial in nature[11] and have profit-centre style, delegated budgets closely aligned with EFTSs[12], giving rise to increased interactive and diagnostic control across UC. Their establishment resulted in the relationship between the rate at which credit towards a qualification is accumulated and the amount received from tuition fees and the Student Achievement

Component grant being carried through to the division of resources within UC, with concomitant consequences for colleges' and departments' efforts at student attraction, foreign as well as domestic. It has also given rise to EFTSs manipulations as awareness increased in basic units of the effect on EFTSs of the composition of qualifications, as specified in qualification regulations.

One reason given by UC (2003, 2004) for the changeover from the *new degree structure* points system to the *360 point degree system* in 2006 was to simplify the relationship between credit point values of courses and course weights and make it easier for students and staff to understand[13]. Thus, it is arguable that the change in the curricular accounting system was precipitated by the change to the funding and fees systems, which in turn was precipitated by the reforms.

Commodified education, knowledge and learning, and curricular accounting

The simplification took the form of aligning the two metrics across all undergraduate levels (and, eventually, postgraduate levels), such that one credit point at every level would equate with a course weight of 0.00833 EFTS[14]. To students, who are all now paying fees (or accumulating loans as fees are paid for them by a Government agency), this simplification and alignment further resulted in tuition fees of courses being aligned with credit-point values of courses. Thus, it strengthened and clarified the relationship between the rate at which they accumulate credit towards a qualification and the amount they pay in tuition fees.

Consequently, possibilities proliferate of students seeing courses and qualifications as similar to other commodities they purchase.

Among staff at the various levels of UC, similar possibilities of courses and qualifications being a valuable commodity came about but to as commodities to sell rather than purchase. It did not go unnoticed that there is a tighter relationship under the *360 point degree system* between, on the one hand, points and numbers of students enrolled, and, on the other hand, institution-level revenues from tuition fees and annual Student Achievement Component grants, and thence to basic unit-level allocations through annual budgets. This increased incentives for colleges and departments to attract and retain students, although ambiguously, the ascendancy of PBRF-related persuaders and metrics of control being imposed at the individual staff level from the basic unit level and institution level, combined with a simplistic teacher-control metric of class contact hours (UC, ???), gives rise to a tendency for departments and colleges to pack students into large 100-level and, perhaps, 200-level courses taught by new junior staff and casual staff (including postgraduate students), and for senior staff to want to teach smaller classes at the 300-level and postgraduate level, in which the assessment and informal contact staff workloads are smaller than they are for the larger classes.

Incentives also increased for colleges and departments to manipulate EFTSs, and how to this under the *360 point degree system* was clearer than previously. With the compositions of qualifications being stated in choices of courses and credit points aligned with course weights, it is clearer how quantities and distributions of EFTSs are affected by such decisions as changing the choice of courses permitted for a qualification, changing points values of courses and changing the number of points required at each level of a bachelor degree and for other qualifications. However, it seems that there is still some learning to do at the institution and basic unit levels, based on the evidence of how a desire for all courses to be of a common size of 15 points or multiple of 15 points was implemented, without appreciating the adverse financial implications for colleges and UC during the changeover period from 2010 to 2012.

Marketing commodities and curricular accounting

In terms of attracting students and similar marketing matters, the usefulness of the *360 point degree system* lies in UC issuing information about qualifications and courses in a standardised form, intelligible alongside corresponding information from most New Zealand institutions and many elsewhere. By the time UC made the changeover to the *360 point degree system*, the system had been in use at many other New Zealand institutions for several years and NZQA was using it to articulate and publicise qualifications and programmes comprising the New Zealand National Qualifications Framework.

In the rhetoric of the reforms, adopting the *360 point degree system* has allowed UC to at least match its so-called competitors (i.e. other universities) in credit recognition and credit transfer matters. From the information about qualifications and courses, customers (i.e. the students, and the people who are employing or will employ the students because of the knowledge and skills they have been credited with) can choose to study knowledge and skills they desire by selecting a particular combination of courses covering this knowledge and these skills, so long as that combination of courses is permitted under one of the available umbrella qualification packages (e.g. bachelor of arts, bachelor of science). They can purchase these personal programmes as if they are commodities, and if they complete them successfully they are awarded qualifications. The system makes it easier to answer the question of how equivalent these qualifications are to those of other institutions, particularly in New Zealand, because the National Qualifications Framework applies, but elsewhere as well. Alternatively, if the combination of courses they choose does not fit a UC qualification package, or their studies at UC are interrupted and they wish to continue them elsewhere, they can take the credit and apply confidently for it to be included in a qualification available at another institution, particularly in New Zealand but elsewhere too.

Product design, specification and appraisal, and curricular accounting

In regard to a course as a product, UC staff design courses, obtain approval for them and stage them. The approval process involves information being considered, questioned, commented on and scrutinised by academic peers. Some matters have been standard for some time but others are more recent: a prescription, which mostly allude briefly to course content but may also mention learning outcomes and method; level (e.g. 100-level); relationship to other courses, including pre-requisite study, co-requisite study and restricted study; teacher(s), formal hours of student-teacher contact, teaching/delivery method and availability of other resources; assessment provisions; predicted student numbers; plans for monitoring quality; credit-point value, and so course weight; and learning outcomes.

The changes in information over the past decade or so, and the way it is used by peers, have affected what staff consider in designing and revising their courses. They have gradually received some encouragement during the approval process in collegial-type ways to achieve some internal consistency among the size and credit-point value of their course and the learning time available, learning objectives and student learning outcomes. They are also encouraged to mix the formal (or class contact) and informal (or independent) learning that they design into courses, in order to foster capability among students to be independent, with the proportion of informal learning increasing from *100-level* to *300-level* and postgraduate courses.

An important aspect they are urged to consider is how much assessment is included in courses and how much time various assessments might take, compared with the learning time available and the period over which a course is studied (UC, 2009b). Limits are advised for the number of major tests during a course (as distinct from a final examination or similar end-

of-course assessment) according to a course's credit-point value. For example, advice is given that the number of major tests[15] in a *100-level* course of between 13 and 24 credit points should not exceed two (UC, 2008b).

In considering the teacher workloads of courses at different levels, they are encouraged to assume these workloads will be relatively similar, even if actual contact hours for teachers reduce at higher levels. This is because it is thought to take more time to provide guidance and resources for students' independent study at higher levels, and so offset reductions in formal teaching at these levels (UC, 2008b). Besides, there is a significant school of thought that the student who has progressed to a higher level is more capable of studying than the student at a lower level, and so needs less direct guidance to make effective use of learning resources.

In practice, some portions of the information provided are of better quality and seem to be taken more seriously than other portions of it. For example, learning outcomes are often not in "good form", UC has no level descriptors[16] and it varies whether the outcomes match the descriptors that are relevant for the level of the course available from NZQA[17]. It is also possible for proposers to provide an analysis in hours of student activities to match the number of credit points but this is rare. Some of these shortcomings may be attributed to lack of knowledge on the part of the staff making proposals of what is wanted, and to lack of inclination on the part of staff considering proposals to question shortcomings in proposal documentation. However, it does appear that at least as significant are the many ambiguities and difficulties that arise in trying to compose level descriptors and learning outcomes (see Greatorex, 2003); behaviour among many participants intent on preserving or extending boundaries within which they operate as teachers and in other roles; and a lack of acceptance, even a resistance, on the part of some participants of the managerialist ideas of education, knowledge and learning that underlie proposal document templates (see Trowler, 2001). As Trowler (1998) analyses elsewhere, it is quite common for writers of proposals at the two universities that the researcher has worked recently to enter words in some boxes to comply with completing the documents; and for readers of proposals not to pay as much attention to these words as they do to others, other than to note that the words in these boxes do enough to comply with the proposal process. At UC, scant attention is paid to student workload, in contrast to class contact hours and teacher workload. How much time students actually spend studying a 15-point course or a 360-point degree vary somewhat in the researcher's experience and observation, which is consistent with findings elsewhere about variability of student workload and engagement (e.g. see Australasian Survey of Student Engagement, 2009; Bekhradnia, 2009).

The aforementioned lack of acceptance and resistance is clearer in relation to the New Zealand National Qualifications Framework. It attracted much suspicion at UC from the outset because of its application to tertiary education institutions other than universities and the inclusion of qualifications designated as bachelor degrees and similar awarded by these other institutions. Using the *360 points degree system* means that credit and qualifications gained by students at many non-university degree-conferring institutions are expressed in the same metrics, and so reinforces an impression that might be conveyed by the Framework that this credit and these qualifications are equivalent to credit and qualifications from UC and other universities. This and related possibilities concern many UC staff mainly because of the implications for educational standards but also because of economic and market implications. The standards side of this issue is part of the broader one dealt with by Dixon (2010b)[18]. On the economics and markets side, prominent is the issue that some institutions provide qualifications at a lower price than others, as in any other commodity market, leading to the rational economic behaviour that customers are attracted away from the higher priced

supplier towards the lower price supplier. From a reforms-oriented viewpoint, this may be interpreted as one institution being more efficient and providing better value for money than another, both to the student-purchaser and to the Government grantor purchaser. However, extrapolating from Bekhradnia (2004) finding mentioned in Note 18, it seems that most students and other customers are unlikely to base their evaluation of a qualification purely on the basis of it comprising the same number of credit points as another, and in doing so ignoring the criterion of which institution awarded the qualification.

Product ownership and curricular accounting

A further matter stemming from the last point about comparability of qualifications from different institutions is the extent to which study programmes are dependent or independent of the staff teaching them. It was long the case at UC, certainly since the dissolution of the University of New Zealand and possibly for at least a decade before that, that a course was inseparable from its teacher(s), and if the teacher(s) changed so would the course as an educational experience (e.g. lecture content, textbooks and teaching materials, assessment instruments and questions/tasks, grade distributions), but not in terms necessarily of code, name, prescription, points value and similar formalities. However, with the formalities being extended and gradually becoming more specific, including learning outcomes, assessment strategies, assurance of learning, the discretion that teachers have to change a course becomes constrained, and the course takes on a separate existence from the teachers.

The researcher's experience at the Open University made him aware of the possibility of separation. Course there are presented at a distance with written and otherwise recorded learning resources developed and packaged before the course is presented to cohorts of students. The time elapsing between serious development starting and the final presentation of the course is usually several years, during which time the teaching team of central, full-time academics and part-time tutors or associates can turn over a few times. Although this turnover changes the course in some ways, the basic educational experience prevails throughout the series of presentations.

This is quite different from the norm at UC, where much discretion not only exists but is actually seen as a quality feature. However, discretion can be costly and risky, and makes it difficult to satisfy accreditors' requirements in matters of assurance of learning. Hence, there seems to be a trend, admittedly somewhat slight, towards courses becoming products in their own right and separate from their teachers. This can be seen as a matter not only of product specification and commodification but also of ownership. If a teacher leaves, is s/he obliged to leave courses with UC? If a teacher arrives, should s/he have so much discretion as to in fact change an existing course so much that it is unrecognisable? These questions touch considerably on academic freedom, intellectual property ownership, costs of designing and staging courses, continuous improvement of courses and incorporating recent research into courses, and maintain and improving the quality of courses. Curricular accounting and its accoutrements variously facilitate changes but reduces the risk of doing them, and deter and prevent changes by constraining teachers in what they have discretion over.

Synthesis

The analysis started from the features of curricular accounting and related matters enumerated in Table 1 and juxtaposed the standing of each of these features at UC in 1984 and 2010. These features are referred to in various parts of the sub-analyses above. In doing this, how curricular accounting has reflected the various reforms and helped constitute their furtherance have been referred to. The accounting in question has provided a series of metrics, socially constructed for various subjective, contextualised purposes; information in the form

of these metrics and accompanying narratives; structures and process for bureaucratic and market controls, including for planning, coordination, competition, monitoring and evaluation. The controls extend from controls of self and to controls of others (e.g. peers, subordinates, superiors), at the level of individuals, basic units, the institution and central authorities, and between these levels, the latter not necessarily between adjacent levels.

Links are made in the sub-analyses among, on the one hand, the revenue of UC and resource allocation within UC and, on the other hand, the concepts and practicalities of EFTSs, courses, course weights, credit points, and learning and its assessment. Demand for courses, and so revenue of UC as it may be attributed to the different colleges, depends on student choices of courses. These accord with their choice of qualification, as per the qualification regulations, but since the *new degree structure* was implemented, as facilitated by curricular accounting, the possible choices have become much, much wider. The *new degree structure* had in any case increased incentives for departments to be responsive to demand for courses and qualifications within the campus. The EFTS funding system encouraged a similar attitude from UC's institution level in order to withstand potential competition for enrolments from other universities and larger, increasingly degree-awarding polytechnics. The two combined synergistically under the *360 point degree system*, further enabling and incentivising staff to respond to student demand for new subjects, qualifications and courses, and enabling the handling of enrolments and conferment of qualifications, and much in between. The enrolments came from, and the qualifications were conferred on, an increasing body of students, taking an ever increasing range of courses from more and more subjects, within an ever increasing range of qualifications that could be approved and incorporated into the catalogue relatively easily.

The items in this catalogue, including the individual courses, have increasingly taken on the characteristics of products, supermarket commodities and outputs, as specified in points, levels, course weights and fees and according to titles, prescriptions and, in some cases, learning outcomes. Many of these same specifications have come to provide the basis of control of UC at a distance from CUAP, TEC and NZQA, which between them perform several roles in which curricular accounting plays a part. They provide policy advice to the Executive. They provide the public and the Government with quality assurance of qualifications (including by scrutinising proposed qualifications) and institutions (including by performing academic audits). They fund (if not purchase) university outputs produced in line with consumer demand (as distinct from supplied to supplicants in accordance with professorial priorities). They evaluate universities to ensure that the Governments residual ownership interests are protected. They maintain the New Zealand National Qualifications Framework.

Notwithstanding the rational appearance of these various changes in circumstances at UC and involving organisations at the central authority level, decisions and actions affecting resource attraction, resource allocation and many other matters continue to be subject to negotiations and similar; and so based on a mix of political, economic and educational considerations across the levels. The new quantitative data and calculations have added to, and sometimes replaced, those that were already in the "public" domain. These data continue to be used to generate seemingly rational arguments for approving or rejecting proposals, whose fate is often determined on ideological grounds or to protect vested interests.

Conclusion

This paper examines social and institutional transformations in higher education and how these can be identified with propositions made by Burchell *et al.* (1980) about accounting practices enabling the emergence of organisational forms with many interdependencies that

make them increasingly complex. Prompted by Burchell *et al.* to consider the possibility of new accounting practices that emerge during these changes and that create further possibilities for change, the researcher follows the emergence and development of curricular accounting alongside reforms in New Zealand from 1984 to 2010. Following Burchell *et al.*, his examinations is based on possibilities that the practices in question make it possible for operating information to be relayed around the networks that characterise these organisational forms; for some people to measure and evaluate other people according to set priorities and expectations in relation to divisional and product performance; and for reports and such like to be distributed according to legal and regulatory requirements, administrative needs and market expectations. It is also based on possibilities of usage of curricular accounting precipitating changes to patterns of organisational visibility, which in turn affect organisational participants' perceptions of the problematic and the possible in wide ranging matters of managerial, organisational and, by inference, service practice, giving rise to changes in these. It is also based on possibilities of usage of curricular accounting enabling the emergence of organisational forms whose many interdependencies make them increasingly complex; and that directly and indirectly (e.g. through the organisational forms that it facilitates for universities), usage of curricular accounting has had wide ranging societal consequences.

The analysis presented in the paper shows that curricular accounting has been a not inconsiderable part of changes to political, economic and educational structures and processes at the nitty-gritty operating level of the case study site, UC, during the reforms period thus far. The calculative practices and other characteristics of curricular accounting are very much aspects of life for participants in the UC enterprise (e.g. academics, students, administrators, and academic and administrative governors, accreditors). They are one of the binding forces in the representational scheme they work to, at least as much as financial and management accounting, control and auditing are, but as with these more accepted forms of accounting, matters of scope, process and consequence become more contested every day. Moreover, the people involved in interactions from which curricular accounting usages arise, or which these usages cause, derive various meanings from these interactions, ones not limited to rationality as portrayed in the rhetoric of the credit points system, etc.

The curricular accounting system at UC is like other accounting systems, being “a particular kind of symbolic representation embodying expertise, facilitating hierarchical controls, and manifested as administrative technology that informs the purposeful action of organizations in the transformation process. These systems can foster sustaining processes, exploitative process, or some combination of both” (Dillard *et al.*, 2005, p. 81). Students study towards qualifications specified in regulations that feature credit points and levels. They do so following learning designs compiled and staged by academics, who loosely speaking work to learning outcomes and rules of assessment. Study is commodified into knowledge and skills that relate to subjects, and then into courses specified as to points, which loosely translate to hours of student effort, and to level; and students are assessed on what they are supposed to have learnt. Qualifications are commodified by levels (e.g. *bachelor*, *honours*, *master*, *doctor*); and bachelor degree qualifications are further distinguished into stage-based levels (e.g. *100-level*). Graduates use their learning and qualifications to enrich their lives, including to secure employment and/or to go on to further study in New Zealand and many other places.

Most UC participants find the representational scheme sufficient for going about their activities, and many who do not acquiesce and work with it anyway. However, there are those who are prepared to dispute the status quo as not being good enough, or being flawed, or too right wing or not sustainable enough, etc., and campaign for change, and from time to time this activity when combined with internal or external social, economic, technological,

political and other types of occurrences gives rise to modifications of how basic ideas incorporated in the representational scheme apply, and so to revisions and future versions of the representational scheme. For example, there is discomfort among UC academics over the connection or disconnection between learning, learning outcomes, levels, assessment, student workload and points. The CATS system, on which the *360 point degree system* is based, is under challenge from the ECTS system, alongside the many other issues that the Bologna Process is raising (see Ministry of Education and New Zealand Qualifications Authority, 2008), not to mention issues arising from the Melbourne Model, which incorporates elements of Bologna (see Devlin, 2008) and debate about which is spilling across the Tasman Sea into New Zealand. The issue of equivalence of quality of qualifications, courses of study, assessment, learning, knowledge, skills and teaching among universities and between universities and other tertiary education institutions continues. Similarly, the notion of academic credit for work-based and other learning, formal and not-so-formal, outside of the ambit of tertiary education institutions (i.e. outside either on-campus or distance courses staged by said institutions) being given to people seeking qualifications is likely to arise.

Furthermore, although UC has its idiosyncrasies, it is not so peculiar as to suppose that this particular scheme and these particular issues might not shed light on many other universities. It seems on balance to have made it more possible for the geographically distant central authority level bodies to encourage, coerce and otherwise influence UC; with the consequence that the structurally distant institution level of UC has the means and the incentives to encourage, coerce and otherwise influence UC's basic units; with similar consequences for relations between college academic leaders, heads of academic departments and individual staff. Here then is an example of increased capacity for centrally placed and institutional persons to steer and control at a distance, a common phenomena it would seem (Altbach *et al.*, 2009; Berkhout and Wielemans, 2001; de Boer *et al.*, 2007; Demeulemeester, 2009; Lord *et al.*, 1998). As Francis (1997) shows, such central influence is not new in New Zealand – if universities anywhere were collegial and autonomous, brimming with academic freedom, it was not in New Zealand[19] – but its nature does seem to have changed with the political times, from old Right to New Right, with the shift from a constitutional democracy to a managocracy[20].

Finally, on the matter of further research, there seem many possibilities for functional, interpretative and critical studies into practices and consequences of curricular accounting.

1 Numbers or grade letters have, of course, long been used in measuring student achievement of these outcomes and recording the results of this measurement or assessment.

2 The year 1984 is significant in New Zealand for the coming into office of the Fourth Labour Government, which between then and 1990, instituted the first wave of arguably revolutionary changes, which were for some time labelled *Rogernomics*, after Roger Douglas, the Minister of Finance from 1984 to 1988.

3 Calendars have been recognised as the authoritative source of course regulations since the 1950s as far as the University College and UC are concerned (e.g. see Parton, 1979) but even before then they had much official standing, including that they included extracts of University of New Zealand regulations as well as matters pertinent to the Canterbury College/University College. Analysed in detail were Calendars for 1873, 1879, 1890 through to 2000 at 10-year intervals, 2005 and 2010. Those for some intervening years were consulted for particular changes. Although their format has been changed over the years, and all manner of information has been included at various times, all the Calendars included formal details of awards and courses, among other ever-present content (e.g. see UC, 2009a).

4 Examples of groupings in universities would be departments that make up hierarchies and coalitions of academics with shared beliefs and approaches towards learning and teaching.

5 Universities as idiosyncratic and complex is an idea further reflected in studies (e.g. Bartell, 2003; Sporn, 1996) of what Ouchi (1980) dubs an organisation's mechanisms of mediation or control, and Cameron and Quinn (1999) dub an organisation's culture type. Berrio (2003) identifies four culture types with universities, namely, adhocracy, clan, hierarchy (also known as bureaucracy) and market; Clark (2000) proffers a fifth, namely, collegial entrepreneurialism, as tested by Ryan and Guthrie (in press). The studies bear out Ouchi's (1980) line of reasoning of all types being present in differing degrees in a particular organisation. Bourn and Ezzamel (1984) used Ouchi's control cultures as part of their analysis of changes in England and Wales's National Health Service, changes that in retrospect were early throes of New Public Management in the provision by government of medical services in that jurisdiction.

6 Under the original 1990s version of the system, grants to UC and the other universities were calculated each year as the sum of the products of (i) the EFTSs agreed between the Ministry and university in each funding category and (ii) a proportion of the standard cost amount per EFTS for each category. The standard cost amounts in question were set each year in the Ministry of Education, the initial ones having been calculated from figures provided to it from each institution encompassed by the system. These figures purported to be their actual expenditures per EFTS c. 1990 but their calculations had depended on how the accounting system in each institution portrayed the allocation of resources, including how accountants, senior managers and others in each institution had chosen to apportion overheads of common services and shared resources, a choice that differed from one institution to the next (Coy *et al.*, 1991).

7 The previous system of funding was based around quinquennially-determined block grants towards fixed and variable operating expenditures according to disciplines, activities and related matters, and capital grants towards new developments. Grant amounts were primarily a matter of negotiations and similar of a political, economic and educational nature among the universities and the UGC. These were informed by inspection, anecdotal evidence and unsophisticated activity indicators, in which a simple count of EFTSs was prominent. Grants had been largely incremental and the process opaque. In allocating resources, and not only capital grants, the UGC had a not insignificant say in academic developments because of their financial implications, and it oversaw New Zealand's needs for university teaching and research, leading some to call it the Ministry for Universities (Eisemon, 1984; Francis, 1997; Gould, 1988; Parton, 1979).

8 CUAP procedures provide for proposals for new and revised courses and qualification to have to go higher up the approval structure the greater the significance of the proposal: an entire programme or qualification receives more attention than a single course, and new items receive more attention than a major revision to an existing item, which gets more attention than a minor revision. In keeping with longstanding ideas, the structure comprises a proposer's academic peers, who nowadays are within the proposer's institution and outside it. At UC, they include formal committees of peers (e.g. faculty boards, the Academic Administration Committee, the Academic Board); and outside it is CUAP, which also consults with other institutions on the most significant proposals.

9 Although this Component has similarities with the situation up to 1991 when UGC made capital grants (and some revenue grants) for specific purposes (e.g. to construct an approved building), it is of much less importance than these grants, and UC and the other institutions have been permitted, if not encouraged, by Governments to raise capital in other ways (e.g. private benefactors, sale and lease back, commercial borrowing, application of cash operating surpluses arising from charging depreciation expenses against revenue, and making accruals-based operating surpluses).

10 Some of this perplexity arose because of variation in understanding of what a point was in the *new degree structure* system, and what it was not. Although a point was not explicitly defined in this system, the idea was underpinned by the notion of an EFTS being one student spending the whole of their (work) time studying and being assessed. Thus, from the way that course weights were determined for each course under that system, it could be (mis)construed that a point at one level had some equivalence to a point at another level in terms of quantity of knowledge and skills learnt; and, furthermore, that because 300-level learning is more difficult than 200-level learning, which in turn is more difficult than 100-level learning, the workload required to obtain 6 points at 300-level would be greater than that to obtain 6 points at 200-level, and similarly at 100-level. Although construing the situation in this way can be seen as flawed, there was some evidence carrying through into the implementation of the *360 point degree system* of courses at higher levels being allotted more points because they were more difficult (Personal Communication from Jan Cameron, 2008). Hence, typical 6-point courses at 100-level in the old *new degree structure* system were allotted 18 points in the new *360 point degree system*; typical 6-point courses at 200-level were allotted 22 points; and typical 6-point courses at 300-level were allotted 28 points (UC, 2003, 2004).

11 In contrast, the faculties are organised along curricular lines. The various academic departments are both part of a faculty and part of a college.

12 Although, under delegated budgeting, resource allocation at UC continues to feature politics and incrementalism, in negotiating divisional and sub-divisional allocations in financial and physical terms more has come to be made of EFTSs and other metrics, and of an item known as contribution margin. This is calculated as the percentage of a college's revenue that is sliced off to meet the cost of resources that are centrally provided and/or whose use is shared among colleges (e.g. student records, libraries, teaching accommodation, common areas of building and outdoors campus spaces) and that are not otherwise charged for internally (e.g. printing jobs, and office accommodation and some other dedicated spaces are charged for internally).

13 Confirming in a personal communication in 2008 that people generally better understood the new points system than they had the old one, Jan Cameron, Assistant Vice-Chancellor (Academic), UC, suggests also that students seemed to understand the new system more readily than staff did.

14 The arithmetic is as follows. A three-year degree comprises 360 points, and so one year of study is typically 120 points. If an EFTS year is 120 points, then one point is $1 \div 120 = 0.0833$ EFTS. Incidentally, an EFTS year has also been decided on as 30 weeks at 40 hours a week = 1,200 hours. Thus, 120 points equates with 1,200 hours of study, and so 1 point represents 10 hours of study, as signalled in Table 1 (Dixon, 2009).

15 A major test is defined as a test that counts for greater than 20% of the final mark for a course.

16 The *360 point degree system* meant some things being simplified for UC staff but other ramifications arose and have not yet been addressed. No matter at which level a course is at, each credit point denotes 10 hours of study are entailed, and so a 15 point 100-level course comprises 150 hours of study of 100-level difficulty or quality, a 15 point 200-level course comprises 150 hours of study of 200-level difficulty or quality, and so on. The issue is that the points at the different levels are not equivalent in terms of knowledge and skills learnt, and so cannot be converted from one level to another. To address this issue, many institutions using a *360 point degree system* have incorporated *level descriptors* in it as a way to recognise, regulate and control for the differences that should arise in courses of different levels. However, these are yet to emerge within UC, although some recognition is given to those used by NZQA through CUAP procedures (NZQA, 2009; UNZ:CUAP, 2010).

17 The NZQA (2009) level descriptors attempt to distinguish the knowledge, skills and applications expected from students completing courses at a particular level of the New Zealand National Qualifications Framework, independent of the subject or content. This is in keeping with that Framework purporting to allow comparison of learning at different types of institutions and on different types of courses in order to assess equivalence (or difference).

18 Standards related issues are how standards can vary within and between institutions; whether traditional pecking orders of institutions (e.g. Oxbridge versus the rest in the Commonwealth) are valid; whether institutions can be assessed and world league tables compiled (e.g. see Center for World-Class Universities, 2008); whether institutions that are accredited in particular subjects are superior in those subjects to ones that are not; and whether learning acquired formally and in traditional face-to-face modes is comparable with distance learning, supported open learning, and experiential learning acquired, say, in work situations (e.g. see Raban, 1990). On whether credit points are likely to bring about an uncomplicated situation as far as credit recognition is concerned, Bekhradnia (2004) finds that aspiring to guarantees of automatic recognition of learning, using even well-established points systems, is a mirage.

19 Demeulemeester's (2009) portrayal as circumstances worldwide having gone from autonomy and self regulation to academic institutions becoming "tools of economic and social policies steered from outside" (p. 1) seems farfetched.

20 *Managocracy* is derived from manager and from forms of government such as autocracy, monarchy, aristocracy, gerontocracy and democracy. The only previous usage found is in a letter to the Independent newspaper of 27 October 2005 by one, John Westmoreland, of Hatfield Woodhouse, South Yorkshire, England, complaining about the Blair Government's policy on schools.

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<i>Feature of Curricular Accounting and Related Matters</i>	<i>Situation in 1984</i>	<i>Situation in 2010</i>
Credit for learning	Credit is used frequently in higher education to refer to learning that, having been assessed as above specified standards, counts towards a student's qualification. Concept recognised, in credit points and credit transfer	Concept is greater usage, as an expression for recognising learning within institutions, between institutions in the same jurisdiction and across jurisdictions
Units of learning	A course is the minimum formal unit in which knowledge is studied and on which students enrol, to give rise to credit. Courses vary in subject/topic, level and credit value. Courses are combined to form a programme leading to a qualification	A course is the minimum formal unit in which knowledge is studied and on which students enrol, to give rise to credit. Courses vary in subject/topic, level and, to a lesser extent, credit value. . Courses are combined to form a programme leading to a qualification
Qualifications	Wide range of broadly-based UC qualifications (e.g. in science, arts, commerce), designated as undergraduate (e.g. bachelor degrees) and postgraduate (e.g. bachelor degrees with honours, master degrees, doctor degrees)	Even wider range of similarly designated UC qualifications, with many sub-divided as discipline- and sub-discipline-specific majors (e.g. in accounting, tax and accounting, marketing)
Levels of learning	Undergraduate-postgraduate levels distinguished, and undergraduate study distinguished as Stage 1, Stage 2 and Stage 3, and postgraduate as masterate and doctorate	Undergraduate-postgraduate levels distinguished, and undergraduate study distinguished as 100-level, 200-level and 300-level (although terms Stage 1, Stage 2 and Stage 3 still used) . and postgraduate as masterate and doctorate
Credit points as measurement or value of credit	Credit in the form of numbers that are purported to quantify volumes of learning entailed in courses and qualifications. <i>New Degree Structure</i> system of points applied to most undergraduate programmes, except engineering, but not to postgraduate programmes. A three-year bachelor degree comprised 108 points (or 96 in the case of science) (by 2000, all are of 102 points). Similar numbers/calculations used at some other NZ universities. Meaning of one point not well defined, except in an expression left over from the <i>unit</i> system that a <i>unit</i> , or 12 points, comprised "one year's work" in a subject	<i>360 point</i> (three-year bachelor) <i>degree system</i> of points applies to all undergraduate courses and increasingly more postgraduate courses, with all courses having a points value of 15 points or multiples thereof from 2011 (from 2006 to 2010 points values of courses were much more varied). Similar to systems widespread in NZ and to CATS used in UK. Meaning of a point defined in terms of hours of learning and assessment undertaken by a student: 1 point \equiv 10 hours of learning (including formal teaching contact, informal contact, Web-based learning, practicals, lab-work, placements and tutorials, research, teacher-directed and self-directed study and assessment)
Course weights	Concept not articulated but implicit in EFTSs calculations made to negotiate funding within UGC (funding mechanism not public or particularly transparent)	Concept introduced c.1992, following introduction in NZ of EFTSs Funding System, which has since evolved into the Student Achievement Component of funding. Weight of each course specified as a decimalised proportion of an EFTS. Course weight and credit point value of each course aligned since 2006, so that 120 points \equiv 1.0000 EFTS. Before that, old <i>New Degree Structure</i> points and course weights were only aligned within each undergraduate level, not between levels, and not consistently between faculties/disciplines.
Course catalogues	Qualifications and courses are catalogued in the Calendar. Entries indicate level of all courses and points values of most undergraduate courses, and specify most undergraduate qualifications in terms of points needed in total and by level. Postgraduate qualifications specified by requirements for particular courses	Calendar entries indicate level, points values and course weights of all courses. Credit requirements of qualifications specified in quantitative terms in Calendar in terms of points needed for all undergraduate programmes in total and by level, and for most postgraduate programmes.

<i>Feature of Curricular Accounting and Related Matters</i>	<i>Situation in 1984</i>	<i>Situation in 2010</i>
Learning outcomes	Used by some teachers but no official standing	Officially included in course and qualification approval documents, and as many official course information web pages and courses outlines appear to include them as do not. Used by some teachers but not others as part of teaching strategy and tactics and as a basis of designing assessment strategy and in criteria-based assessment (at least a significant minority of assessment is norms-based (i.e. standardised statistically or otherwise) not criteria-based (i.e. measured using pre-determined standards or criteria))
Graduate profiles for qualifications	Concept not generally articulated	Gaining ground in some faculties, sometimes because of the need to satisfy accreditation agencies (e.g. AACSB), and recently commended by NZUAAU (2010)
Assurance of learning	Concept not generally articulated even implicitly	Beginning to sprout in some faculties, sometimes because of the need to satisfy accreditation agencies (e.g. AACSB), and recently alluded to but not by name by NZUAAU (2010)
National qualification frameworks	No official NZ framework; a universities framework might be loosely derived from that inherited from University of New Zealand by the UGC and NZVCC	NZ National Qualifications Framework compiled by NZQA and made reference to by UNZ and UC in some documents
Level descriptors	None in evidence	Available nationally from NZQA but not much in evidence within UC or in UNZ guidance on qualifications, programmes and courses
Credit transfer systems	Credit transfer applicable within NZ and with other institutions overseas. Largely based on documentary evidence on a case-by-case basis, with some use of precedents. Barely based on credit points. Credit given towards UC qualifications and to permit <i>ad eundem statum</i> entry into UC qualifications	Credit transfer applicable within NZ and with other institutions overseas. Based significantly more on credit points but documentary evidence still prominent. Credit given towards UC qualifications and to permit <i>ad eundem statum</i> entry into UC qualifications
Student records	Card system of student records showing courses previously studied, grades achieved, points attained and qualifications awarded	Computerised database system with wide-ranging information about each student and each course, the student records including courses currently being studied and previously studied, points expected and attained, grades achieved, qualifications awarded
Transcripts of student records	Issued to graduates on application, being a typed extract of the student record, showing courses studied, grades achieved and qualifications gained	Issued to graduates on application, being generated from the student records database, showing all courses enrolled on and not formally withdrawn from, grades achieved and qualifications gained
Diploma supplements	Concept unrecognised	Concept unrecognised, except by those recently arrived from Europe or with outline knowledge of Bologna Agreement. Closest concept is transcript but that covers all study and not just that relating to one qualification/diploma
Student tuition fees	Minor charge made to domestic students and numbers of foreign students restricted and inconsequential, so fees not a significant matter	Significant fees are charged on each course according to its course weight and cost/funding category. The charge to domestic students is substantially less than that to foreign students, and is usually paid by StudyLink, mostly giving rise to a student loan, which students repays out of future earnings
Government system of funding universities	Quinquennially determined block grants towards fixed and variable operating expenditures according to disciplines, activities and related matters. The system was governed and administered by UGC and was seemingly largely incremental and opaque, although a simple count of EFTSs was prominent.	Student Achievement Component is relevant here and substantial compared with other components (e.g. the Performance-Based Research Fund). Based on EFTSs as calculated using course weights and student enrolments. Amount per EFTS differs among funding categories into which each course/subject and discipline is classified.

Table 1 Comparison between the features of curricular accounting at University of Canterbury in 1984 and 2010

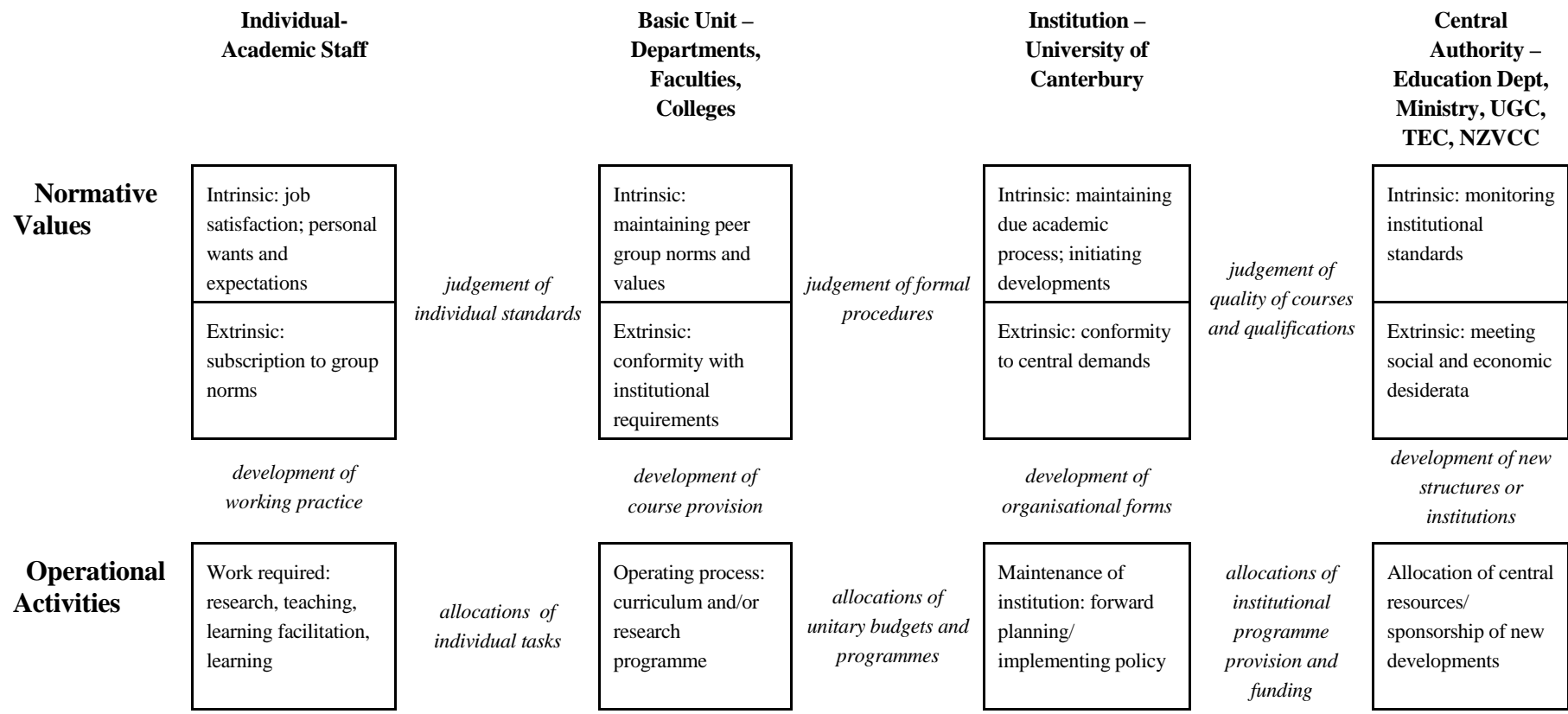


Figure 1 Adapted model for higher education. (Source Becher and Kogan, 1980, p. 19)

10	Doctorates
9	Masters
8	Postgraduate Diplomas and Certificates, Bachelors with Honours
7	Bachelors Degrees, Graduate Diplomas
6	Diplomas
5	
4	Certificates
3	
2	
1	
1	

Figure 2 The New Zealand National Qualifications Framework (Source: NZQA, 2007; UC, 2007a)